

Section 6: Employer's Requirements

This Section contains the Specifications, Drawings, Supplementary Information that describe the Works to be procured, Personnel Requirements, and Equipment Requirements.

Table of Contents

Specifications and EMP (Schedules from A to T)	6-2
Drawings.....	6-3
Supplementary Information Regarding Works to Be Procured	6-4
Personnel Requirements	6-5
Equipment Requirements.....	6-6

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Specifications

Provisions of the EPC Contract in Part- III attached as Vol- II will be applicable

- Specifications and standards for **Improvement/Upgradation, Widening and Strengthening of Mansi-Fungo Halt-Simri Bakhtiyarpur Section of Mansi- Saharsa-Hardi Chaughara Road(SH-95) from KM 0+000 to KM 28+080 (Length- 28.080 KM) in the State of Bihar on EPC Mode under Civil work Contract Package No. BSHP-III(Phase-2)/Pkg-3/SH-95** provision of the EPC contract in **Vol-II (Annex- I of Schedule-D : Section-I(KM 0+000 to KM 14+125) and Vol-II (Annex- I of Schedule-D : Section-II(KM 14+125 to KM 23+080) respectively will be applicable.**
- A Site Specific Environmental Management Plan (SSEMP) under which the Site Specific Health and Safety Management Plan (SSHSMP) is attached as EMP. The SSHSMP is to be submitted to the Engineer and a confirmation of no objection of the SSHSMP should be obtained from the Engineer prior to commence of site work.

Drawings

Provisions of the EPC Contract in Part- III attached as Vol-III : Section-I(KM 0+000 to KM 14+125) and Vol-III : Section-II(KM 14+125 to KM 28+080) respectively will be applicable

(Schedule-I, Annex-1: Section-I (KM 0+000 to KM 14+125))

and

(Schedule-I, Annex-1: Section-II (KM 14+125 to KM 28+080))

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Supplementary Information

Regarding Works to Be Procured

- Health and Safety COVID-19 Plan (HS-C19 Plan),—in accordance with—*World Health Organization 2020. Considerations for public health and social measures in the workplace in the context of COVID-19. Geneva. Available here: <https://www.who.int/publications-detail/considerations-for-public-health-and-social-measures-in-the-workplace-in-the-context-of-covid-19> shall be the regulations and guidance specific to COVID-19 prevention and controls, and worksite safety measures requirements that are deemed applicable to the contract. In this regard, ADB's Covid advisory note may also be referred from the web page at: [Protecting the Safety and Well-Being of Workers and Communities from COVID-19 \(adb.org\)](https://www.adb.org/publications/protecting-the-safety-and-well-being-of-workers-and-communities-from-covid-19)*
- Environmental Management Plan (“EMP”) as Supplementary Information as the Employer's Requirements has been attached as a part of schedules in part-III (Vol-II) shall also be applicable to the contract.
- The bid price shall be inclusive of all Environmental, Health & Safety management and compliance cost in relation to COVID-19 prevention and controls and be aligned with guidelines on COVID-19 prevention and controls as well as workplace safety requirements in accordance with World Health Organization 2020.

Personnel Requirements

The EPC Contractor shall deploy adequate number of qualified and experienced personnel as per good industry practice for implementation of similar/comparable nature of project. However the minimum requirement shall be as under:

No.	Position	Qualification	Total Work Experience (years).	Experience in Similar Work (years).
1	Sr. Bridge Design Engineer -2 nos.	M. Tech. (Structural)	12	10
2	Sr. Highway Design Engineer -2 nos.	M. Tech. (Highway/Transportation)	12	10
3	Project Manager – nos.	B.E Civil	12	10
4	Deputy Project Manager/ Highway Engineer- (2 Nos.)	B.E Civil	7	5
5	Material Engineer – 2 nos.	B.E Civil	7	5
6	Bridge/ Structural Engineer – 2 nos.	B.E Civil	7	5
7	Asphalt Pavement Engineer -2 nos.	Dip. Civil	7	5
8	Plant and Equipment Engineer -2 nos.	Dip. Mech	7	5
9	Planning and Scheduling Engineer -1no.	B.E Civil	7	5
10	Quantity Surveyor-2nos.	Dip. Civil	7	5
11	Surveyor (4 Nos.)	Dip. Civil	7	5
12	Safety and Environmental Engineer	Diploma/Degree in Civil Engineering with Highway Safety Audit certificate from recognized Institute	3	3

Equipment Requirements

The EPC Contractor shall deploy appropriate and adequate number of equipment/machinery with age not more than 6 years for completion of work as per schedule. The list of equipment/machinery shall be in accordance with the construction methodology/implementation schedule addressing the specific requirements of the project. Special equipments/machinery required for construction of well foundations, pile foundations, composite/PSC construction, superstructure construction and testing etc. However the minimum requirement shall be as under :

Using Form EQU in Section 4 (Bidding Forms), the Bidder must demonstrate that it has the key equipment listed below:

No.	Equipment Type and Characteristics	Min. Number Required	Maximum age on 28 days before the submission of bid (years)
1	Hot Mix Plant (Batch type only with electronic & computer controls and vibratory screens, Minimum 100 Tonne / Hour Capacity)	2	5
2	Asphalt Paver finisher with electronic sensors for automatic level control capable of Paving 7 m width.	2	5
3	WMM Paver with electronic sensors for automatic level control, Capable of paving 7 m width.		5
4	Motor Grader, 120HP, 100 Cu m/ Hour Capacity	6	5
5	W.M.M. Mixing Plant, 120 Tonne/ Hour Capacity	2	5
6	Hydraulic Excavators, 80 Cu m/ Hour Capacity	4	5
7	Concrete Batching and mixing plant-outline requirements and salient features (20 Cu m/ Hour Capacity) <ul style="list-style-type: none"> • Weighing multi compartment, Computerized integrated system 	2	5
8	Concrete Pumps, Max vertical reach not less than 15m pumping 20 Cu m/ Hour	2	5
9	Pneumatic Tyred Roller, Operating weight not less than 12 tonne; minimum 8 tyred with self inflating system	4	5
10	Vibratory Roller, Minimum 10 Tonne operating Wt.	4	5
11	Tandem Vibratory Roller, Minimum 8 Tonne	4	5
12	Tipper/ Trucks (10 Tonne Capacity)	20	5
13	Tipper/ Trucks (20 Tonne Capacity)	30	5
14	Concrete Mixer, 160 HP	2	5
15	Transit Mixer, 5 Cum Capacity	6	5
16	Bitumen Pump Distributor (6 Tonne Capacity)	4	5
17	Mechanical Broom	2	5
18	Hydraulic Cranes, Minimum 25 Tonne Capacity	2	5

Note – 1. The key equipment with fixed foundation shall be either owned or leased, otherwise bid shall be treated as non-responsive. For all other equipment including the movable ones, Minimum 50 % of these shall either be owned or leased, 100 % in case of 1 number.

2. In case, a bidder is submitting Bids for multiple contracts, Bidder has to give an undertaking that, in case of award of multiple contracts, the same equipment shall not be used for other contract/ packages.

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