

## **SECTION - 9**

### **EPC PRICE SCHEDULES (FINANCIAL BID)**

**SECTION 9 - PRICE SCHEDULE****TABLE OF CONTENTS**

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**BENGALURU SUBURBAN RAIL PROJECT (BSTP)  
PRICE SCHEDULES (FINANCIAL BID)  
EPC TENDER**

**Name of Work:** C2/Package – 3 “Design & Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.

**PREAMBLE**

1. The Price Schedule shall be read in conjunction with the Instructions to Tenderers, Conditions of Contract, Contract Data, Notice Inviting Tender, Employer's requirement Vol.-1 and Vol.-2, Technical Specifications, Tender Drawings, Schedule, Annexures and Addendums.

2. The Amount are to be quoted in each section of the Price Schedule:

**Schedule-A:** Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings).

**Schedule-B:** Detailed Design and Engineering for all Civil Works including design validation and stability check for the work executed by previous contractor.

**Schedule -C:** Lump sum provision to be operated for incidental and unforeseen items likely to require during execution of work. These items will be executed under schedule of rates **2023-24 and its amendment or latest**, published by Government Departments KPWD/USSOR/CPWD/ BWSSB/BESCOM). The cost under this Schedule (Schedule-C) will stand fixed as **Rs 2,00,00,000/-** and this amount of **Rs Two Crores** already provided as fixed amount in the summary of Financial Bid/Price Schedule. The amount of Schedule-A & Schedule-B to be carry forward to summary sheet. The quoted amount is for completed and finished items of work and complete in all respects. It will be deemed to have included all constructional plant, tools, machinery, labour, supervision, materials, fuel, oil, consumables, electric power, water, transportation, all leads and lifts, dewatering, all temporary works and false works, construction of temporary stores and buildings, fencing, watering, lighting, erection maintenance, night working, inspection facilities, safety measures at work sites/casting yard for workmen and road users, design and drawings, casting yard, staging, shuttering, form work, stacking yard, etc. establishment and overhead charges, labour camps, insurance costs for labour and works, contractor's profit, all taxes, royalties, duties, cess, octroi, **excluding GST** and other levies and other charges together with all general risks, liabilities and obligations set out or implied in the contract and including remedy of any defects during the Defect Liability Period, unless otherwise provided in Price Schedule.

3. Providing concrete for all works deemed to be inclusive of the cost towards production of concrete by batching plant, transit mixer, transportation of concrete with all leads and lifts, form work, shuttering including staging as required, pouring of concrete by pump/tower crane to all heights /depths, tremie or other approved means, compaction by vibrators, curing by approved means such as water, steam or curing compound and all labour, tools, plants, machinery required for execution of work complete in all respects including de-shuttering after completion of work.

4. The amount for various Schedules and Summary of Price Schedule shall be quoted in Indian Rupees both in figures and in words.

5. The whole cost of complying with the provisions of the Contract shall be deemed to have been included in the quoted amount.
6. deleted.
7. General directions and description of works and materials are not necessarily repeated or summarized in the Price Schedule.
8. The method of measurement of completed work for payment shall be in accordance with the requirements as stated in the individual sections of the Technical Specifications and Conditions of Contract.
9. Shuttering required for concrete work shall be of steel except wherever there are site constraints as decided by Engineer.
10. In the defined grade of concrete mix, the first figure defines the strength of concrete and second figure defines the maximum size of coarse aggregates to be used for production of particular concrete mix, E.g., M 35/20 means “M-35” is the grade of concrete and “20” is the maximum size of coarse aggregate in mm to be used.
11. Tenderer may please note that to perform this contract, nothing extra shall be payable on account of field constraints, availability of front, preparation of detailed scheme for taking necessary clearance and approval from the concerned authority and other local bodies etc.
12. For Pier heights more than 12m above the starter for cast in situ piers, more than one pour shall be considered, but a maximum of two pours is allowed to complete pier concreting. In case of more than one pour, Engineer’s approval for “method statement” must be obtained.
13. The tripods shall be permitted for casing driving. Hydraulic rig can be used for installation of casing in exceptional cases.
14. Couplers may be used in pile caps and Open foundations for reinforcement above 25 mm. in diameter. Welding of reinforcement can be permitted by Engineer in lieu of Coupler.
15. Geo technical data given is an indicative, only for tendering purpose. The successful tenderer will have to carry out the Geo-technical Investigations, if required to perform this contract.
16. If work is stopped due to non-shifting of utilities, no claim shall be entertained on this account.
17. The Tenderer’s offer shall be inclusive of all taxes and duties payable by them. Income Tax and any other statutory taxes to be deducted at source, if any, will be deducted by the Employer in accordance with the Income Tax Act and any other acts in force and in accordance with instructions issued by the Authorities on this behalf, from time to time.
18. The Tenderer is required to furnish the PAN for all members of Group
19. Mock-up pier and mock-up segments to be cast at casting yard & nothing extra will be paid.
20. It is also informed that the area available for launching of U-girder/I-girder is limited in certain stretches in the Viaduct construction and there may be difficulties in keeping U-girder/I-girder directly below the span within the base width of overhead launching assembly. The tenderer will inspect and conduct survey for studying the field constraints and quote their amount accordingly to perform the contract.

**Important Notice:**

**The Tenderer should quote his amount against schedule-A and schedule-B of Price Schedule in CPP Portal.**

**The cost under Schedule-C will stand fixed as Rs 2,00,00,000/- and this amount of Rs. Two Crores already provided as fixed amount in the summary of Financial Bid/Price Schedule.**

**The total value of the Tender quoted by the Tenderer shall be computed based on the amount quoted in schedule-A and schedule-B and adding the fixed amount of schedule-C.**

The Contractor will submit a pricing schedule and quantity breakup for the work as per the details finalized by them for the components listed in the Price Schedule before submission of 1st IPC, which will be subject to review and approval by the Employer along with recommendations from Engineer. Unit payment of the items shall be governed by the pricing schedule and quantity breakup within the total % payment specified against that item.

SUMMARY OF PRICE SCHEDULE.				
EPC TENDER				
<b>NAME OF WORK :</b> “Design & Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.				
Tender no:				
Sl. No.	Schedule	Description	Quoted by Tenderer	
			Quoted Amount in INR (Lumpsum Cost)	
			In Figures	In Words
1	2		4	5
1	Schedule – A	“Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and Fencing works on both side of BSTP alignment of length 2 x 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) for BSTP Corridor & also IR Corridor and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.		
2	Schedule -B	Detailed Design and Engineering for all Civil Works including design validation and stability check for the work executed by previous contractor including design of Temporary & Miscellaneous works which are to be executed in Schedule-C (if any).		
3	Schedule -C	Miscellaneous Items for works which are not covered in Schedule A&B are to be executed under schedule of rates 2023-24 and its amendment or latest, published by Government Departments KPWD/USSOR/CPWD/BWSSB/BESCOM/KPTCL.	2,00,00,000/-	Two Crores.
Grand Total		A+B+C= (In Figures)		
		(In Words)		

Signature of the Tenderer

Note: -

- 1) The above quoted cost covers all items of the work as detailed in the “Employer’s Requirement” contained in Section 8A as well as conforming to all Technical Specifications in Section 8B and stipulations laid down in the Bid Document including all addenda/corrigenda thereof till the date of submission of Bids.
- 2) It is inclusive of all costs on Design, Drawings, Reports, Survey, Site Facilities, Barricading, Construction, Equipment, Plants, Instruments, Labour, Supervision Batching Plant facilities, Materials, Erection, Testing, Maintenance, Temporary Works, Site Office, Site Access Road, Safety, Security, Defect Rectification, Insurance, Profit, applicable duties, Taxes, Levies, Royalties as per applicable law together with all general risks, liabilities and obligations set out or implied in the contract.
- 3) Schedule-C consists of Lump sum provision to be operated for incidental and unforeseen items likely to require while execution of work. These items will be executed under schedule of rates 2023-24 and its amendment or latest, published by Government Departments KPWD/USSOR/CPWD/BWSSB/BESCOM/KPTCL). The cost under this Schedule (Schedule-C) will stand fixed as Rs 2,00,00,000/- and this amount of Rs. Two Crores already provided as fixed amount in the summary of financial bid.
- 4) Total length of Corridor-2/ Package-3 is 5.80 Km At grade section (Ch: 18.400km To Ch 24.200 Km) and 185 M of Elevated Section (Ch 24.200km To Ch 24.385km).
- 5) The contractor to start the work at multiple fronts in this package simultaneously.
- 6) Lumpsum Amount shall be quoted by the Tenderer in Indian Rupees.

#### APPORTIONMENT OF CONTRACT PRICE OF SCHEDULE-A:

Schedule	Description	Schedule	Percentage of Schedule-A
Schedule-A	“Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.	1. General Items	2.0%
		2. Construction of Elevated & At Grade	98%
Total			100%

**WEIGHTAGES OF COMPONENTS FOR INTERIM PAYMENTS:****1. SCHEDULE-A.1: GENERAL ITEMS**

Two percent (2.0%) of the total quoted BOQ amount of schedule A is earmarked for general items as detailed below. The contractor must fulfil all the below obligations failing which the recovery shall be carried out on pro-rata basis from the quoted amount in each IPCs.

**SCHEDULE OF PAYMENT FOR GENERAL ITEMS**

S. No.	Description of Stage	Payable Unit	Percentage Breakup
A.1.1	Submission & approval of Soil investigation reports.	Lump Sum	5%
A.1.2	Commissioning of site laboratory, submission of quality, safety, environment and public health manuals, submission of Interface Management Plan and submission diversion schemes if any.	Lump Sum	5%
A.1.3	Engineer approval of Health and Safety Manual	Lump Sum	3.00%
A.1.4	Engineer approval of Quality Manual (also including Quality Plan)	Lump Sum	3.00%
A.1.5	Engineer approval of Interface Management Plan, Interface Matrix, Control Sheets and Audits <i>Notes:</i> 1. 50% of the apportioned payment under this Milestone (i.e. 50% of 5%) shall be released after the necessary approval of Interface Management Plan, Interface Matrix. 2. 50% of the apportioned payment under this Milestone (i.e. 50% of 5%) shall be equally spread over the balance period of the Contract after completion of works.	Lump Sum	6.00%
A.1.6	Engineer approval of Traffic Diversion Management Plan & implementation during execution.	Lump Sum	5.00%
A.1.7	Engineer approval of Detained Works Programme, Baseline Construction Programme, Three Months Rolling Programme and Monthly Progress Reports. <i>Notes:</i> 1. 25% of the apportioned payment under this Milestone (i.e. 25% of 8%) shall be released after the approval of Detained Works Programme, Baseline Construction Programme. 2. 75% of the apportioned payment under this Milestone (i.e. 75% of 8%) shall be equally spread over the balance period of the Contract till completion of works.	Lump Sum	10.00%
A.1.8	Submission of quarterly audit report of Quality, Health, Safety and Environment with confirmation of the actions taken on noncompliance <i>Note:</i> To be paid quarterly on pro-rata basis for submission of quarterly audit report	Lump Sum	13.00%
A.1.9	Deployment of Health, Safety and Environment personnel approved by Engineer as per the Health and Safety and Environmental Manuals. <i>Note:</i> The payment shall be made as follows commencing 3 months after the Commencement Date.	Lump Sum	18.00%

S. No.	Description of Stage	Payable Unit	Percentage Breakup
	<ol style="list-style-type: none"> <li>90% of the apportioned payment as per this Milestone shall be spread pro-rata commencing 3 months after the Commencement Date to the Completion Date.</li> <li>The remaining 10% payment shall be released on completion of all work through the Defects Notification Period.</li> <li>Any shortfall of deployment of Health, Safety and Environment personnel from the numbers indicated in the Health and Safety Manual and Environmental Manual will attract a penalty at the rate of 3 times the pro-rate shortfall. For example, if the Health and Safety Manual requires 17 staff and the deployment is 16 staff for a particular month, then <math>(3 \times 1/17 =)</math> 17.65% of the payment due for that month will be permanently deducted. Likewise, shortage of 2 staff will result in 35.3% lesser payment and so on.</li> </ol>		
A.1.10	<p>Regular maintenance and repair of existing roads, service roads, footpaths, the construction and maintenance of temporary diversions as required for traffic management during construction period to keep them in traffic worthy condition. This shall include the original reinstatement of roadway as approved by the Engineer.</p> <p>Note: Payment for this milestone shall be spread pro-rata commencing 3 months after the Commencement Date up to the Completion Date.</p>	Lump Sum	16.00%
A.1.11	Submission of utility identification and proposed diversion report with Engineer approval and submission of the report to utility owning agency. (pro-rata basis for both charted and uncharted utilities)	Lump Sum	6.00%
A.1.12	<p><b>Drone Survey:</b> Visual inspection/precise data acquisition at various locations of Corridor-2 using unmanned aerial vehicle i.e Drone of required capacity and peripherals for the structures &amp; other components. This will include high resolution images at multiple locations taken at various angles for visual defects from all visible directions/sides of girders, parapets, railings, bridge bearings, bearing pedestals, pier cap and pier up to ground/river level and any other components of bridge. This work includes as follows:</p> <ol style="list-style-type: none"> <li>Two trained Drone pilots</li> <li>Drone with 4K camera resolution and focus lens as per site requirements.</li> <li>Transportation and Logistics cost including hiring of boat with boat man for bridges over river as per site requirements.</li> <li>Soft copy of final deliverables of camera image and 4K video taken from Drone will be presented for approval.</li> <li>The inspection report will be submitted in a hard drive with details in editable form and hard copy will be submitted in colour printed report of the work <b>(on monthly basis)</b>.</li> </ol>	Lump Sum	10.00%

**Schedule of Payments for General Items**

- |    |   |
|----|---|
| 1. | The percentages stipulated in the above Schedule of Payments for general items, 2.0 % of the total quoted amount of schedule A shall be sub-divided upon award of the Contract with recommendation of Engineer and approval by the Employer, and his decision in this regard shall be final and binding.  |
| 2. | The Contractor will submit a pricing schedule and quantity breakup for the work as per the details finalized by them for the components listed in the schedule above before submission of 1st IPC, with recommendation of Engineer and approval by the Employer. Unit payment of the items shall be governed by the pricing schedule and quantity breakup within the total % payment specified against that item. |
| 3. | Further bifurcation/redistribution/minute distribution of price centres, if need be, within the overall % age or amongst sub works will be the right of Engineer/Employer. The decision of Employer is final in this regard and the same is binding on the contractor.  |

**Signature of the Tenderer**

**1. SCHEDULE-A.2: CONSTRUCTION OF AT-GRADE & ELEVATED WORKS**

Sl. No.	Component	Description	Percentage of Cost of Schedule A
1	Schedule-A.2	“Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.	98% of cost of schedule A

**SCHEDULE FOR ON ACCOUNT PAYMENTS UNDER LUMP SUM PORTION**

**Name of Work:** “Design & Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.

The payment would be governed by the stage payment schedule as detailed below:

Overall percentage 100% i.e., quoted lumpsum price shall be divided in following heads. The Percentage breakup of cost component for each Head is as below:

**APPORTIONMENT OF CONTRACT PRICE OF SCHEDULE-2:**

Schedule	Description	Percentage of Cost of Schedule – A.2	Items	Percentage Break up of Schedule-2
Schedule-A.2	“Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also	98% of the cost of Schedule-A	1. Earthwork, Retaining Wall, Sacrificial Wall, Saucer Drain & Drains	35.40 %
			2. Minor Bridges	1.10 %
			3. Elevated Chikkabanawara	6.30 %
			4. RUB (Road Under Bridges)	15.90 %
			5. Fencing between IR & BSTP over	7.00%

Schedule	Description	Percentage of Cost of Schedule – A.2	Items	Percentage Break up of Schedule-2
	IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)".		screw pile foundation	
			6. RCC Boundary wall to support signal & traction cables (hangers) towards BSTP side	4.20%
			7. OHE mast RCC foundation.	0.40%
			8. RCC Boundary wall to support signal & traction cables (hangers) over screw pile foundation towards BSTP side	0.70%
			9. ROB (2 Nos)	29.00%

**WEIGHTAGES OF COMPONENTS FOR INTERIM PAYMENTS:****A.2.1 EARTHWORK, RETAINING WALL, SACRIFICIAL WALL, SAUCER DRAIN & DRAINS.**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.1	Payable unit	Percentage breakup (Weightages)	Payment Procedure
A.2.1.1	General Clearance, Ground improvement techniques and embankment /cutting including compaction so as to achieve 50% of desired height below the bottom of blanketing layer as per IR/RDSO specification.	<b>35.40% of the cost of Schedule- A.2</b>	LS	7.40%	1. Unit of measurement is linear length along alignment. Payment of each stage will be made on pro rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.  2. Provided that payment for the blanketing layer shall be made on completion of minor bridges if exists including slab/RCC box in the length for which stage payment is claimed. For the avoidance of doubt, payment for minor Bridges shall be payable separately in accordance with relevant item.
A.2.1.2	Balance earthwork in embankment/ cutting including compaction up to bottom of blanketing layer. Complete as per IR/RDSO specification & laying of Geo-textile below blanket layer.		LS	5.10%	
A.2.1.3	Earthwork in Blanketing layer complete in all respects. Including as per IR/RDSO specification.		LS	8.50%	
A.2.1.4	Longitudinal/cross drains as per drawing, Earth retaining structures, Geo Composite, sacrificial retaining walls, Toe wall towards IR		LS	79.00%	

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.1	Payable unit	Percentage breakup (Weightages)	Payment Procedure
	Side, pitching, turving and other incidental works, complete as per drawing and as directed by Engineer.				
<b>TOTAL</b>				<b>100%</b>	

**Note :**

- i) Payment will be made on certification and recommendation of the Engineer to the Employer for various items.
- ii) Track center, Ground level, formation level etc. shown in indicative plan (Tender Drawings) and profile are indicative which may change as per design and site conditions and for any minor changes no additional payment is applicable. However, stage payment shall be made as per approved definitive plan and profile. The rates shall be inclusive of all minor variations upto (+/-5%).
- iii) LS = Lumpsum.

**A.2.2 MINOR BRIDGES. (including Reconstruction of existing IR Bridge)**

Sl. No.	Stage Payments	Percentage of Cost of Schedule -A.2.2	Payable unit	Percentage breakup (Weightages)	Payment Procedure
A.2.2.1	Ground clearance, ground improvement to suit design bearing capacity and testing, completion of the foundation works, completion of RCC Boxes, RCC Slab as per site condition and as directed by Engineer.	1.6% of the cost of Schedule- A.2	LS	52.00%	1. Cost of each bridge shall be determined on pro rata basis with respect to the total linear length (Barrel length in case of RCC box and width of slab for slab bridges) of the Minor Bridges.  2. Payment shall be made on completion of each component/ stage of a Minor Bridge as per the weightage given in this schedule.
A.2.2.2	On completion of balance works as per drawing like walkway, footpath, return walls, Ballast Retainer, protection work, pitching, turving, back filling testing on completion etc. complete in all respects and fit for use.		LS	48.00%	
TOTAL				100%	

**Note-**

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If a bridge is constructed using precast elements, then 50 % payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. Balance 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations upto (+/-5%) and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

**A.2.3 Elevated Chikkabanavara - Sub structure, Super structures and other miscellaneous works**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.3	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.3.1	Engineers' Approval on Construction of Pile Foundations including testing of Piles, Non-Destructive Tests, Soil Boring, Trial trenching, GPR Survey, Safety Barricading.	<b>6.30% of the cost of Schedule-A.2</b>	LS	26.00%	
A.2.3.2	Engineers Approval on Construction of Pile Caps, Open Foundations including PCC, shoring, Plate Load Test, etc.		LS	10.00%	
A.2.3.3	Engineers' approval on Construction of Piers including Pier Caps, Portal, Eccentric Piers, Precast Pier Caps & Pre-stressing, Pedestals, Median, Crash Barrier & Shear Keys/Stopppers.		LS	14.00%	
A.2.3.4	Engineers Approval on Casting of I-Girders		LS	25.00%	
A.2.3.5	Engineers Approval on Erection of I-Girders including pre-stressing/post-stressing, grouting etc., all complete.		LS	6.00%	
A.2.3.6	Casting of Deck slabs including parapet.		LS	12.00%	
A.2.3.7	Bearing - Engineers Approval on Supply and fixing for all spans including Elastomeric Bearing and POT-PTFE Bearings.  Note : 50 % on supply and 50% on fixing		LS	1.00%	
A.2.3.8	Engineers Approval on Providing & Fixing Expansion Joints (Omega Joints and Strip Seal Joints) Note : 50 % on supply and 50% on fixing		LS	1.00%	

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.3	Payable unit	Percentage breakup (Weightages)	Payment Procedure
A.2.3.9	Misc. Items:  Completion of the work in all respects including railing, G.I. Brackets for cable, earthing, manholes learing of Sites in all respects so that area is in traffic worthy condition, drainage pipes, hand rails, drainage spouts, Traffic/Cautioning Sign Boards, Road Diversions, Setting out, Dismantling and transportation, Traffic Marshall, Roofing boundary pillars , etc.		LS	5.00%	
TOTAL				100%	

Note-

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If a bridge is constructed using precast elements, then 50 % payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. Balance 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations upto (+/-5%) and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

#### A.2.4 RUB (ROAD UNDER BRIDGES). Cast-in-situ/ precast as per the drawing

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.4	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.4.1	Ground clearance, ground improvement to suit design bearing capacity and testing, Road diversion work, completion of the RCC Boxes including Slab as per site condition as indicated in drawing and as directed by Engineer as per IR/RDSO specifications.	15.90% of the cost of Schedule-A.2	LS	25.00 %	1. Cost of each bridge shall be determined on pro rata basis with respect to the total linear length (Barrel length in linear meter) of the RUBs.  2. Payment shall be made on completion of each component/stage of RUB as per the weightage given in this schedule.
A.2.4.2	Completion of balance works as per drawing like walkway, footpath, cable duct, railings, wing walls, return walls, Ballast Retainer, Crash Barrier incl Hand rail, all types of protection works, pitching, turfing, back filling, drains, retaining wall for approach roads, Height gauge, pipe/ structural grating on either side of RUB including rain water discharge drain, Weep holes, Footpath,		LS	75.00%	

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.4	Payable unit	Percentage breakup (Weightages)	Payment Procedure
	lighting including conducting, including rain shelter in the approaches wherever required as per drawing etc. complete as per IR/RDSO specifications.				
<b>TOTAL</b>				<b>100%</b>	

**Note-**

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If a bridge is constructed using precast elements, then 50% payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations upto (+/-5%) and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

**A.2.5 Fencing between IR and BSTP**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.5	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.5.1	Supply and fixing of structural steel fencing with chain link (built up steel columns) over the pile cap with 300mm dia screw pile as per the drawing and as directed by Engineer.	<b>7.00% of the cost of Schedule-A.2</b>	LS	100%	Unit of measurement is linear length along alignment. Payment of each stage will be made on pro rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.
<b>TOTAL</b>				<b>100%</b>	

**Note-**

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If it is constructed using precast elements, then 50% payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. Balance 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

**A.2.6 RCC Boundary wall to support signal and traction cables (Hangers) over ERS towards BSTP side.**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.6	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.6.1	RCC Boundary wall over ERS wall towards BSTP side for supporting cable hangers for traction, signal, Telecom, solar and E&M as per the drawing and as directed by Engineer.	<b>4.20% of the cost of Schedule-A.2</b>	LS	100%	Unit of measurement is linear length along alignment. Payment of each stage will be made on pro rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.
<b>TOTAL</b>				<b>100%</b>	

**Note-**

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If it is constructed using precast elements, then 50% payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. Balance 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

**A.2.7 OHE Mast RCC foundations along the BSTP and / or Indian Railway as per the drawing and as directed by Engineer.**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.7	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.7.1	RCC foundation as per the drawing and as directed by Engineer.	<b>0.40% of the cost of Schedule-A.2</b>	LS	100%	Unit of measurement is linear length along alignment. Payment of each stage will be made on pro rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.
<b>TOTAL</b>				<b>100%</b>	

**Note-**

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If it is constructed using precast elements, then 50% payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. Balance 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

**A.2.8 RCC Boundary wall to support signal and traction cables (Hangers) over screw pile foundation towards BSTP side.**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.8	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.8.1	RCC Boundary wall over screw pile/ plinth beam towards BSTP side for supporting cable hangers for traction, signal, Telecom, Solar and E&M as per the drawing and as directed by Engineer.	<b>0.70% of the cost of Schedule-A.2</b>	LS	100%	Unit of measurement is linear length along alignment. Payment of each stage will be made on pro rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.
<b>TOTAL</b>				<b>100%</b>	

**A.2.9 ROB (ROAD OVER BRIDGE) – 2 Nos.**

Sl. No.	Stage Payments	Percentage of Cost of Schedule - A.2.9	Payable unit	Percentage breakup (Weightages)	Payment Procedure
1	2	3	4	5	6
A.2.9.1	Foundation - Ground clearance, preparation of base below the pile cap or below the abutment, completion of the pile foundation including testing and casting of pile cap.	<b>29 % of the cost of Schedule-A.2</b>	LS	36.00 %	1. Cost of bridge shall be determined on pro rata basis with respect to the total linear length (Barrel length in linear meter)  2. Payment shall be made on completion of each component/stage of ROB as per the weightage given in this schedule.
A.2.9.2	<b>Substructure:</b> Completion of abutment, including Abutment bed blocks, Pedestals (without bearings), work up to the bottom of super-structure, completion of return walls in all respects.		LS	6.30%	
A.2.9.3	<b>Superstructure:</b> Bridge super structure consists of independent superstructures for IR and BSTP as per drawing.  Completion of super structure including bearings, walkway footpath, cable Support hanger and testing etc.		LS	44.40 %	
A.2.9.4	<b>Misc. works:</b>  Completion of balance works as per drawing Approach Road, Demolition of existing structures, all protection works including back filling, testing on completion etc. complete in all respects and fit for use.		LS	13.30 %	
<b>TOTAL</b>				<b>100%</b>	

**Note-**

1. Payment will be made on certification and recommendation of the Engineer to Employer for various items.
2. If it is constructed using precast elements, then 50% payment against the cost of the item shall be released upon finishing casting of elements and transporting all such elements to the site of bridge construction. Balance 50% shall be released after completion of erection/laying in all respects. The rates shall be inclusive of all minor variations upto (+/-5%) and for any minor changes no additional payment is applicable.
3. LS= Lumpsum

**Note for Schedule-A.2**

1.	<p><b>Total Route km covered in this contract is shown in GAD attached with tender documents.</b> The details are shown in GAD enclosed with the tender.</p> <p>A. <b>Earthwork, ERS / Retaining wall and drains:</b> Unit of measurement is linear length along the alignment, In case of variation in route length on either side, i.e. increase or decrease, the total value of component of Earthwork, <b>ERS / Retaining wall and drains</b> will get modified accordingly on pro-rata basis for payment purpose. The component of design and drawing charges for Earthwork, <b>ERS / retaining wall and drains</b> also worked out proportionately on the basis of component value of Earthwork, <b>ERS / retaining wall and drains</b> as per schedule-A and the variations shall be calculated on pro-rata basis. Note: The variations upto (+/-5%) due to width and height of Earthwork, <b>ERS / retaining wall and drains</b> are included in the linear length cost &amp; quoted price.</p> <p>B. <b>Minor Bridges:</b> Cost of each bridge shall be determined on pro-rata basis with respect to the total linear length (Barrel length in case of RCC box and width of slab for slab bridges) of the Minor Bridges. In case the variation in barrel length on either side i.e., increase or decrease, the total value of the component of Minor bridges will get modified accordingly on pro rata basis for payment purpose. and the variations shall be calculated on pro rata basis. Note: The variations upto (+/-5%) due to span and height of minor bridges are included in the barrel length cost &amp; quoted price.</p> <p>C. <b>RUB:</b> Cost of each bridge shall be determined on pro rata basis with respect to the total linear length (Barrel length in linear meter) of the RUBs. In case the variation in barrel length on either side i.e., increase or decrease, the total value of the component of RUB will get modified accordingly on pro rata basis for payment purposes. and the variations shall be calculated on pro rata basis. Note: The minor variations upto (+/-5%) due to span and height of RUB's are included in the barrel length cost &amp; quoted price.</p> <p>D. <b>Fencing between IR and BSTP over screw pile foundation:</b> Unit of measurement is linear length along alignment. Payment of each stage will be made on prorata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.</p> <p>E. <b>RCC Boundary wall to support signal and traction cables (Hangers) over ERS towards BSTP side.</b> Unit of measurement is linear length along alignment. Payment of each stage will be made on pro-rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.</p> <p>F. <b>OHE Mast RCC foundations along the BSTP and / or Indian Railway as per the drawing and as directed by Engineer:</b> Unit of measurement is linear length along alignment. Payment of each stage will be made on pro-rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.</p> <p>G. <b>RCC Boundary wall to support signal and traction cables (Hangers) over screw pile foundation towards BSTP side wherever formation bank is having 2:1 Slope:</b> Unit of measurement is linear length along</p>
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	<p>alignment. Payment of each stage will be made on pro rata basis on completion of a stage in a continuous length of minimum 250 m as per weightage given in this Schedule.</p> <p>H. <b>ROB:</b> Cost of each bridge shall be determined on pro rata basis with respect to the total linear length of the ROB. In case the variation in total linear length (along the alignment) on either side i.e., increase or decrease, the total value of the component of ROB will get modified accordingly on pro rata basis for payment purpose. Note: The variations upto (+/-5%) due to width and height of ROB are included in the linear length cost &amp; quoted price.</p>
2.	The successful Contractor will submit a pricing schedule and quantity breakup for the work as per the details finalized by them for the components listed in the schedule above, which will be subject to approval of Employer duly recommendation of Engineer. Unit payment of the items shall be governed by the pricing schedule and quantity breakup within the total % payment specified against that item.
3.	The pricing schedule and quantity breakup after approved by the Employer will be used for making all stage payments. The Contractor should note that while stage payment will be governed by the pricing schedule and quantity breakup, total cost of the 'Lump Sum' component would remain unchanged for the specified work subject to adjustment for the length of the above works brought out above.

**SCHEDULE-B: DESIGN & DRAWING**

**Lumpsum cost for Detailed Design & Engineering of all Civil Works.**

SL. No	Description	Cost of Schedule B
1.	Detailed Design and Engineering for all Civil Works including design validation and stability check for the work executed by previous contractor incl design of Miscellaneous work which are to be executed in Schedule-C (if any).	

**The payment of Hundred percent (100%) for Detailed Design & Engineering of all Civil, and other allied works shall be governed by the stage payment Schedule-B as detailed below:**

S. No.	Description of Stage	Payable Unit	Percentage Breakup of "Schedule-B"
B.1.1	<p>Provision of the Engineer IT requirements of (online Project Management Information System, Document Management System, Enterprise work program platform, BIM &amp; all other design related software's for which contractor has carried out the design works.)</p> <p><b>Notes:</b></p> <p>1. 30% of the apportioned payment under this Milestone (i.e. 30% of 8%) shall be released after the necessary hardware, IT centre and software licenses are provided by the Contractor. This should be accomplished not later than 3 months from Commencement Date.</p>	Lump Sum	8.00%

S. No.	Description of Stage	Payable Unit	Percentage Breakup of "Schedule-B"
	2. 50% of the apportioned payment under this Milestone (i.e. 50% of 8%) shall be equally spread over balance the period till completion of works and is subject to the deployment of competent IT staff. The remaining 20% payment shall be released on completion of all work through the Defects Notification Period.		
B.1.2	Engineer approval of Design Plan, DBR, Design checking	Lump Sum	1.00%
B.1.3	Engineer's approval of Design team till completion of design works	Lump Sum	1.00%
B.1.4	Engineers Approval of Design Submission Programme, Design Statement and Design Deliverables	Lump Sum	1.00%
B.1.5	Deployment of design team till completion of design works	Lump Sum	10.00%
B.1.6	Engineers Approval of Preliminary Structural Design, GAD, CAD Manual	Lump Sum	10.00%
B.1.7	Engineers Approval of Final Structural Design, GFC Drawings (including proof checked) in conformity to BIM, validation and stability check for the work executed by previous contractor To be paid on pro-rata basis depending upon progress as certified by the Engineer.	Lump Sum	42.00%
B.1.8	Engineers Approval of all As Built Drawings for the complete work including the work executed by previous contractor and O&M Manuals Including interface of civil and structural.	Lump Sum	25.00%
B.1.9	Training of Engineer/Employer's Personnel, in compliance with the Employer's requirements	Lump Sum	1.00%
B.2.0	Engineers Approval of Insurance Premium Receipts and Insurance Policies as per the Contract Requirement – Professional Liability insurance	Lump Sum	1.00%
	<b>Total</b>		<b>100%</b>

**Note:****Schedule of Payments for design & engineering works (Schedule B)**

1. The Schedule of Payments for schedule B will not be modified. The percentages stipulated in Schedule B of Payments of Pricing Document shall be sub-divided upon award of the Contract with the recommendation of Engineer and approval by the Employer, and his decision in this regard shall be final and binding. The payment shall be governed based on the actual works executed. Payments against the works will be made on the basis of quantities executed, measured and certified by the Engineer.
2. The pricing schedule and quantity breakup after being approved by the Employer will be used for making all interim payments. The Contractor should note that while interim payment will be governed by the pricing schedule and quantity breakup, total cost of the 'Lump Sum' component would remain unchanged for the specified work.
3. Payment will be made on the submission of the IPC with quantity schedule versus progress achieved for review and certification and recommendation of the Engineer for various items.
4. Further bifurcation/redistribution/minute distribution of price centres, if need be, within the overall % age or amongst sub works will be the right of Engineer/Employer. The decision of Employer is final in this regard and the same is binding on the contractor.

PRICE SCHEDULE				
SCHEDULE-C				
<b>NAME OF WORK:</b> “Design & Construction of Formation in Embankments, Cuttings including Blanketing, Ramp, ROB, Minor Bridges, RUB, ERS/Retaining Wall, Sacrificial Retaining Wall, Drains, Boundary Wall and fencing works At-Grade Section of length 5.80 Km (Ch: 18.400 Km To Ch: 24.200 Km) (Balance Works) and Elevated Viaduct of length 185m (24.200 To 24.385) for BSTP Corridor and also IR Corridor and other related Infrastructural works from Yeshwanthpur to Chikkabanawara including validation of Design and Stability check wherever applicable for works executed by previous contractor (excluding Station Buildings), of Corridor - 2 of Bengaluru Suburban Transport Project (BSTP)”.				
Tender no: Bi-RIDE/BSTP/PACKAGE-3/2025				
Sl. No.	Schedule	Description	Quoted by Tenderer	
			Quoted Amount in INR (Lumpsum Cost)	
			In Figures	In Words
1	2	3	4	5
1	Schedule -C	<p>Miscellaneous Items for works which are not covered in Schedule A. (Items not covered in Schedule A are to be executed under schedule of rates 2023-24 and its amendment or latest, published by Government Departments KPWD/USSOR/CPWD/BWSSB/BESCOM/KPTCL).</p> <p><b>Note:</b> If the same item is available in all schedules of rates given above, then the priority of schedule of rates is as follows:</p> <p>a) KPWD b) USSOR c) CPWD d) BWSSB e) BESCOM f) KPTCL.</p>	2,00,00,000/-	Two crores

Signature of the Tenderer