

# **TENDER**

(Tender Ref. No.: JIL-YEW/NIT/2024/104 Dated 03.04.2024)

## **VOLUME - II : ( BOQ)**

**For**

**SITC of outdoor CCTV (PTZ) dome Cameras at chainages of km 5, km 30, km 45, km 60, km 80, km 120 km 135 & km 161 (near median cuts) along Yamuna expressway.**

(Last Date for Submission of Bids: **17.04.2024**)

**Issued By**

**Jaypee Infratech Limited  
Sector 128, Noida – 201304  
Uttar Pradesh, India**



**PREAMBLE TO BILL OF QUANTITIES**

1. This Bill of Quantities ("BOQ") shall be read in conjunction with all Volumes of the tender documents such as NIT, ITT & GCC and all other documents as mentioned in the tender documents.
2. Rates shall include the cost of all labour, materials, tools, plants and machinery, equipment, hoists, all form of works, steel scaffoldings, transportation and wastages etc. and testing of materials with Contractor's testing appliances (as required), all other taxes, duties, levies, royalties, any other statutory obligations, Electricity, water, Contractor's overheads & profit etc. Only GST shall be paid extra, as applicable.
3. The items of work set out herein which are further detailed in the work order, shall be carried out as per the approved drawings, specifications and directions of the Engineer-in-charge of Jaypee Infratech Limited (hereinafter called as JIL).
4. The Contractor shall be deemed to have studied the specifications and details of work to be completed within the time schedule and to have acquainted itself with the conditions prevailing at Site. The quoted rates shall be applicable for all works in any shape/size/section and design etc.
5. The quantities shown against various items, as provided by JIL, are estimated and provisional and are given to provide a common basis for bidding. The basis of payment will be made against actual measured quantities of work ordered and carried out items of Work as per BOQ. JIL (JAYPEE INFRATECH LIMITED) reserve reserves the right to add/ delete/ alter/ modify/ withdraw any items or part of the item or to reduce or increase any quantity or area to any extent without any limitations. The Contractor shall have no objection to the same. The Contractor shall execute the work/ items/ area/ quantity as per actual and final requirement of the work as per instructions of Engineer-in-charge (EIC) of JIL. The Contractor will be bound to execute these items as per contract rates. JIL will not entertain any claims or damages or part of the profit (which the Contractor might not make due to change in the quantities). No extra claim is entitled on this account.
6. In cases where the specifications given in the Description of the item of work in BOQ are found wanting, the CPWD Specifications-2019 (with up-to-date correction slips), MoRTH & IRC Specifications, shall be followed; and where not specified, specifications of the latest edition of relevant IS codes shall be applicable. In case of any ambiguity in interpretation, JIL's decision shall be final and binding.
7. The rates and the prices shall hold good for all heights/ depths leads, lifts and levels, working in all conditions including in/under water, liquid mud, foul conditions etc. unless otherwise specifically stated against an item in the BOQ.
8. Rates include all costs for disposal of rubbish or malba etc. (generated / accumulated by the Contractor during the execution of this work) outside the site premises, removal of labour hutment, any temporary structure etc., demobilization from site/any premises provided by JIL. Nothing extra shall be payable on any such account.
9. General directions and descriptions of work are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
10. All materials samples to be submitted and got approved from JIL before execution of work.
11. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of Work.
12. The method of measurement of completed work for payment shall be in accordance with the Technical Specifications & IS Codes.



**Sample Photo**

**Bill Of Quantity (BOQ)****SITC of outdoor CCTV (PTZ) dome Cameras at chainages of km 5, km 30, km 45, km 60, km 80, km 120 km 135 & km 161 (near median cuts) along Yamuna expressway.**

Sr. No.	Item	Technical Specifications / Other Details	Make	Quantity	Unit	Rate (Rs.)	Amount (Rs)
<b>1</b>	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of Outdoor Autodome CCTV Camera (PTZ)</b>						
1.1	Supply, Installation, Testing & Commissioning CCTV Camera as per the given specification and to be installed at top of the Pole (12 mtr high).	5 MP, 36x optical Zoom, 800 meter view, IP67 Weatherproof, Outdoor pendant mounted, 220 V AC Adaptor input, 12V DC or PoE Model, PTZ dome wall mount, pole mount adapter, material aluminium alloy with horse clamp, Including all required accessories with wall mount adaptor, pole mounting bracket for above camera, SD Card slot with cable manager box	Uniview / Bosch	8	each		
<b>2</b>	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of Industrial Grade Newtwork switch with SFP modules and Power Supply</b>						
2.01	Network switch at TS node for ring connectivity	4-port Industrial 10/100/1000BaseT + 2 SFP ports (1000Base-Lx or 10/100Base-Fx) switch module with redundant ring operation	OSD 2254E	10	each		
2.02	SFP module - Ring compatibility	1000Base-Lx 1310nm SFP Plugin Module for 2 Singlemode Fibers, supports up to 30KM on singlemode fibers	OSD	20	each		
<b>3</b>	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of 24-Port Network L3 Switch (ARISTA/CISCO) at Control Room</b>						
3.01	24-Port Network Switch at Control Room	24-Port layer 3 Network Switch	ARISTA / CISCO	3	each		
3.02	Network switch at Control Room for ring connectivity	4-port Industrial 10/100/1000BaseT + 2 SFP ports (1000Base-Lx or 10/100Base-Fx) switch module with redundant ring operation	OSD 2254E	3	each		
3.03	NVR 32 Channel	4 TB HDD, UNV/NVR 308-32E-B with 2 ethernet port	Uniview / Bosch	3	each		

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Sr. No.	Item	Technical Specifications / Other Details	Make	Quantity	Unit	Rate (Rs.)	Amount (Rs)
<b>4</b>	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of Solar Power System for 72 Hours Backup</b>						
4.01	Design, drawing, supplying, erection, testing and commissioning of solar power supply unit commissioning of solar panels charging controller unit, Inverter, Lithium ion batteries with suitable capacity and connecting wire, including waterproof encloser box for housing the entire solar power system and communicating switches for 72 hours power backup to CCTV and communication switches.	<b>72 Hours Power Backup</b>					
4.02	Solar charger Unit	24V/2.5A ouput for camera and communication switch	Smarten / Equivalent	8	each		
4.03	DC to DC Convertor (25V)	For Constant supply of OSD 2254E	Meanwall	13	each		
4.04	Solar Panel Set	335 Watt	Himalayan / Equivalent	16	each		
4.05	Batteries Set	Lithium ion 440 AH	Surja Solar / Equivalent	8	each		
4.06	Solar Inverter	1 KVA / 24 V	Luminous / Exide	8	each		

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Sr. No.	Item	Technical Specifications / Other Details	Make	Quantity	Unit	Rate (Rs.)	Amount (Rs)
5	Pole for Camera						
5.01	Design, drawing, supplying, erection of hexagonal or in any other shape GI Pole of 12 Mtr clear height from finished adjacent Road Level suitable for mounting above CCTV system, including provision for hanging solar panels and housing for required accessories i.e. switches, fiber box, patch cables, fiber LIU, batteries, inverter, housing box extra fixed with proper brackets or suitable required support system at minimum 6 mtr clear height from finished adjacent road level and providing making reinforced cement concrete Foundation including providing and fixing Foundation bolts of required size and quantity complete as per the satisfaction of the engineer in charge.  <b>Note:</b> Design and drawing for this item shall be made from an experience structure engineer and shall be approved from IIT Delhi/ IIT Roorkee/ MNIT/ AMU or any other IIT. Contractor shall submit documentary evidence before start of this work.	12 Meter Pole with Foundation and all other assembly as per the approved design.	All materials used shall be as per ISI / BIS	8	each		
6	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of Earthing (Lightning arrestor) for Pole and Equipment</b>						
6.01	Earthing of Lightning Arrestor, 1200mm earthing rod with chemical, copper wire 4 mm connectivity from arrestor to earthing rod	Copper rod LA- 300mm ,Down conductor 10 sqmm - 25 meter/Node		8	each		

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Sr. No.	Item	Technical Specifications / Other Details	Make	Quantity	Unit	Rate (Rs.)	Amount (Rs)
<b>7</b>	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of Cabling at Each locations</b>						
7.01	Fiber patchcord	Singlemode LC - LC Duplex - 1 meters	D-link	8	each		
7.02	Fiber patch panel (LIU)	6port Fiber patch panel pre-loaded - rack mount - LC type	D-link	8	each		
7.03	Cable & accessories	UTP CAT6	Polycab / D-Link / Equivalent	1200	metre		
<b>8</b>	<b>Supply, Installation, Testing &amp; Commissioning (SITC) of Fiber Connectivity with Existing Backbone</b>						
8.01	OFJC (Optical Fiber Joint Closure)	Bamboo Type for 2 in 2 out	D-Link	8	each		
8.02	Fiber Cable from location to Enclosers box including digging and refilling	6 Core Optic Fiber Cable, Armoured	D-Link	16000	RM		
8.03	Splicing & Other Etc.			8	metre		

**Total (without GST), Rs.**

Amount in Words (without GST): Rupees.....

**Note:**

1. Only GST shall be paid extra as applicable.
2. All other taxes, Octroi, Royalty, Labour Cess, other Cess, Levy etc. are included in the above quoted rates.
3. Fittings and materials shall be with ISI mark (wherever approved makes are not mentioned).