



RFP for empanelment of Agencies for connecting various Government Offices at Village level to leverage the Bharat Net Phase-II OFC backbone throughout the State of Gujarat



Department of Science and Technology
(Government of Gujarat)

RFP NO: HWT230320614 dated 23/03/2020

Issued By:

Gujarat Informatics Limited (GIL)

Block No: 2, 2nd Floor, Karmayogi Bhavan, Sector-10A, Gandhinagar 382010

<https://gil.gujarat.gov.in/>

Section – 1: PROJECT PROFILE

1.0 Important dates

#	RFP NO: HWT230320614 dated 23/03/2020	
1	Bid Reference	RFP FOR: <ul style="list-style-type: none"> • Supply, Installation, Cable, Laying, Splicing, Jointing, Terminating, and Commissioning of OFC related work, Civil work and Accessories. • Supply, Installation, testing, Commissioning of Wireless radio (point to Multi point) and its related work (including civil/infra Accessories). • Supply, Installation, Commissioning of Last mile Equipment such as Transceivers, manageable switches etc. • Structured cabling including Supply, Installation, Commissioning of CAT 6 cables and Accessories including internal office LAN.
2	Date of Pre-Bid Meeting	08/04/2020 on 1500 hours
3	Venue for all the Bid process activities like Pre-Bid Meeting, EMD and BG submission, Bid opening etc.	Gujarat Informatics Limited (GIL) Block No: 2, 2 nd Floor, Karmayogi Bhavan, Sector-10A, Gandhinagar-382010
4	Last date and Time for submission of Bids	21/04/2020 up to 1500 hrs.
5	Date and Time for Technical Bids opening	21/04/2020 at 1700 hrs.
6	Bid Processing Fees (Non-Refundable)	Rs. 17,700/- (Including GST). In the form of Demand Draft in favor of “Gujarat Informatics Limited” drawn on any scheduled bank and payable at Ahmedabad/ Gandhinagar.
7	Bid Security-EMD (Refundable)	Rs. 1000000/- (Ten Lac)
9	Please address all queries and correspondence to	DGM (Tech), Gujarat Informatics Limited (GIL) Block No: 2, 2 nd Floor, Karmayogi Bhavan, Sector-11, Gandhinagar-382010. E-mail: viveku@gujarat.gov.in
10	Bid Validity	180 days from the date of bid submission.

Note:

- All bids must be submitted online on <https://www.gil.nprocure.com>
- Bidders who wish to participate in this bid will have to register on <https://gil.nprocure.com> Further bidders who wish to participate will have to procure Digital Certificate as per Information Technology Act 2000 using which they can sign their electronic bids. Bidders can procure the same from (n) code solutions – a division of GNFC Ltd., or any other agency licensed by Controller of Certifying Authority, Govt. of India. Bidders who already have a valid Digital Certificate need not procure a new Digital Certificate.
- Services offered should be strictly as per the requirements mentioned in this Bid document. Conditional bids are liable for rejections.

2.0 Introduction

2.1. M/s GIL on behalf of Department of Science and Technology, Govt. of Gujarat, invites bid for empanelment of Agencies for establishing connectivity over OFC/Wireless/LAN cabling work including Supply, Installation and Commissioning of Last Miles equipment on turnkey basis at various Government Offices at Village level to leverage the Bharat Net Phase-II OFC backbone throughout the State of Gujarat and to be maintained as per terms and conditions of the RFP document.

2.2. DST, Government of Gujarat intends to connect the last mile horizontal Government offices (Village level public Offices such as Public Health Center, Anganwadi, police Chowki, Schools etc.) located

nearby Gram panchayat offices across the State of Gujarat to leverage OFC backbone created under the BharatNet Phase-II project.

- 2.3. Once quoted, the bidders are not allowed for any type of price changes, whether resulting or arising out of any technical/commercial clarifications sought regarding the bid. Such price changes shall render the bid liable for rejection.
- 2.4. Quoted prices of goods and services will be valid for 2 (Two) Year from the date of award of empanelment.
- 2.5. In addition to this RFP, the following sections attached are part of Bid Document

Section -1	Project Profile	Section -5	Specifications
Section -2	Eligibility Criteria	Section -6	Technical Bid Format
Section -3	Scope of Work	Section -7	Financial Bid Format
Section -4	Instruction to Bidders	Section -8	Performa for Performance Bank Guarantee
		Section -9	Annexure

3.0 Definitions

- i. "Applicable Law" means the laws and any other instruments having force of law in India as they may be issued force and in force from time to time.
- ii. "Proposals" means proposals submitted by bidders in response to the RFP issued by Science city for selection of consulting firm/company.
- iii. "Competent Authority" means the Secretary, Department of Science & Technology, Government of Gujarat
- iv. "Tenderer" means Gujarat Informatics Limited (GIL) or Gujarat Fibre Grid Network Limited (GFGNL) or Department of Science & Technology, Government of Gujarat.
- v. "Contract Price" means the price payable to the bidder under the Contract for the successfully completion and proper performance of its contractual obligations.
- vi. "SP" means Service Provider, any private or public entity, which will provide the services to tenderer under the contract.
- vii. "Contract" means the Contract signed by the parties along with the entire documentation specified in the RFP
- viii. "Services" means the work to be performed by the SP pursuant to the selection by Tenderer and to the contract to be signed by the parties in pursuance of any specific assignment awarded to them.
- ix. The "Bid Document" and "Tender Document" are the same
- x. "DDO" District Development Officer of Government of Gujarat
- xi. "Final Acceptance Test (FAT)" means the acceptance testing of the work completed & commissioned at locations by bidder.
- xii. "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value or influence the action of a public official in the process of Contract execution.
- xiii. "Default Notice" means the written notice of Default of the Agreement issued by one Party to the other in terms hereof.
- xiv. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive GISL/GIL of the benefits of free and open competition.
- xv. "Good Industry Practice" means the exercise of that degree of skill, diligence and prudence which would reasonably and ordinarily be expected from a reasonably skilled and experienced Operator engaged in the same type of undertaking under the same or Similar circumstances.

Section – 2: ELIGIBILITY CRITERIA

- 1) The bidder should be IT System Integrator, who must have supplied and successfully installed items similar to the type specified in the schedule of requirements to any of the reputed organizations / institutes in the country.
- 2) The Bidder should have at least 3 Year's experience in setting up LAN /WAN solutions, and should have installed minimum 10 LAN/WAN projects, out of which, 5 projects should be of minimum 80 nodes installed and operational. Copies of Purchase orders and Certificates of Successful Completion from Customer should be submitted. Experience details should be given in the **Form-E1**.
- 3) The Bidder should attach bid specific Authorization certificate from the OEM, for the authenticity, authorized representation and after sales support. **(Form-E3)**.
- 4) The Bidder should have 20 skilled engineers / Manpower with minimum 2 Years experience. Bidders needs to provide the detail of Manpower i.e. educational qualifications, experience and P.F. no./ ESIC no. along with the projects they have handled should be provided with the bid. **(Form-E4)**
- 5) The bidder should have local presence and should have office in Gujarat. The bidder should have service support infrastructure in the state to provide warranty and post warranty services. The details for such service support infrastructure must be enclosed. Please attach the copy of any one of the following: Property tax bill/Electricity Bill/Telephone Bill/GST Registration/Lease agreement etc. **(Form-E5 and Form-E6)**. In case bidder does not have office in Gujarat, bidder should give undertaking to open office in Gujarat within 45 Working days from the date of award of work order.
- 6) Copies of original documents defining the constitution on legal status, place of registration and principle place of business of the company or firm etc. Copy of company incorporation / registration certificate of the firm shall be attached, as a proof Bidder must submit copies of his central and local VAT and Service tax/GST registration certificates, PAN number.
- 7) The bidder must have average annual turnover of Rs. 10 Crores from the business of IT/ITeS- networking Business only during the last three financial years as on 31st March 2019. Bidder should attach copies of audited accounts, CA certificate confirming the clause requirement as a proof of turnover for the past three years. **(Form - E7)**.
- 8) The Manufacturer of the product (OEM) should have ISO 9001:2008 or latest and 14001:2004 or latest certification for manufacturing of items like Wireless/RF Radios, Ethernet Switches, Copper and Fiber Cable, UTP cable, Patch Panels, Information Outlets and OEM must have minimum presence of 5 years in India as on bid issuance date. **(Form - E8)**
- 9) The Manufacturer of the Wireless/RF Radios should have installation base of at 10,000 radio devices globally **OR** should have atleast turnover of 100 crores from the sale of wireless/RF radios from the year ended on 31st March 2019 in India.

Note: All the details and the supportive documents for the above-mentioned items should be submitted.

Section – 3: SCOPE OF WORK

3.1 Introduction:

Department of Science and Technology, Government of Gujarat is the nodal agency for implementation of Bharat Net phase-II project in the state of Gujarat. The Gujarat Government has setup a Special Purpose Vehicle (SPV) namely “Gujarat Fibre Grid Network Limited” (GFGNL) to implement Phase-II of BharatNet Project in Gujarat. This SPV has been created to synergize with the efforts of Government of India under the National Optical Fiber Network and Digital India initiative and make focused efforts to actualize a state-to-village fiber grid and to facilitate building common Government owned infrastructure to provide internet facilities to residents of State of Gujarat.

BBNL (Bharat Broadband Network Limited) is a Telecom infrastructure provider, set up by the government of India under Department of Telecom, GoI for the establishment, management and operation of National Optical Fibre Network to provide a minimum of 100 Mbps broadband connectivity all 250,000 Gram panchayats in the country, covering nearly 625,000 villages, to improve telecommunications in India and reach the campaign goal of Digital India.

The Gram Panchayats (GPs) to be connected under BharatNet Phase-II in the state of Gujarat has been divided into two packages, each containing a group of GPs for convenience of implementation. As part of the scope ~ 7700 GPs, spread over 22 districts shall be connected over the proposed fibre grid. GFGNL through separate tenders has already selected Project Implementing Agencies (PIA) for both the packages for implementing the entire project on Engineering Procurement and Construction (EPC) basis those are M/s ITI limited as PIA for Package A and M/s GTPL Hathway Limited as PIA for Package B.

Further, GFGNL has also selected a third-party audit agency (TPA) i.e. M/s TCIL for validating the entire execution work done by these PIA's. TPA agency shall inspect, verify, certify and monitor the timely execution of the entire network including OFC laying, Equipment installation & integration with state NOC as per the scope mentioned in the respective RFP.

Further, DST- GoG has already had vast wide area Network implemented across the state of Gujarat through the mix of own fibre and leased circuits through ISPs. Brief of these projects is as mentioned below:

GSCAN and GSWAN: Is the core backbone of statewide IT infrastructure. It currently serves the state government departments/board/corporations to fulfill their need of connectivity (Both Internet and Intranet) across the state. Over the years of experience GSCAN and GSWAN has proved to be a reliable statewide carrier for data, voice and internet access for the different departments spread across varied geographical boundaries across the state of Gujarat. GSWAN connects all 33 Districts, 248 Talukas ultimately interconnecting last mile offices for secure digital communication. GSCAN and GSWAN rides on various modes of connectivity like owned OFC, Leased OFC from ISP, Wireless links connecting to nearest PoPs. Recently, DST, GoG had completed 3rd phase of upgradation of GSWAN and increases minimum bandwidth at each PoP to 20Mbps from 2Mbps focusing more on creating fibre backbone and more and more no of PoPs to serve the last mile.

There are three types of Cabling done in the entire network of GoG: -

- The Campus Backbone is the cabling system that provides data and/or telecommunication services between buildings. It connects two or more Buildings and will almost always be in the form of fiber optic cabling.

- The Building Backbone is the cabling system that provides telecommunication services between floors or areas within a building. It connects the Building to the Floors and will usually consist of both fiber optic and copper links.
- The horizontal cabling is the cabling system that provides telecommunication services from the Floor to the Nodes. It will almost always be in the form of copper cabling but occasionally fiber optic may be required.

3.2 Scope of Work

In continuation of above, through this RFP GIL is willing to empanel agencies for extending BharatNet Connectivity/OFC from Gram Panchayat to various horizontal offices of GoG at the village level. This is an EPC/turnkey kind of procurement wherein successful empaneled agency(s) will be responsible for end-to-end OFC/Wireless link/LAN/WAN and its related work like supplies of various materials, installation, testing, commissioning and support during the warranty period.

The rates discovered by this RFP will be valid for a period of 2 (Two) year from the date of award/empanelment i.e. issuance of Lol/Wo. Further, DST will share these rates with the various DDOs (District Development Officers) of Govt of Gujarat, who in-turn authorize to decide on issuance of purchase order, release of Payments etc. for the offices under their jurisdiction. DST will issue the required Grant/Funds to the respective DDO for the above activity.

As this is an RFP for empaneling the agency(s) i.e. Maximum five provided they match the L1 rates for the duration of two years, Tenderer does not guarantee any kind of order or any fixed quantity order either at the time of issuance of work order or signing the contract agreement or even in contract duration. Any type of escalation of the discovered rates during the contract tenure is not permitted, further successful empaneled agency denying serving the contract due to rate escalation may liable for contract termination, forfeiture of Bank Guarantee and Black listing from doing work with TENDERER in future.

Basically, there will be two categories of connectivity as follow:

- a) Offices situated with in the distance of 100 Meters from the office/premises of Gram Panchayat office will be connected on CAT-6/LAN cabling
- b) Secondly there will be Offices which are situated with in the distance of more than 100 Meters from the office/premises of Gram Panchayat office will be connected either through laying of own OFC or through establishing point to multipoint wireless link.

3.2.1 OFC CABLING WORKS

As mentioned above bidder will be responsible for end-to-end with material Cabling work including all like cable, passive items, I/O box, patch cord, Labor work, warranty and maintenance services as per the industry best practices and complying to the RFP requirement throughout the state to provide SCAN/ GSWAN connectivity at various GoG offices using OFC / CAT-6 cable. Bidder will be responsible to undertake and complete the works within the defined time frame related to supply, installation, testing and commissioning of services as indicated in the bid anywhere across the Gujarat state.

Coaxial or Optical Fibre Cable quoted/supplied/installed by the Bidder as per the scope of work of this RFP must be manufactured/made in India only. The works are to be completed on turnkey basis and the supplied equipment are required to be maintained for Five years from the date of FAT. The Bidder shall be responsible for implementation of the work as defined. Bidder is required to carry out following tasks but not limited to:

- 1) **Supply, Installation, testing and commissioning of the LAN/WAN/OFC work:** The Bidder is required to carry out cabling work as per the requirements of GFGNL/DST. Bidder will have to carry the user details such as User name, IP address and Network Layout in respective file / respective offices for installation and commissioning of equipment. Bidder is required to send a mail to support@gswan.gov.in and other email addresses as specified by GFGNL/DST, from respective user account for the confirmation of Data.
- 2) **Turnkey Project Basis:** - The Bidder shall act as single Bidder to organize and manage the entire project – including design, supply, installation and commissioning of all required hardware, software, networking, accessory items and local wiring for Electrical power supply etc. at locations proposed by GFGNL/DST. The Bidder shall be in a position to test, demonstrate and certify the basic requirements in accordance with the contract.
- 3) **Technical arrangements:** The Bidder shall provide details of site and infrastructure requirements in a layout plan after making a site survey.
- 4) **Earthing Arrangement:** The Bidder shall provide wiring and pit specifications, Earth resistance etc. The Bidder shall arrange to construct separate earth-pits as required.
- 5) **Warranty and Post-Warranty Support:** The Bidder shall be responsible for the warranty support for the period of five years from the date of FAT and also for the post warranty support and as required by the GFGNL/DST.
- 6) All goods or materials shall be supplied strictly in accordance with the specifications, Drawings, datasheets, other attachments and conditions stated in the RFP/ Agreement / SLA. All materials supplied by the Bidder shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials.
- 7) **Certification:** The Bidder shall test and certify the availability and reliability of the link and give the connectivity matrix between various locations and get it certified by GFGNL/DST/its representative.
- 8) **Documents:** The Bidder shall provide 1 set of documents and manuals (hard copy, soft copy with each item of the unit supplied). Bidder will have to submit the Escalation matrix with details of responsible person names, E-mail's and mobile numbers in order to solve any technical and non-technical problems throughout the life cycle of the project and warranty period.
- 9) **Reporting:** Detailed report is required to be submitted for the work under progress and for functional performance of the connectivity, throughput. The same have to be certified by DST/GFGNL or its representative agency. Bidder shall submit the installation plan for each location to respective DDO, who in turn shall approve the plan before execution. Bidder will have to fill up an installation and commissioning report and get the same duly signed by concern officer of respective offices and GFGNL's representative with their seal and remarks if any and submit the same in original to respective DDO. Further, respective DDO will release the payments based on these reports.
- 10) DST/GFGNL reserves the right to redefine the requirement of services within the scope of items specified in the bid as required from time to time.
- 11) The Under Ground (U/G) Cables are to be buried at depth such that the top of the cable is One meter (1000 mm) below the normal ground level. The items of work involved in U/G Cable laying are as under: -
 - A. Excavations of trench up to a depth such that the top of the cable is 1 meter below the normal ground level according to the construction specifications.
 - B. Laying and pulling of cables in trenches through pipes/ ducts.
 - C. Placing of Half round RCC Pipes/Stones slabs/Precast RCC Slabs/Layer of Bricks as per specifications.
 - D. All the cables should be weatherproof, outdoor grade and as per BIS standard.
 - E. OFC LIU should be 12 pair (Fully Loaded) by default for all sort of OFC cabling work

- F. Quoted OFC should be ETL/UL/TEC/TSEC/CE/FCC/ERTL-MeitY, GoI certified/approved reputed make and manufactured in India only. In case quoted make & model does not have ETL/UL/TEC/TSEC/CE/FCC/ERTL-MeitY, GoI then it should be applied for as on bid submission date. The Vendor has to submit the Manufacturer test reports. Cable Type: Minimum Single Mode 6 (six) core Optical Fiber, 9/125^μm, armored outdoor type application.
- G. Route indicators (Metallic) for OFC cable are to be placed for every 100 mtrs.
- H. Joint indicators for OFC cable are to be placed for every OFC joint.
- I. Digging and burying of OFC cable 1Km. Length and the OFC cables are to be laid in buried HDPE pipes. Diameter of the HDPE pipe should be 25mm of Std. Make with ISI mark.
- J. Back filling in compacting of the excavated trenches according to the construction's specifications and removal of excess earth from the site.
- K. Construction of pillar foundations erection, painting and sign writing of pillars.
- L. Erection, termination, painting and sign writing of DPs
- M. Termination of Cables in MDF and Pillars.
- N. Jointing and End-to-End testing of Cables– Correspondence and Electrical tests. Supply, fixing, painting and sign writing of root and joint indicators.
- O. Documentation: Submission of detailed diagram/drawing of work carried out.
- P. Modernized Method of cable laying should be incorporated, where, minimum damage to the infrastructure is required i.e. cable laying machine is used for such purposes.
- Q. Bidder is required to maintain work log and activity sheets on a software, which facilitates reporting of their performance through SLA monitoring, the access to these reports to be made available to GFGNL its designated agency.
- R. Bidder is required to submit the underground cable diagram with longitude and latitude from start point to end point including each turning point with cable length. (In form of hardcopy as well as soft copy in CD)
- S. Bidder must comply and confirm the above-mentioned points in their proposals

3.2.2 **Wireless Link**

- 1) Bidder will be responsible for establishing end-to-end RF link up to the termination point (From A end to B end) including supply, installation, testing, commissioning and support during warranty period.
- 2) The RF link includes supply and installation, testing & commissioning of radios at both (base and remote) location along with all the necessary components like Wireless radios, Foundation, Antennas, mounting structure (pole/Mast), clamps, cables(active/Passive), lightening arrester, earthing, aviation lamp, etc.
- 3) Base Station Radio should have ability to connect to the Fiber backhaul using SFP to serve up to 1Gbps.
- 4) Proposed wireless solution should conform to applicable WPC regulations for use of license-free spectrums in terms of EIRP. A joint declaration (OEM & SI) to this effect must be submitted along with the technical bid. Bidder is also responsible for submission of periodic compliance reports during the project period.
- 5) The Radio's should have port level redundancy, for connecting to the network device provided by the GFGNL at the end locations. The port level redundancy means, if there is any fault on the ethernet port of the radio, the second port can be used to make the link live with minimum configuration level changes only.
- 6) Both type of Radios (Base & remote) should be of same make to provide the Point-to-Multi Point connectivity.
- 7) The bidder shall carry out the survey/feasibility study wherever required, to identify and resolve all the RF/data path related issues for the proposed connectivity.

- 8) The bidder will be responsible for site readiness and transportation of material, erection and anchoring of support structure, earthing, lightening arrestor, STP/RF cable, aviation lamp, surge protection and other accessories.
- 9) It will be responsibility of the bidder to arrange and obtain all the necessary permissions at the base and remote location for the required erection of the support structure and installation.
- 10) The bidder will be provided with the required access, power at each location for installation and commissioning of the devices. However, it will be responsibility of the bidder to extend the electrical power from the available point at each site as per the actual site requirement including installation of any electrical equipment/cable for the same.
- 11) The bidder will have to use the IP schema provided by GFGNL.
- 12) The bidder will be responsible to ensure that the wireless radios should be integrated and discoverable in the existing NMS tool of the GFGNL.
- 13) The bidder shall be bound to the Service Level Agreement under the contract and is supposed to provide the support services during the 5 years of warranty period.
- 14) The bidder will also be responsible for replacement of faulty equipment's at sites even in case of same due to power surge issues at the sites, without any additional cost to the GFGNL.
- 15) The GFGNL or its designated agency will monitor the performance of links during the operations period. The GFGNL or its designated agency will be responsible for verification, validation of all works/services under the terms & conditions of the agreement.

3.2.3 LAN/WAN/Structured Cabling WORKS

All work shall conform to the Building Code, and all local codes and ordinances as applicable. Any exceptions to the above must have written authorization from GFGNL. As mentioned above entire work has to be completed in turnkey/EPC manner. Further, below mentioned are the minimum tasks, which Bidder will have to carry out during the work:

- (a) To carry out the feasibility study for the deployment of required LAN.
- (b) Bidder shall act as single Bidder to organize and manage the entire project including design, supply, installation and commissioning. The Bidder shall be in a position to test, demonstrate and certify the LAN connectivity in accordance with the contract.
- (c) The Bidder shall carry out site survey and prepare tentative BoM for the work to be carried out at that particular site. This BoM will have to be submitted to GFGNL & respective DDO for approval along with a layout diagram indicating the location of equipment to be installed.
- (d) The Bidder will be responsible to undertake and complete the works related to supply installation and commissioning services across the Gujarat state.
- (e) In case of repairing or upgradation of existing links bidder will be responsible for removal of existing old/faulty cables or material without any additional cost to the purchaser.
- (f) The Bidder shall be using 4" GI Pipe as standard while installation of cabling work.
- (g) The Bidder shall be responsible to share the status report of existing infrastructure (i.e. Cable, network equipment, patch cord, OFC etc.), during resolving complaints.
- (h) The Bidder shall provide one copy of the Network Diagram, warranty documents, manuals and FAT/UAT reports etc. to concern local authorities and another copy to GFGNL for further process of completion of orders.
- (i) The Bidder will be responsible to provide the services at all the locations at the agreed price. Bidder is required to Supply and Install LAN components and commission LAN as per the requirements. The structured cabling works are to be completed on turnkey basis including installation of all required casing, conduits, flexi pipes, I/O boxes, Face Plates, removal of existing Lan infra if any, etc. To ensure quality of work done, no cable should be left bare or visibly exposed and the supplied equipment are required to be maintained for Five years from the date of FAT.

- (j) The Bidder shall be responsible for implementation of the work as defined. Delivered Solution must be tested and commissioned as per defined procedures before handing over the project to GFGNL's team. Any hardware equipment or software's required for those testing and commissioning procedures is the sole and full responsibilities of the bidder.
- (k) The Bidder shall be responsible for the 'On Site' warranty support during the warranty period of 5 years from the date of FAT and also for the post warranty support and as required by the Tenderer. During the warranty period bidder is responsible for all type of required operations and maintenance support. All goods or materials shall be supplied strictly in accordance with the specifications, drawings, datasheets, other attachments and conditions stated in the RFP/Agreement/SLA. All materials supplied by the Bidder shall be guaranteed to be of the best quality of their respective kinds and shall be free from faulty design, workmanship and materials.
- (l) The Bidder shall provide details of site and infrastructure requirements (Power, earthing etc.) in a layout plan after making a site survey.
- (m) Detailed report is required to be submitted for the work under progress and for functional performance of LAN, the connectivity, throughput etc. Bidder shall submit the installation plan for each location to respective DDO, who in turn shall approve the plan before execution. Bidder will have to fill up an installation and commissioning report and get the same duly signed by concern officer of respective offices and GFGNL's representative with there seal and remarks if any and submit the same in original to respective DDO. Further, respective DDO will release the payments based on these reports.
- (n) The successful bidder has to provide on-site warranty for all equipment as mentioned in RFP. Warranty period shall start from the date of successful acceptance by GFGNL or its designated agency on completion of installation, testing and commissioning of the equipment.
- (o) On acceptance of work, a work completion report must be prepared by the bidder and signed by both the parties i.e. GFGNL or its designated agency and bidder. Only after signing the completion letter, the beginning of the warranty period will be considered. During the warranty period, for each visit whether periodical or on call, whether preventive or corrective maintenance, the bidder contact person must inform to GFGNL/DDO or its representative. A technical/service report of the work carried out must be signed by officers of respective offices and bidder's representative.
- (p) The bidder should ensure that while installation or attending the complaints of LAN, day-to-day functioning of official work and existing network setup/connectivity/internet connectivity should not get disrupted.
- (q) The bidder will be responsible to undertake and complete the works related to supply installation and commissioning services as indicated in the bid any where in state promptly and within the time duration prescribed by GFGNL user department.

The bidder will be responsible to provide the services at all the site locations spread across the state at the agreed price. Bidder is required to Supply/ Install / Commission Transceivers, OFC components, I/Os and Patch Cords etc. as per the specifications mentioned in the Bid document. The works are to be completed on turnkey basis and the supplied equipment are required to be maintained for Five years from the date of FAT. The Bidder shall be responsible for implementation of the work as defined.

(r) Standard Cabling Best Practices:

- A. For Cabling, the Cable used shall be Standard Branded CAT6, 100ohm, 4 pair unshielded twisted pair (UTP) cable. Further, all newly installed Device must be capable of supporting CAT6a cabling also.
- B. All Floor uplink shall be provided on fiber only and if distance between two-points is less than 90 Mtr. CAT6 cable may be used for Up-link.
- C. All node should be connected to switch through I.O. Port and PCB Patch panel only.

- D. Cable Tagging shall be at both side and at both end (i.e. node side and rack side and inside and outside of I.O port and Patch panel)
- E. Care must be taken to not to stretch or abrade cables during installation, i.e. the pulling tension for cables must not be exceeded.
- F. Cables that pass through the infrastructure of the building shall be suitably protected against damage. Through walls and floors this shall involve an appropriate type of sleeve; through any form of metalwork or stiff plastic then a rubber grommet shall be used.
- G. To ensure cable management and also strain relief, cables shall be properly dressed using Velcro cable ties. However, cables ties should never be over tightened.
- H. On vertical runs, the cables shall be dressed and tied from the bottom up, thus putting minimum strain on the cables.
- I. Cables shall not run behind radiators.
- J. In order that the system may be easily re-routed, or damaged sections quickly replaced, free access to the cable, where possible, is important
- K. Draw cords shall be left in ducting, piping etc. for future use
- L. Because of the nature of offices, dust sheets be used at all times.
- M. Special care shall be taken to avoid contact with dangerous materials e.g. asbestos
- N. Sharp bends in the cable will damage the insulating material thus causing unacceptable losses in the transmission medium. Therefore, the internal radius of every bend in a cable shall be such as not to cause damage to the cable, nor impair the characteristics of the cable.
- O. Patch panels shall be installed within the Communications 24 nodes from the top, continuing downwards.
- P. The cable shall be clearly labeled at both ends, as outlined in the documentation and/or drawing.
- Q. High power electrical plant may produce switching transients and radio frequency emissions that may induce interference on the UTP cable. Therefore, in addition to the rules imposed by the IEE Regulations, data cables shall not run parallel to power cables, especially where these cables may carry heavy switching loads. If, however, this is unavoidable it is advisable to keep cables as far as possible. (Like Transformer-100CM, Electric Meter- 100Cm Fluorescent Light-30Cm).
- R. Cable shall not be routed over pipes, conduits, other cabling, ceiling tiles, etc., but shall rest directly on the supporting surface so as to minimize the potential for sharp bends, kinks etc. Every cable used shall be supported in such a way that it is not 25 exposed to undue mechanical strain and so there is no appreciable mechanical strain on the terminations.
- S. For cables which are not continuously supported, the maximum distance between supports shall not exceed 50cm (horizontal or vertical).
- T. Floor Plans, both hard copy and Soft Copy, suitably marked up to show location and I.O. of each and every data point, and detailing any deviation from the original plan.
- U. Full Structured Cabling Test Results, via email or compact disc.

(s) Roles & Responsibility Matrix: Following table defines the minimum Roles and Responsibility of all the stakeholders involved in project & its activities:

S/N	Activity	Bidder	GFGNL	DDO	GFGNL's Representative
1	Issuance of Empanelment Order	-	√	-	-
2	Identification & finalization of Locations/End offices at GP	-	√	√	-
3	Survey, preparation and submission of Estimation/BoM for each location/office	√	-	-	-

S/N	Activity	Bidder	GFGNL	DDO	GFGNL's Representative
4	Verification of BoM/estimation submitted by bidders	-	√	-	√
5	Issuance of Purchase/Work order	-	-	√	-
6	Submission of installation plan	√	-	-	-
7	Approval of Installation plan & Site readiness	-	-	√	-
8	Work completion-supply/installation/testing/commissioning	√	-	-	-
9	Verification of work done (I&C report, FAT etc.)	√	√	√	√
10	Submission of invoices with supporting docs	√	-	-	-
11	Verification and release of Payment	-	-	√	-
12	Warranty period support including repair / replacement	√	-	-	-
13	Call/complaint resolution as per the SLA	√	-	-	-

Note:

- M/s GFGNL, will be engineer-in-charge and will provide overall supervision for all the activities carried out under this tender.
- DST-GoG will provide the assistance to all the concerned stakeholders as and when required.
- GFGNL reserve the rights to add/amend roles and responsibility matrix as and when need arise.

Section – 4: INSTRUCTION TO BIDDERS

ARTICLE – 1: COST OF BIDDING

- 1.1 The Bidder shall bear all costs associated with the preparation and submission of the Bid and GIL will in no case be responsible for those costs, regardless of the conduct or outcome of the bidding process.
- 1.2 Bidder is requested to pay **Rs. 17,700/- (Including G.S.T.)** as a bid processing fee (Non-refundable) in the form of demand draft in favor of “Gujarat Informatics Limited” payable at Ahmedabad/Gandhinagar along with the EMD cover. In case of non-receipt of bid processing fees and EMD the bid will be rejected by GIL as non-responsive.

ARTICLE – 2: BIDDING DOCUMENTS

- 2.1 Bidder can download the bid document and further amendment if any freely available on <https://gil.gujarat.gov.in/> and <https://gil.nprocure.com> and upload the same on <https://gil.nprocure.com> on or before due date & time of the tender. Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submits a Bid not substantially responsive to the bidding documents in every respect may result in the rejection of the Bid. Under no circumstances physical bid will be accepted.

ARTICLE – 3: CLARIFICATION ON BIDDING DOCUMENTS

- 3.1 Bidders can seek clarifications on or before the Pre-Bid meeting date & time to DGM (Tech), Gujarat Informatics Limited by emailing the queries on the email ids given in this RFP document in the prescribed format only. GIL will clarify and issue pre-bid responses and amendments if any to all the bidders in the pre-bid meeting or at GIL’s website as well as on nprocure portal. No further clarification what so ever will be entertained after the pre-bid meeting.

S. No.	RFP Document Reference(s) (Clause & Page Number(s))	Content of RFP requiring Clarification(s)	Points of clarification
1.			
2.			

ARTICLE – 4: AMENDMENT OF BIDDING DOCUMENTS

- 4.1 At any time prior to the deadline for submission of bids, GIL, for any reason, whether at its own initiative or in response to the clarifications requested by prospective bidders may modify the bidding documents by amendment and put on our websites.
- 4.2 All prospective bidders are requested to browse our website and any amendments/ corrigendum/ modification will be notified on our website and such modification will be binding on them.
- 4.3 In order to allow prospective bidders a reasonable time to take the amendment into account in preparing their bids, GIL, at its discretion, may extend the deadline for the submission of bids.

ARTICLE – 5: LANGUAGE OF BID

- 5.1 The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and GIL shall be in English. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in English. For purposes of interpretation of the bid, the translation shall govern.

ARTICLE – 6: SECTION COMPRISING THE BIDS

- 6.1 The Technical Bid (along with all the supporting docs) and Financial Bid must be submitted online through the e-Tendering website of <https://gil.nprocure.com> using digital signatures confirming compliance to the RFP terms and conditions.
- 6.2 The bid documents and addendums (if any) together shall be considered as final and self-contained bid documents notwithstanding any previous correspondence or document issued by GIL.
- 6.3 The quotation should be distinct without any option stated in.
- 6.4 The bid submitted shall have the following documents:

SECTION – I - The Bid Security: The bid security and bid processing fee (non-refundable) to be furnished to GIL office on or before due date & time. The details are required to be filled in this section.

SECTION – II - Eligibility and Technical Section:

- a) Clause by clause Compliance statement for Bid document including all annexure to be submitted.
- b) All annexure / Table, duly filled-in with necessary proofs, as required and stated in the bid document
- c) Letter of Authority for signing the bid.
- d) Make and Model of quoted in the bid with supporting document, data sheets etc.
- e) Supporting document related to eligibility Criteria, Technical compliance, OEM compliance etc.

SECTION –III - Price bid Section:

- a) Priced bid (in the prescribed format only).

ARTICLE – 7: BID FORMS

- 7.1 Wherever a specific form is prescribed in the Bid document, the Bidder shall use the form to upload relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be uploaded in attachment to convey the said information. Failing to submit the information in the prescribed format, the bid is liable for rejection.
- 7.2 For all other cases, the Bidder shall design a form, sign it and upload to hold the required information.
- 7.3 GIL shall not be bound by any printed conditions or provisions in the Bidder's Bid Forms.

ARTICLE – 8: FRAUDULENT and CORRUPT PRACTICE

- 8.1 Fraudulent practice means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial noncompetitive levels and to deprive the TENDERER of the benefits of free and open competition.
- 8.2 "Corrupt Practice" means the offering, giving, receiving or soliciting of any thing of value, pressurizing to influence the action of a public official in the process of Contract execution
- 8.3 GIL will reject a proposal for award and may forfeit the E.M.D. and/or Performance Guarantee if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for, or in executing, contract(s).

ARTICLE – 9: LACK OF INFORMATION TO BIDDER

The Bidder shall be deemed to have carefully examined all contract documents to his entire satisfaction. Any lack of information shall not in any way relieve the Bidder of his responsibility to fulfill his obligation under the Contract.

ARTICLE – 10: CONTRACT OBLIGATIONS

If after the award of the contract the Bidder does not sign the Agreement or fails to furnish the Performance Bank guarantee within seven (07) working days along with the inception report and working schedule as per the tender requirements and if the operation are not started within seven (07) working days after submission of P.B.G. as mentioned, GFGNL reserves the right to cancel the contract and apply all remedies available to him under the terms and conditions of this contract.

ARTICLE – 11: BID PRICE

- 11.1 The priced bid in the prescribed format only should indicate price for line items listed there valid for the contract duration and exclusive of GST.
- 11.2 Offered price should be exclusive of GST.
- 11.3 Quantities can be increased or decreased by purchaser and bidder has to supply deviated quantities at the rates prescribed and approved by the purchaser in the tender document.

ARTICLE – 12: BID CURRENCY

The prices should be quoted in Indian Rupees. Payment for the supply of equipments as specified in the agreement shall be made in Indian Rupees only.

ARTICLE – 13: BID SECURITY/ EARNEST MONEY DEPOSIT (EMD)

- 13.1 The Bidder shall furnish, as part of the Bid, a Bid security for the amount of **Rs. 10,00,000/- (Ten Lac) towards** EMD by unconditional bank guarantee/demand draft in favor of Gujarat Informatics Limited payable at Gandhinagar/Ahmedabad in India in a separate envelope. The un-priced bid will be opened subject to the confirmation of valid Bid security. EMD as mentioned above shall be submitted in the form of Demand Draft OR in the form of an unconditional Bank Guarantee (which should be valid for 9 months from the last date of bid submission) of All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative and Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2019/50/DMO dated 01.11.2019 (or as per the latest revision in GR/Guidance) along with its earlier referenced GRs issued by Finance Department or further instruction issued by Finance department time to time in the name of "Gujarat Informatics Limited." payable at Gandhinagar (as per prescribed format given at as per prescribed format given at Annexure A) and must be submitted along with the covering letter.
- 13.2 Unsuccessful Bidder's Bid security will be refunded within thirty (30) days from the award of work to the successful bidder.
- 13.3 The successful Bidder's Bid security will be discharged upon the Bidder signing the Contract/Agreement, and furnishing the Performance Bank Guarantee.
- 13.4 The Bid security may be forfeited at the discretion of GIL, on account of one or more of the following reasons:
 - a) The Bidder withdraws their Bid during the period of Bid validity specified by them on the Bid letter form.
 - b) Bidder does not respond to requests for clarification of their Bid
 - c) Bidder fails to co-operate in the Bid evaluation process, and
 - d) In case of a successful Bidder, the said Bidder fails:
 - (i) To sign the Agreement in time

(ii) To furnish Performance Bank Guarantee

ARTICLE – 14: PERIOD OF VALIDITY OF BIDS

- 14.1 Bids shall remain valid for **2 years** after the date of Bid opening prescribed by GIL. A Bid valid for a shorter period shall be rejected as non-responsive.
- 14.2 In exceptional circumstances, TENDERER may solicit Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The Bid security shall also be suitably extended. A Bidder granting the request is not required nor permitted to modify the Bid.

ARTICLE – 15: FORMAT AND SIGNING OF BID

- 15.1 The bid shall be typed or written in indelible ink and shall be signed by the bidder or a person duly authorized to bind the bidder to the Contract/ Concession Agreement. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.
- 15.2 The complete bid shall be without alteration or erasures, except those to accord with instructions issued by the GIL or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

ARTICLE – 16: SEALING AND MARKING OF BID

- 16.1 The bid security and bid processing fee (non-refundable) to be furnished to GIL office on or before due date and time. The details are required to be filled in this section. The envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared "late".
- 16.2 If the envelope is not sealed and marked as required, the GIL will assume no responsibility for the bid's misplacement or premature opening.

ARTICLE – 17: BID DUE DATE

- 17.1 Bid must be received by the GIL at the <https://gil.nprocure.com> specified in the Request for Proposal (RFP) not later than the date specified in the RFP.
- 17.2 The GIL may, as its discretion, on giving reasonable notice by fax, cable or any other written communication to all prospective bidders who have been issued the bid documents, extend the bid due date, in which case all rights and obligations of the GIL and the bidders, previously subject to the bid due date, shall thereafter be subject to the new bid due date as extended.

ARTICLE – 18: LATE BID

Any bid received by the GIL after the bid due date/time prescribed in RFP shall be rejected.

ARTICLE – 19: MODIFICATION AND WITHDRAWAL OF BID

- 19.1 The Bidder may modify or withdraw its Bid after the Bid's submission at the <https://gil.nprocure.com> prior to the deadline prescribed for submission of bids.
- 19.2 No Bid may be modified subsequent to the deadline for submission of bids.
- 19.4 No Bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of Bid validity specified by the Bidder on the bid letter form. Withdrawal of a Bid during this interval may result in the bidder's forfeiture of its Bid security.

ARTICLE – 20: OPENING OF BIDS BY GIL

- 20.1 Bids will be opened in the presence of Bidder's representatives, who choose to attend. The Bidder's representatives who are present shall sign a register evidencing their attendance.

- 20.2 The Bidder's names, bid modifications or withdrawals, discounts and the presence or absence of relevant Bid security and such other details as the GIL's officer at his/her discretion, may consider appropriate, will be announced at the opening.
- 20.3 **Evaluation of the bids:** After the closing time of submission, TENDERER committee will verify the submission of Bid Processing Fees and EMD as per bid terms and conditions. The eligibility criteria evaluation will be carried out of the responsive bids. The technical bids of the bidders who are complying with all the eligibility criteria will be opened and evaluated next. The financial bid of the technically qualified bidders will be opened and financially L1 bidder will be decided as per section I of price bid and then called for further negotiations.

ARTICLE – 21: CONTACTING TENDERER

- 21.1 Bidder shall not approach TENDERER officers out side of office hours and/ or out side TENDERER office premises, from the time of the Bid opening to the time the Contract is awarded.
- 21.2 Any effort by a bidder to influence TENDERER officers in the decisions on Bid evaluation, bid comparison or contract award may result in rejection of the Bidder's offer.

ARTICLE – 22: REJECTION OF BIDS

GIL's right to reject any or all bids: GIL reserves the right to reject any Bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such decision.

ARTICLE – 23: PRELIMINARY EXAMINATION OF BID

- 23.1 Un-priced Bid documentation shall be evaluated in two steps.
- 23.2 Firstly, the documentation furnished by the Bidder will be examined based on the following criteria:
- Compliance to bid document
 - Evaluation of Eligibility Criteria and Technical Specifications of the Product / Solution Offered. (The bidder shall provide details in the bid)
 - Experience in handling such projects (the bidder shall provide information in the BID)
- 23.3 In the second step, GIL may ask Bidder(s) for additional information, demonstration of the equipments, field testing of the equipments offered to check compatibility with the existing IT infrastructures, visit to Bidders site and/or arrange discussions with their professional, technical faculties to verify claims made in Unpriced Bid documentation.
- 23.4 **Priced Bid:** Priced Bids will be opened only if the bids are technically qualified and fulfill the Eligibility Criteria. GIL may at its discretion discuss with Bidder(s) available at this stage to clarify contents of Priced Bid.
- 23.5 The quantity mentioned in the price bid is indicative to arrive at the L1 bidder. The actual quantity may vary during the period of contract i.e. 2 (Two) year depending upon the actual requirement.
- 23.6 All the bidders shall submit their offer as per the price bid and Financial evaluation will be carried out accordingly to identify the L1 bidder.
- 23.7 **Selection of L1 bidder:** The Criteria for selection will be the lowest cost to the TENDERER i.e. Sum total of all the line items without taxes for the qualified bid. TENDERER may negotiate the prices with L1 Bidder, under each item/head offered by Bidder.

ARTICLE – 24: AWARD OF CONTRACT

- 24.1 **Award Criteria:** The Criteria for selection will be the lowest cost to TENDERER for the technically qualified bids. As mentioned in this RFP document this is an empanelment RFP wherein maximum five bidders will be empaneled provided they match the L1 rates. For e.g. if any bidder says L2 or L3 rejects the matching of L1 price then in that case next bidder will be called for matching the L1 price and this process will continue till empanelment of Five bidders.
- 24.2 **Contract Period:** This rate contract will be valid for a period of 2 Years. Tenderer may consider extending the contract on completion of 2 years for further duration of 1 year based on the performance of the successful Bidder with price rise of 5%.
- 24.3 Bidders may take a note that “as this is an empanelment RFP wherein successful agency(s) will be empaneled for the execution of work as per the scope of work and RFP terms and conditions and it does guarantee any order/quantity. Orders will be released separately by respective DDO based on the actual requirement during the tenure of two years at the discovered prices”.
- 24.4 In case, if lowest bidder does not accept the award of contract or found to be involved in corrupt and/or fraudulent practices the work will be awarded to next lowest bidder subject to matching the L1 prices and so on.

ARTICLE – 25: NOTIFICATION OF AWARD and SIGNING OF CONTRACT

- 25.1 Prior to expiration of the period of Bid validity, GIL will notify the successful Bidder and Project owner i.e. M/s GFGNL, DST, Govt. of Gujarat will issue Lol/work order and from here on will be the project owner for rest of all the activities to be performed under this project.
- 25.2 Within fifteen (15) days of receipt of the Contract Form, the successful Bidder shall sign and date the Contract and return it to the GFGNL. Successful bidder has to submit Performance guarantee within fifteen (15) working days from the date of receipt of award as per “Article-35 of this section”.
- 25.3 Upon the successful Bidder's furnishing of Performance Bank Guarantee and signing of Contractual documents, The Bid Security of all unsuccessful Bidders will be refunded as per clause 13.3.

ARTICLE – 26: FORCE MAJEURE

- 26.1 Force Majeure shall mean any event or circumstances or combination of events or circumstances that materially and adversely affects, prevents or delays any Party in performance of its obligation in accordance with the terms of the Agreement, but only if and to the extent that such events and circumstances are not within the affected party's reasonable control, directly or indirectly, and effects of which could have prevented through Good Industry Practice or, in the case if construction activities through reasonable skill and care, including through the expenditure of reasonable sums of money. Any events or circumstances meeting the description of the Force Majeure which have same effect upon the performance of any contractor shall constitute Force Majeure with respect to the bidder. The Parties shall ensure compliance of the terms of the Agreement unless affected by the Force Majeure Events. The bidder shall not be liable for forfeiture of its implementation / Performance guarantee, levy of Penalties, or termination for default if and to the extent that it's delays in performance or other failure to perform its obligations under the Agreement is the result of Force Majeure.
- 26.2 Force Majeure Event
The Force Majeure circumstances and events shall include the following events to the extent that such events or their consequences (it being understood that if a causing event is within the reasonable control of the affected party, the direct consequences shall also be deemed to be within such party's reasonable control) satisfy the definition as stated above. Without limitation to the generality of the foregoing, Force Majeure Event shall include following events and

circumstances and their effects to the extent that they, or their effects, satisfy the above requirements:

- 26.3 Natural events (“Natural Events”) to the extent they satisfy the foregoing requirements including:
- (a) Any material effect on the natural elements, including lightning, fire, earthquake, cyclone, flood, storm, tornado, or typhoon;
 - (b) Explosion or chemical contamination (other than resulting from an act of war);
 - (c) Epidemic such as plague;
 - (d) Any event or circumstance of a nature analogous to any of the foregoing.
- 26.4 Other Events (“Political Events”) to the extent that they satisfy the foregoing requirements including: Political Events which occur inside or Outside the State of Gujarat or involve directly the State Government and the Central Government (“*Direct Political Event*”), including:
- (i) Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, civil commotion, act of terrorism or sabotage;
 - (ii) Strikes, work to rules, go-slows which are either widespread, nation-wide, or state-wide and are of political nature;
 - (iii) Any event or circumstance of a nature analogous to any of the foregoing.
- 26.5 Force Majeure Exclusions
- Force Majeure shall not include the following event(s) and/or circumstances, except to the extent that they are consequences of an event of Force Majeure:
- (a) Unavailability, late delivery
 - (b) Delay in the performance of any contractor, sub-contractors or their agents;
- 26.6 Procedure for Calling Force Majeure
- The Affected Party shall notify to the other Party in writing of the occurrence of the Force Majeure as soon as reasonably practicable, and in any event within 5 (five) days after the Affected Party came to know or ought reasonably to have known, of its occurrence and that the Force Majeure would be likely to have a material impact on the performance of its obligations under the Agreement.

ARTICLE – 27: CONTRACT OBLIGATIONS

Once a contract is confirmed and signed, the terms and conditions contained therein shall take precedence over the Bidder’s bid and all previous correspondence.

ARTICLE – 28: AMENDMENT TO THE AGREEMENT

Amendments to the Agreement may be made by mutual agreement by both the Parties. No variation in or modification in the terms of the Agreement shall be made except by written amendment signed by both the parties. All alterations and changes in the Agreement will take into account prevailing rules, regulations and laws.

ARTICLE – 29: USE OF AGREEMENT DOCUMENTS AND INFORMATION

- 29.1 The bidder shall not without prior written consent from TENDERER disclose the Agreement or any provision thereof or any specification, plans, drawings, pattern, samples or information furnished by or on behalf of TENDERER in connection therewith to any person other than the person employed by the bidder in the performance of the Agreement. Disclosure to any such employee shall be made in confidence and shall extend only as far as may be necessary for such performance.
- 29.2 The bidder shall not without prior written consent of TENDERER make use of any document or information made available for the project except for purposes of performing the Agreement.

29.3 All project related documents issued by GoG other than the Agreement Itself shall remain the property of TENDERER and Originals and all copies shall be returned to TENDERER on completion of the bidder's performance under the Agreement, if so, required by the TENDERER.

ARTICLE – 30: ASSIGNMENT & SUB CONTRACTS

30.1 Assignment by bidder

The bidder shall not assign, in whole or in part, its rights and obligations to perform under the Agreement to a third party, except with the prior written consent from TENDERER.

30.2 Sub contracts

The bidder shall notify the TENDERER in writing of all subcontracts awarded under the Contract Agreement. Such notification shall not relieve the bidder from any liability or obligation under the Agreement. The bidder shall fully indemnify GoG for any claims/damages whatsoever arising out of the Sub contracts.

ARTICLE – 31: RESOLUTION OF DISPUTES

31.1 If any dispute arises between the Parties hereto during the subsistence or thereafter, in connection with the validity, interpretation, implementation or alleged material breach of any provision of the Agreement or regarding a question, including the questions as to whether the termination of the Contract Agreement by one Party hereto has been legitimate, both Parties hereto shall endeavor to settle such dispute amicably. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts [which attempt shall continue for not less than 30 (thirty) days], give 15 days notice thereof to the other Party in writing.

31.2 In the case of such failure the dispute shall be referred to a sole arbitrator or in case of disagreement as to the appointment of the sole arbitrator to three arbitrators, two of whom will be appointed by each Party and the third appointed by the two arbitrators.

31.3 The place of the arbitration shall be Gandhinagar, Gujarat.

31.4 The Arbitration proceeding shall be governed by the Arbitration and Conciliation Act of 1996 as amended.

31.5 The proceedings of arbitration shall be in English language.

31.6 The arbitrator's award shall be substantiated in writing. The arbitration tribunal shall also decide on the costs of the arbitration procedure.

31.7 The Parties hereto shall submit to the arbitrator's award and the award shall be enforceable in any competent court of law.

ARTICLE – 32: TAXES and DUTIES

bidder is liable for all applicable taxes and duties at actual and will be paid by concerned authorities while releasing the payments.

ARTICLE – 33: BOOKS and RECORDS

Bidder shall maintain adequate books and records in connection with Contract and shall make them available for inspection and audit by TENDERER during the terms of Contract until expiry of the performance guarantee.

ARTICLE – 34: Time Lines for execution of work

Successful bidder has to complete the Installation/ Commissioning/ Acceptance of the ordered work within the time period (s) specified in the below table. However, in case of any delay solely on the part of successful bidder TENDERER reserve the right to levy the appropriate penalties as per the below table:

S/n	Work type	Time Limit for Execution	Penalty for Delay	Maximum Penalty
1	New Connection: Upto 10 locations/Taluka 10 to 20 locations/Taluka More than 20 locations/Taluka	30 days 45 days 60 days	5% of order value of delayed/pending work per week or part thereof Note: For calculation of penalty order value of delayed/pending locations will be considered.	25%
2	Repair and Maintenance			
2.1	Involving Under Ground Cable	4 Days	Rs. 5000/- for every 4 Days	Rs. 25000/-
2.2	Involving LAN Cabling in Building	3 Days	Rs. 1000/- for every 3 Days	Rs. 5000/-
2.3	Involving Fault with installed devices including radios	2 Days	Rs. 1000/- for every 2 Days	Rs. 3000/-
2.4	Involving fault with Accessories and other equipment	2 Days	Rs. 500/- for every 2 Days	Rs. 1000/-

Days means working days

Note:

- Material supplied, installed and commission as per this Bid/contract should be covered under the warranty for a period of five years from the date of FAT.
- In case of any fault arises in the installed items during the warranty period of five years, bidder is requiring to either repair the faulty items or have to install the replacement (complying to the RFP specification) for faulty material without any additional cost to the Tenderer.
- **In case of Non-Compliance of RFP Specification:**
 - Any time during the warranty period it is found that the materials supplied/Installed/commissioned are not as per the specification of the RFP/work order TENDERER reserves the right to ask the successful bidder to replace all such material at free of cost.
 - Successful bidder requires to attend and rectify the non-compliance within seven (7) days of receipt of such notice/information from the GFGNL. If, successful bidder fails to attend and rectify the same, then successful bidder shall reimburse GFGNL all costs and expenses incurred for such defect rectification.

ARTICLE – 35: PERFORMANCE GUARANTEE

35.1 **Initially** the bidder will have to submit performance bank guarantee of **Rs. 40 Lacs** within 15 working days from the date of issue of work order/Letter of Intent. The performance guarantee will be in the form of bank guarantee towards faithful performance of the contract obligation, and performance of the equipment during Warrantee period of 3 years in the name of M/s Gujarat Fibre Grid Network Limited. In case of poor and unsatisfactory field services, GFGNL shall invoke the PBG. If, during the contract tenure above PBG of Rs. 40L become lower than the 10% of the ordered issued in this RC than bidder will have to submit additional PBG in consultation with GFGNL to maintain the 10% PBG limit. The performance guarantee will be in the form of bank guarantee towards faithful performance of the contract obligation, and performance of the equipments during Warranty period of 5 years. In case of poor and unsatisfactory field services, GFGNL shall invoke the PBG.

35.2 The Performance Guarantee shall be **valid for a period of 180 days beyond Warrantee period** and shall be denominated in Indian Rupees and shall be in the form of an unconditional Bank Guarantee issued by All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative and Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2019/50/DMO dated 01.11.2019 (or as per the latest revision in GR/Guidance) along with its earlier referenced GRs issued by Finance Department or further instruction issued by Finance department time to time in the format provided by GoG to be submitted within 15 days from the date of issue of work order/Letter of Intent. The Performance Guarantee shall be discharged by GoG and returned to the bidder within 30 days from the date of expiry of the Performance Bank Guarantee.

ARTICLE – 36: PAYMENTS TERMS

S/N	Description	(%)
1	Successful completion of Installation and certification by respective DDO or its representative agency/authority	100%

ARTICLE – 37: SERVICE TERMS

- 37.1 The entire scope of the work depends on the technical skill and experience in management of the same level or kind of infrastructure.
- 37.2 It is mandatory for successful bidder to deploy qualified professional to install, commission and maintain the equipment, as defined under scope of work.
- 37.3 The successful bidder has to submit regular schedule of man power availability and get it approved by GFGNL.
- 37.4 The successful bidder has to deploy necessary problem escalation process and system to take care users at priority.
- 37.5 The successful bidder is free to deploy or to develop applications to facilitate the operation. GFGNL will welcome the deployment such application in respect to improve Quality of Services.
- 37.6 For extending better services to the government, the successful bidder will be allowed to deploy and use own tested and proven solution, with prior permission form the GFGNL.
- 37.8 The successful bidder needs to manage and maintain various records related to the services extended to the Government.
- 37.9 The Government network is being operated and maintained by various agencies. In such circumstances the successful bidder may need to coordinate and approach various agencies, if required.
- 37.10 The successful bidder needs to maintain the required security of network, database, e-mails etc. related to the government operations.
- 37.11 The successful bidder is responsible to maintain documentation on the progress of the work and will have to update the same on regular basis. Bidder will have to submit the progress reports regularly, as per the guide line issued by GFGNL.
- 37.12 The understanding of the comprehensive maintenance (CAMC) under warranty period is as follows.
 - 37.12.1 In case of failure, the successful bidder needs to replace or repair the faulty part/component/device to restore the services at the earliest.
 - 37.12.2 The cost of the repairing or replacement of faulty part/component/device has to be entirely born by the successful bidder.

37.12.3 All expenses related to part/component/device, including hiring of specialized technical expertise, in case required, has to be born by the successful bidder as part of comprehensive maintenance.

37.12.4 The successful bidder also needs to make alternate arrangement in case of major failure happens in the network, due to which services may be affecting for longer period.

37.12.5 After repairing or replacement of the part/component/device, the successful bidder needs to put the same into operation.

37.13 The escalation of the rate during the rate contract is not permitted.

ARTICLE – 38: PENALTY CLAUSE

38.1 Operational Penalties:

38.1.1 The successful bidder shall repair/ replace all faulty material covered under the warranty within the shortest possible time thus ensuring minimum downtime as mentioned in point no 38.1.1.1, failing which applicable penalty will be imposed. The following penalties for Operational Deficiencies shall apply:

38.1.1.1 The successful bidder shall be responsible for maintaining the desired performance and availability of the system/services. Successful bidder should ensure the prompt service support during warranty period. If complain is made before 4 pm of the working day, resolution time shall be counted from the same day and for complain made after 4 pm, resolution time shall be counted from next working day. Timeline for resolution is within 24 working hours for offices located at all locations. Further, for calculation of above penalty, if any, normal working hours of Government of Gujarat is from 10:30 am to 6:10 pm on working day. If the successful bidder fails to resolve the call as specified above, the following penalty will be imposed on each delayed day, which will be recovered against Performance bank guarantee submitted by the successful bidder on completion of warranty period.

Site/Location	Penalty/Day, for each day, if problem is not resolved after 24 hours
All Sites	Rs. 1000/- Per day

38.1.2 **Penalty for Link Uptime (Applicable for Wireless Link only):** Bidder is required to maintain the required service levels i.e. uptime of 98.50%, failing which operational penalties will be levied as per below table:

Activity	Penalty
Availability of Link	a) 98.50% or Better= NIL b) 97.50% to 98.49% = INR 100/-per link per day c) 96.50% to 97.49% = INR 300/- per link per day d) 95.00% to 96.49% = INR 500/- per link per day e) 90.00% to 94.99% = INR 1000/- per link per day Note: GFGNL's representative will calculate the operational penalty if any on half yearly basis and the same will be deducted from the PBG. Bidder will be required to reinstate the PBG after deduction with 21 days of such deduction by GFGNL, failing to which balance PBG amount will be forfeited and contract terminated.

ARTICLE – 39: APPROVALS / CLEARANCES

39.1 Necessary approvals/ clearances concerned authorities, for establishing the proposed project are to be obtained by the successful bidder.

- 39.2 Necessary approvals/ clearances from concerned authorities, as required, for fire protection, government duties / taxes / Octroi, are to be obtained by the successful bidder.
- 39.3 Necessary approvals/ clearances, from concerned authorities (like City Nagar, Nigam, Public Works Department (PWD), Department of Irrigation, State Electricity Board etc. for “Right of way”), as required, are to be obtained by the successful bidder for laying their own cables to meet system requirements, However, GFGNL will reimburse the actual expenses incurred by bidder for getting the RoW permission (except for reinstatement expenses) upon submission of original receipts.

ARTICLE – 40: PROJECT IMPLEMENTATION

- 40.1 The successful bidder will implement the project strictly as per the plan approved by GFGNL. The Bidder shall carry out cabling work at such locations as may be selected by GFGNL within a specified period as specified in Instruction letter / LOI / Order and complete their provisional Acceptance Test to the satisfaction of GFGNL within 10 days from the date specified. This period may be extended depending upon the fulfillment of Conditions Precedent.
- 40.2 GFGNL, Government of Gujarat will be Engineer-In-Charge of the Project and all inspection, installation; commissioning and acceptance of work will be undertaken by its designated agency(s).
- 40.3 Successful bidder has to submit Invoice along with initial estimate, Bill of Material, Work Order Copy, PBG, Work Completion report, Test Mail, IT Asset Report (Need to cover all BOM Material), NMS Discovery Report etc. All Invoices, Vouchers, Bills for supplied goods and services by the bidder under the scope of the work will be verified measured and accepted by the Engineer-In-Charge/ its designated agency(s) for release of payment.
- 40.4 As part of implementation the successful bidder shall provide details of equipment that will be incorporated in the proposed system, material and manpower as required. The location for storing spare parts and quantity there on should also be clearly indicated.
- 40.5 The successful bidder shall provide the necessary technical support, Standard Operating Procedure (SOP) and other information to GFGNL and its user organizations in implementing the proposed system applications. GFGNL at any time during the currency of the Agreement should have access to the proposed sites.
- 40.6 The successful bidder shall arrange to obtain all statutory permission with no cost to the tenderer. The successful bidder may have to work during Holidays and Sundays, the successful bidder will have to obtain required permission to carry out the work on holidays/Sundays from the concerned. It will be the responsibility of the successful bidder to co-ordinate with all other agencies of Government of Gujarat in order to obtain NOC required to execute the job.
- 40.7 The successful bidder shall not disturb or damage the existing network of communication. If in case any damage to the network is done, the same shall be corrected with no extra cost. The successful bidder shall also be responsible for paying penalty, as imposed by the service owner to which the damage is incurred.
- 40.8 In case of the material/solution supplied and installed is rejected owing to its non-conformity to the specification or due to the poor quality of workmanship, the same shall be replaced promptly.
- 40.9 successful bidder shall treat all matters connected with the contract strictly confidential and shall undertake not to disclose, in any way, information, documents, technical data, experience and know how, without prior written permission from tenderer.
- 40.10 Any damage caused to the property of Government of Gujarat while executing the job shall be solely successful bidder’s responsibility. In case any damage to the property is caused, the same will be recovered from the successful bidder. No any extra cost shall be paid to the successful bidder for such reasons.

- 40.11 The successful bidder shall have to furnish the documentation of the work undertaken in consultation with Engineer-in-charge/ or its representatives. Three sets of such documentation should be provided before the issue of completion certificate.
- 40.12 It is a turnkey project. The successful bidder shall be fully responsible for implementing the Project in totality and should include the items and their prices, if not included in Schedule of Requirement to complete the project on turnkey basis. Any claim whatsoever in this regard will not be entertained later on.
- 40.13 In the event of the delay in delivery of contracted services or services is not satisfactory the purchaser may procure goods from elsewhere as prescribed in bid and successful bidder shall be liable with out limitations for the difference between the cost of such substitution and the price set forth in the contract for the goods involved i.e. at the risk and cost of the successful bidder.
- 40.14 Tenderer reserves the right to visit any working site of the successful bidder without prior intimation.
- 40.15 The successful bidder shall be solely responsible for obtaining necessary insurance as per the statutory requirement under government laws for manpower and machinery on the site. Tenderer will not be responsible for any kind of loss or damage to the successful bidder during the contract period.
- 40.16 All work shall be performed and executed by the Supplier in strict conformity with the engineer-in-charge or its representative and any relative instruction issued to the Supplier by the Engineer-in-charge time to time.

ARTICLE – 41: ACCEPTANCE TEST

Acceptance Test will be conducted in as follows:

- 41.1 Tenderer reserves the right to inspect equipment and OFC, CAT-6 cables etc. The cost of all such tests shall be borne by the successful bidder. Any inspected goods fail for confirm to specification will be rejected, and successful bidder shall have to replace the rejected goods as per the contract specification without any financial implication to the GFGNL. Further GFGNL may issue a show cause notice in such matter with warning of backlisting if it found. Sample approval should be obtained before installation for such material.
- 41.2 The first step will involve successful installation of all sites. The provisional acceptance of these sites will be defined as Partial Acceptance.
- 41.3 **Final Acceptance Test (FAT):** After successful installation of the System in accordance with the requirements as mentioned in Schedule of Requirement, Final Acceptance Test will be conducted. After successful testing, Acceptance Test Certificate will be issued by GFGNL/its designated agency to the successful bidder. FAT Checklist is as per Form **E9**.
- 41.4 The date on which Acceptance certificate is issued shall be deemed to be the date of successful commissioning of the System.
- 41.5 Any delay by the successful bidder in the Acceptance Testing shall render the successful bidder liable to the imposition of appropriate Penalties.
- 41.6 All goods and services that are not specifically asked for certification should have quality standard applicable in India such as ISI.
- 41.7 Bidder is required to update the details of Hardware installed in the Asset Master of IWDMS before completion of FAT.
- 41.8 The final acceptance test (FAT) report should confirm with cabling standard under the ISO certification.

ARTICLE – 42: INSTALLATION REQUIREMENTS

- 2.1 The successful bidder needs to pull necessary cables up to required place, using approved PVC Casing/Piping/Channel/RF/CAT6 Cable.
- 42.2 The necessary Civil and Electrical work has to be carried out by the successful bidder. The GoG will not reimburse any cost towards the same. The successful bidder needs to take necessary permission if require from concern authority.

ARTICLE – 43: SOFTWARE LICENCES (IF APPLICABLE)

The bidder shall be responsible for providing Software (System Software, Application Software, Device Drivers, IOS, etc.) required, if any, to meet any additional requirements during the currency of the Agreement without any additional cost to GFGNL. All license software must be in the name of DST, Govt. of Gujarat.

ARTICLE – 44: INSTALLATION OF ADDITIONAL HARDWARE (IF APPLICABLE)

During the currency of the Agreement, for any additional requirement of equipment including interface equipment, the specifications will be provided by the Bidder. GFGNL or its Third-Party Agency will verify suitability of the specifications submitted by Bidder and recommend to GFGNL for acceptance. The Bidder will be obligated to undertake integration, operation and maintenance for all additional equipment if required.

ARTICLE – 45: THIRD PARTY AGENCY

GFGNL may appoint Third Party Agency, who would monitor the project during implementation, commissioning and operation. The Third-Party Agency will also conduct the Partial and Final Acceptance Test as per the technical requirement of the Agreement and will issue the Certificate of Completion of each proposed site. Third Party Agency will verify the services provided by the Bidder under the Agreement. The successful bidder will co-operate with such Third-Party Agency.

ARTICLE – 46: SUPPORT FROM EXTERNAL AGENCY (IF APPLICABLE)

In case, if bidder wish to have support from any external agency, it's very necessary to inform GFGNL in written prior to allow them to work on GFGNL/GoG's infrastructure. The information should contain all respective information about the company from whom support has been extended, the person/group of people and the segment in which services has been taken. On completion of the task, another report should be submitted mentioning action taken by this person/group of people from external agency, with duration. The bidder is sole responsible for the action taken by such agency on their behalf. No Data/ Information should be sent out of the premise without obtaining prior written confirmation from the GFGNL/GoG.

ARTICLE- 47: Manageability (Online Portal)

TENDERER has an online portal for its entire Helpdesk Management system (i.e. www.gswanhelpdesk.gujarat.gov.in) wherein request for new connectivity of GSWAN, user complaints will be raised by the users on this portal only. Successful bidder will be provided with separate login of the portal wherein he has to do following activities:

- Work status updation
- Complaints resolutions pertaining to the connectivity

Section – 5: SPECIFICATIONS

5.1 CABLE LAYING WORKS

5.1.1 General

The Underground OFC are extensively used in GoG's outdoor network like BharatNet Phase-II/ GSWAN/SCAN/ networks. Therefore, the construction practices of the U/G cables should be of very high quality, strictly in accordance with constructions specifications. The Cables / Components / Accessories to be used in the project must be of specified brand. Wherever it is not specified it must be of standard quality (ISI / BIS standards). Bidder will have to provide test certificate from the manufacturer, to ensure the quality of the each and every lot of the cable / material used. Bidder will have to submit quality certificate issued by EQDC, Gandhinagar or its equivalent authority, for all the passive material supplied such as Cables, accessories, GI / HDPE pipes, Cable guides, Casing and Capping, Patch Cords, Racks, DP, Krone / connectors etc. Bidder should supply/install all required accessories whether it is mentioned explicitly or not to adhere to the scope of work of this RFP. All active network components should be IPv6 compatible and should be with IPv6 ready from Day1.

5.1.2 Construction Specifications:

5.1.2.1 Classification of Soil: For the purpose of trenching, the soil shall be categorized as under.

5.1.2.1.1 Soft Soil

This will include all types of soils- soft soil/hard soil / morrum i.e. any strata, such as sand, gravel, loam, clay, black cotton morrum, single, river or nalla bed boulders, soiling of roads, paths, densely pebbles/stones etc., lime concrete, mud concrete and their mixtures which for excavation yields to the application of picks, shovels, sacrifiers, ripper and other manual digging implements including chiseling.

5.1.2.1.2 Footpaths / Along Road Side:

Trenching on Foot Path or along Road on carpeted surface may be necessary in certain stretches where roads have been metaled edge to edge and there is no un-metaled corridor or footpath available for trenching and laying the cables.

- (i) Tarmac (Asphalt) Foot Path/ Road: means Footpath / Road with tarmac surface with or without compacted strata below the tarmac surface, irrespective of thickness of Tarmac/Metal.
- (ii) Kharanja: means Footpath / Road covered with various types of bricks with or without compacted strata below the surface, irrespective of thickness of bricks.
- (iii) Tiled Foot Path/ Roads: means Footpath / Road covered with various types of tiles/stone slabs with or without compacted strata below the tiled surface, irrespective of thickness of tiles / stone slabs.
- (iv) Cement Concrete Foot Path Road: means the surface on Footpath / Road covered with CC (Cement Concrete) with or without compacted strata below the surface, irrespective of thickness of cement concrete.

5.1.2.2 Road Crossings:

- (i) "Tarmac or Asphalt Road" means the road surface, which is metaled by asphalt/tarmac normally having compacted strata below the metaled surface, irrespective of thickness of asphalt/tarmac.

- (ii) Kharanja Road: means road covered with various types of bricks with or without compacted strata below the tiled road surface, irrespective of thickness of bricks.
- (iii) Tiled/CC Road: means road made of tiles of any type/stone slabs/bricks or CC road normally having compacted strata below the tiled/CC surface, irrespective of thickness of tiles/CC.
- (iv) RCC Road: means the surface made of cement concrete duly reinforced with steel bars normally having compacted strata below RCC, irrespective of thickness of RCC.
- (v) WBM road: means water bound macadam surface made of stone, metal and gravel and rolled with road roller. At road crossings, the trenches shall be so dug that top of RCC pipe shall be at one-meter depth from ground level.

5.1.2.3 Excavation of Trenches

Before excavation of trenches the route should be marked for trenching. Care should be taken to see that the route of the trench to excavate is reasonably straight avoiding the existing underground service.

The Bidder should take trial pits to locate the underground services before commencement of actual trenching. These trial pits shall be 30 cms. wide, 120 cms. deep and 120 cms. long at right angles to the proposed trench at an interval of 20 to 50 Mtrs along the proposed cable route. If a slab is encountered, the same may be removed and trial pits may be made.

In city areas, the trench will normally follow the footpath or the road except where it may have to come to the edge of carriage way or cutting across roads with the specific permission from the concerned authorities maintaining the road (such permission shall be obtained by the Bidder). Outside the city limits, the trench will normally follow the boundary of the roadside land. However, where the roadside land is full of burrow pits or when the cables have to cross culverts / bridges or streams, the trench may come closer to the road edge or in some cases, over the embankment or shoulder of the road (Permission for such deviations for cutting the embankment as well as shoulder of the roads shall be obtained by the Bidder).

The alignment of the trench will be decided by Engineer-In-Charge or by TPA. Once the alignment is marked, no deviation from the alignment is permissible except with the approval of Engineer-In-Charge or TPA. While marking the alignment only the centerline will be marked and the Bidder shall set out all other works to ensure that, the excavated trench is as straight as possible. The Bidder shall provide all necessary assistance and labor, at his own cost for marking the alignment. Bidder shall remove all bushes, undergrowth, stumps, rocks and other obstacles to facilitate marking the center line without any extra charges. It is to be ensured that minimum number of bushes and shrubs shall be removed to clear the way and the Bidder shall give all consideration to the preservation of the trees.

The line-up of the trench must be such that cables shall be laid in a straight line except at locations where it has to necessarily take a bend because of change in the alignment or gradient of the trench.

5.1.3 Methods of Excavation:

In city limits as well as in built up areas, the Bidder shall resort to use of manual labor only to ensure that no damage is caused to any underground or surface installations belonging to other

public utility services and / or private parties. However, along the Highways and across country routes, there shall be no objection to the Bidder resorting to mechanical means of excavation, provided that no underground Installations exist in the path of excavation, if any, are damaged. There shall be no objection to resort to horizontal boring to bore a hole of required size and to push through G.I. Pipe through horizontal bore at road crossing or rail crossing or small hillocks etc.

Necessary barricades, night lamps, warning boards and required watchman shall be provided by the Bidder to prevent any accident to pedestrians or vehicles. When trenches are excavated in slopes, uneven ground, inclined portion, and the lower edge shall be treated as normal level of the ground for the purpose of measurement of depth of the trench. In certain locations, such as uneven ground, hilly areas and all other places, due to any reason whatsoever it can be ordered to excavate beyond standard depth of 100 Cms. above the cable to keep the bed of the trench as smooth as possible.

If excavation is not possible to the minimum depth of 100 Cms. above the cable, as detailed above, full facts shall be brought to the notice of the Engineer-In- Charge / TPA in writing giving details of location and reason for not being able to excavate that particular portion. Approval may be granted in writing under genuine circumstances. The Bidder shall be responsible for all necessary arrangements to remove or pump out water from trench. The Bidder should survey the soil conditions encountered in the section and make his own assessment about dewatering arrangements that may be necessary. Wherever the soil is hard due to dry weather conditions, if watering is to be done for wetting the soil to make it loose, the same will be done by the Bidder.

5.1.3.1 Trenching near culverts / Bridges:

At bridges and culverts, the cable shall be laid in GI pipe of suitable size with the permission of concerned authorities maintaining the roads/bridges. Such permission shall be obtained by the Bidder. While carrying out the work on bridges and culverts, adequate arrangement for cautioning the traffic by way of caution boards during day time and danger lights at night shall be provided. The GI pipe should be clamped to the outside of the parapet wall of the culvert or bridge with the help of clamps, nails, nuts, bolts and screws of suitable size to ensure that the pipe is securely fixed. The GI clamps should be of minimum 25 mm width and 3 mm thickness and should be fixed at an interval of 50 cms. If necessary, the pipe should be taken to the parapet walls at the ends where the wall diverges away from the roads. The work should be carried out in consultation with the authorities concerned maintaining the roads and bridges.

In case of small bridges and culverts, where there is a likelihood of their subsequent expansion and remodeling, the cable should be laid with some curve on both sides of the culvert or the bridge to make some extra length available for readjustment of the cable at the time of reconstruction of culvert or the bridge.

5.1.3.2 Excavation in Surfaced Strata:

5.1.3.2.1 Excavation on Footpath

The excavation of trenches in all types of footpaths including dismantling of asphalt/all type of tiles/CC and WBM shall be done up to a depth such that the top of the cable is 1.0 M below the normal ground level. The excavation on the footpaths will be done manually. The Bidder shall have to provide shoring wherever necessary, in case the depth of trench is more than one meter. It is expected that the other services may be present below the footpath, therefore, extra care need to be exercised while excavation of trenches.

5.1.3.2.2 Excavation of Trenches along the roads (which are carpeted end to end)

The excavation of trenches along the roads which are carpeted from end to end including dismantling of asphalt, concrete and WBM shall be done up to a depth such that the top of the cable is 1.0 M below the normal ground level. The excavation along the roads shall be done manually. The Bidder shall have to provide shoring wherever necessary, in case the depth of trench is more than one meter. It is expected that the other services may be present below the roads, therefore, extra care need to be exercised while excavation of trenches.

5.1.3.2.3 Excavation at Road Crossings:

The excavation of trenches in all types of roads including dismantling of asphalt / all type of tiles / CC and WBM shall be done up to a depth such that the top of the RCC pipe is 1.0 meter below the normal ground level. After excavation of trench, RCC Pipes of 100mm/150mm/225mm /300mm dia shall be laid at the road crossings. The roads, which are broad, may be opened for half their width, allowing the other half for use of vehicular traffic. The second half of the width should be opened after laying pipes and reinstating the first half of the trench. Pipes laid in the second half should be coupled firmly with those laid in the first half. Care must be taken to couple the pipes fully. The pipes should be laid with a slight slope from the center to the sides of the road to prevent collection of water. 8 mm PP Rope shall be drawn through the laid pipes to facilitate cleaning and cable pulling at a later date before closing the trench.

As the work on road crossings entails lot of inconvenience to vehicular traffic and pedestrians, it is desirable to bury extra pipes for future expansion at the initial stage itself. The spare pipes must be sealed properly at both the ends of the road to obviate the possibility of pipe getting choked due to settlement of sedimentation etc. The Bidder shall have to provide shoring, wherever necessary, in case the depth of trench is more than one meter. Necessary barricades, night lamps, warning boards and required watchman shall be provided by the Bidder to prevent any accident to pedestrians or vehicles.

5.1.4 Trenches of Less Depth:

The depth of trench is very important for future life of cables. Therefore, it is very much necessary for Bidder to ensure that the standard depth is maintained in normal circumstances. However, due to obstructions, if the standard depth cannot be achieved, lower depths up to certain limits are acceptable by the authorities with extra protection as per specifications. The relaxation shall be obtained from the Engineering in charge/ TPA, giving reasons for not achieving standard depth.

5.1.5 Laying of Cables:

After excavation of trenches, approximately 5 Cms thick bed of soft soil/ or sand (in case the excavated material contains sharp pieces of rock/stones) is laid before directly laying the cable. Adequate care shall be exercised while laying the cables so that the cables are not put to undue tension/pressure as this may adversely affect the electrical characteristics of cables with passage of time. Sharp bends shall be avoided. Bends, if any, the radius of curvature should be more than at least six times the diameter of the cable. After the completion of laying, sand/ sieved earth, free of stones etc., shall be placed over the cable to a height of 7.5 Cms. duly levelled and

rammed lightly to form a bedding for warning bricks or Half round RCC pipes/ stone slab/ Pre cast RCC slab for mechanical protection.

The cables may be required to be pulled through RCC/ GI Pipes at road crossings, Extra care should be taken to avoid damage to the cable while pulling through pipes, which may occur due to kinks. The Bidder should have the required tools and equipment for the purpose to complete the job in a professional manner. The Bidder shall ensure that trenching and cable laying activities are continuous, without leaving patches or portions incomplete in between. When there are number of cables of the same size in the same trench it becomes difficult to identify the particular cable at time of maintenance. Therefore, identification collars bearing L.I. Number of the cable shall be tagged to all the cables. The identification collars shall be provided at an interval of not more than 2 meters.

5.1.5.1 Laying of OFC through Horizontal Directional Drilling (H.D.D.)

Excavation of trench and laying of HDPE Pipes through H.D.D. technique. The Optical Fibre Cable shall be laid through PLB HDPE pipes. Back filling and dressing of the excavated trenches. Blowing/puling of Optical Fiber Cable with proper tools and accessories.

5.1.6 Placing of Half Round RCC Pipes / Layer of Bricks

After laying of cables, it is covered by a consolidated layer of 8 Cms. of soft earth (or sand in special cases where excavated material contains sharp stones/objects) which should be free from stones or other sharp objects, carefully pressed and lightly tamped. On this layer of soft earth, a layer of half round RCC pipes (100/150 mm dia) / Bricks is placed as a warning layer and also as a mechanical protection. The choice for protection layer out of half round RCC Pipes or bricks may be decided based on availability and comparative cost.

5.1.7 Back Filling and Compacting of the Excavated Trenches:

After laying the cables and providing warning/protection layer as per specifications, the remaining portion of the trench shall be filled in and well tamped in steps. The trench should be back filled in layers not exceeding 20 cms. each at a time and rammed. The Bidder shall remove the excess earth from the site and leave only a crown of earth rising approximately 5 cms. in the center. This allows for natural subsidence. When digging on footpaths, along roads and crossings, care should be taken to see that the road is made motorable as soon as the work is completed. The permanent reinstatement of roads and pavement shall be done by the local authorities.

5.1.8 Erection of Pillars:

The pillars should be installed in safe places on footpaths at suitable locations convenient and accessible for maintenance. The positions close to the edge of footpaths, near transformers or below Electric Lines particularly H.T. Lines must be avoided. The location of pillar, which may obstruct the view of drivers of vehicles as on kerb lines at street intersections, locations in which the doors of the pillars when opened constitute a danger to pedestrians or traffic must be avoided. In general, the pillar shall be so located that reasonable and safe working conditions to the staff are possible throughout the year. The height of the pillar shall be such that the pillar does not get submerged during rains.

5.1.9 Erection of DPs:

The Distribution Points (DPs) are fitted on poles, walls or in the staircase walls easily accessible for maintenance, to terminate distribution cables coming from pillars. The items of work in erection of DPs are as under:

- I) Fixing of 20/32 mm G.I. Pipe with the help of clamps, nails and saddles at every 30 cms. The clamps should be made of 25 mm wide and 3 mm thick G.I. strips properly galvanized.
- II) Pulling of L.I. Cable (5 Pairs/10 pairs/20 pairs/50 pairs) through 20/32 mm dia G. I. Pipe of approximately 7 to 10 ft. and terminating the cable pairs in DP box and fixing of DP box on the wall with the help of suitable rawl plugs/wooden gitti and screws.

5.1.10 Termination of Cables in MDF and Pillars:

The U.G. Cables are terminated on tag blocks on line side of the MDF. The MDF consists of iron framework and line side tag blocks are fitted on verticals. In the department, depending upon the height of the MDF room, MDFs of different sizes are erected. For simplicity and uniformity, a standard numbering scheme of verticals, tag blocks and tag numbers in the tag block is followed.

While terminating the cables in MDFs and Pillars, the correspondence of pairs shall be maintained from the point of view of counting of pairs and maintenance of the cables. In case of armored cables, the armour of the cable shall be connected to the C.T box-mounting frame in the pillar and to the verticals of MDF, which are earthed.

The work of "termination on MDF and pillars" includes:

- I. Fixing of tag blocks on MDF vertical/CT boxes in Pillars.
- II. Drawing the cable in to the pillar and removing the cable sheath for required length.
- III. Providing earth continuity with the armor of the cable(s).
- IV. Cleaning the insulated conductor and covering the formed bunches with PVC sleeve/tape.
- V. Termination of cable pairs in Tag blocks/CT boxes.
- VI. Sign writing with white enamel paint of reputed brand on inner panel of the pillar shall be done indicating the termination details. On MDF, the written labels shall be put in place provided for it indicating the termination details. The details of sign writing shall be given by the Engineer-in-charge.
- VII. The termination of cables should be done using standard tools.

5.1.11 Jointing of cables:

The quality of jointing work is of immense importance and therefore, the jointing work should be done experienced jointers using standard tools and accessories. The work of cable jointing involves jointing of pairs by twisting. The quality of joint is vital for overall electrical characteristics and quality of transmission of the subscriber loop and therefore, the same has to be done meticulously. The items of work involved in jointing are as under:

- I. Digging the Pit for the Joint.
- II. Preparation of cable ends for jointing.
- III. Jointing of cable conductors by twisting or by machine jointing using modular connectors.
- IV. Closing the joint and Flooding of the joint (Flooding of Joints shall be mandatory).
- V. Providing protection to the joint with half round RCC Pipe/ Bricks
- VI. Back filling and compacting.
- VII. Providing joint indicator and noting distances from three permanent points for future reference to locate the joints.

The Bidder shall make hundred percent pairs available from end to end. To ensure the availability of 100% pairs end to end it is a good practice not to close the joints until all the pairs are tested from MDF to pillar for primary cable work and from pillar to DP for distribution cable work. In case of some pairs missing, the defects should be rectified at this stage itself, as the joints are still kept open. Once, all the pairs are available, joint shall be closed properly using jelly and other accessories as per instructions. Proper and adequate filling of jelly in the joints is of

importance as any water ingress and trapped in the cavities will result into low insulation fault at later date.

5.1.12 End-to-End Testing:

The cables are to be tested for continuity of pairs and electrical and transmission characteristics of the cable pairs, between MDF and pillar in case of primary cables and pillar and DPs in case of distribution cables separately. Broadly the following Parameters are tested

- I. Insulation
- II. Cross Insulation
- III. Continuity
- IV. Loop resistance
- V. Transmission loss
- VI. Cross talk level.

5.1.13 Cable route and Joint Indicators:

Cable route and joint indicators are to be provided to indicate the cable route and location joints. The route and joint indicators are to be used for cables laid in rural areas as availability of land marks over wide expanse of lands is scanty. The route indicators are to be placed at every 200 mts. and at every place where the cable changes direction. Joint indicators are to be provided at all joints. For the sake of uniformity and from viewpoint of identification of cable at later date for maintenance, the route / joint indicators shall be provided in the alignment of the trench. The route/Joint indicators shall be painted with Primer before painting with oil paint. The route indicators shall be painted with yellow paint and joint indicators shall be painted with red paint.

5.1.14 Documentation:

The documentation, consisting of route diagrams, depicting joint locations, termination details of cables on MDF, pillars and D.Ps., is of immense help at the time of maintenance or undertaking any re-arrangement work. The documentation shall be prepared primary cable wise for one or more than one primary cables with all its pillars shown and for all its pillars the distribution cables shown pillar wise, for each work order. Vender will have to undertake preparation of route diagram depicting alignment of cables on roadsides on a geographical map. Though it is desirable to prep are these diagrams on geographical maps to the scale but in case geographical maps are not available, the maps should be constructed to a reasonable accuracy by taking details from the local bodies of the area. On this diagram, besides showing alignment of the cable, the topographical details of the road, location of pillars and landmarks along side should also be shown to locate the cable(s) easily as and when required.

5.2 FOR LAN WORKS

The Cables / Components / Accessories to be used in the project must be of any brand specified below, however bidder has to supply the brands quoted in their price bid only during the contract period:

- ⇒ **For OFC:** Finolex, HFCL, Aksh optifibre, Polycab, Apar, Paramount, Delton, RPG, Birla Ericson, Sterlite, Schneider, Molex, D-Link, TE/Netconnect, Plexonics, Norden Communications and R&M.
- ⇒ **For the CAT-6 cables:** Schneider, Molex, Finolex, D-Link, TE/Netconnect, Havells, Sterlite, Legrand, Plexonics, Norden Communications and R&M

- ⇒ **For the Passive Networking Components:** Systimex, AMP, Molex, D-Link, TE/Netconnect, Schneider, Plexonics, Legrand, Norden Communications, Digisol, and R&M
- ⇒ **For the Active Networking Components:** Cisco, Juniper, HP, Dell, Allied Telesis, Extreme Networks, Moxa, Fortinet, DigiLink, D-Link, Linksys, Digisol, Netgear, and Plexonics
- ⇒ **For HDPE pipe:** ISI approved HDPE pipe. The pipes shall be supplied with ISI mark on each pipe. (The pipe offered shall bear ISI marking with Licence number. The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered pipe shall be attached.)
- ⇒ **For Casing Capping:** ISI approved Casing Capping (The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered Casing Capping shall be attached).
- ⇒ **For Raceway;** ISI approved Raceway (The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered Casing Capping shall be attached).
- ⇒ **For Flexible PVC Pipe:** ISI approved Flexible PVC pipe. The pipes shall be supplied with ISI mark on each pipe. (The pipe offered shall bear ISI marking with License number. The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered pipe shall be attached.
- ⇒ **For Rigid PVC Pipe:** ISI approved Rigid PVC pipe. The pipes shall be supplied with ISI mark on each pipe. (The pipe offered shall bear ISI marking with License number. The copy of the valid ISI license issued by Bureau of Indian Standard to the manufacturer for the offered pipe shall be attached.
- ⇒ **For Rack:** Certifications like ISO 14001:2004 and ISO 9001:2008 (All rack should be supplied with 6 socket AC power distribution unit, 4 Fan for cooling and 1U cable manager)
- ⇒ **For Wireless/RF Radio:** Eion Wireless, Radwin, Cambium, NEC, Avalan, Maksat, Airspan, Netro Corporation, Accelleran NV.

Bidders will have to provide test certificate (ETL/UL/TEC/TSEC/CE/FCC/ERTL-MeitY, GoI) for the cable used, to ensure the quality of the each and every lot. All IT components OFC, CAT-6 cables, Passive Networking Components, Active Networking Components, Racks must be BIS certified (as mandated products in the Electronics and Information Technology Goods [Requirement for compulsory registration] order, 2012 and its amendments time to time). If any, item/product category is not listed under the above order, in that case other applicable government standards compliance/certificate shall be applicable to ensure quality. All work performed on this project will be installed in accordance with the current edition of the following:

- Building Industry Consulting Service International (BICSI) Telecommunications Distribution Methods Manual
- BICSI Cabling Installation Manual
- ANSI/TIA/EIA Standards
- All local codes and ordinances.

During the installation activities, records and route layout diagram must be kept of all items installed, including reference to cable pathways used, final location, identity of cables and equipment. The presentation of all of these records will provide the "As-Installed" basis for all future reference to the installation. The Optical Fiber and UTP cabling shall be installed in accordance with manufacturer's installation instructions. The installer will ensure that the manufacturer's specifications for the Optical Fiber cable and the UTP cables meet the transmission characteristics required by Cabling Standards. All installed cables, termination boxes, distribution panels and wall outlets shall be marked and numbered in accordance with Administration Standard for the Telecommunications Infrastructure. The documentation required

at the completion of the installation phases shall contain all of the following information, together with any other information the installer has acquired during the installation.

- “As-Installed” documentation, showing total cabling and connections installed using floor space plans and cable record sheets. This documentation must show all cables and outlets incorporating the full numbering and marking convention supplied.
- All test results and certification information, identified by cable, connection and numbering convention, necessary for all Optical Fiber and copper cables.
- Bidder is required to update the details of Hardware installed in the Asset Master of IWDMS before completion of FAT.

5.3 Technical specifications: Below mentioned are the minimum technical specification

5.3.1 8 Port Managed L2 Gigabit Fibre Switch

Minimum Technical Specifications
Minimum 8 No’s of (full Duplex) 1GE SFP port.
All ports should have features of auto- negotiate, flow control (802.3x), port- based network access control (802.1x), port security, MAC filtering etc.
Minimum Switching capacity of 8 Gbps or more
MAC address table of minimum of 8k per switch
Should be IPv4 and IPv6 ready from day one
Should have IEEE 802.1.d STP, 802.1w RSTP ,802.1s MSTP, IEEE 802.1Q VLAN
Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL
IGMP versions 1 and 2 snooping: supports 1K multicast groups
Should have console port for administration and management, CLI/ web based GUI
Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 8 groups, Up to 8 ports per group
All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping, traceroute, RADIUS/LDAP, TACACS+, syslog, DNS client

5.3.2 8 Port Managed L2 Switch

Minimum Technical Specifications
Minimum Port (Full Duplex): 2x1G Uplink port, 8x10/100/1000 base Tx PoE ports. Switch PoE Power rating should be 100w or more
All ports should have features of auto- negotiate, flow control (802.3x), port- based network access control (802.1x), port security, MAC filtering etc.
Minimum Switching capacity of 8 Gbps or more
MAC address table of minimum of 8k per switch
Should be IPv4 and IPv6 ready from day one
Should have IEEE 802.1.d STP, 802.1w RSTP ,802.1s MSTP, IEEE 802.1Q VLAN
Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL

IGMP versions 1 and 2 snooping: supports 1K multicast groups
Should have console port for administration and management, CLI/ web based GUI
Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 8 groups, Up to 8 ports per group
All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping, traceroute, RADIUS/LDAP, TACACS+, syslog, DNS client

5.3.3 16 Port Managed L2 Switch

Minimum Technical Specifications
Minimum Port (Full Duplex): Minimum 16 No's of 10/100/1000 Base-Tx PoE ports and 2 x 1GE Uplink port. Switch PoE Power rating should be 150w or more
All ports should have features of auto- negotiate, flow control (802.3x), port- based network access control (802.1x), port security, MAC filtering etc.
Minimum Switching capacity of 8 Gbps or more
MAC address table of minimum of 8k per switch
Should be IPv4 and IPv6 ready from day one
Should have IEEE 802.1d STP, 802.1w RSTP, 802.1s MSTP, IEEE 802.1Q VLAN
Features of DHCP, NTP/SNTP or equivalent, SNMPv1, v2 and v3, TELNET/ SSH, TFTP, Web/SSL
IGMP versions 1 and 2 snooping: supports 1K multicast groups
Should have console port for administration and management, CLI/ web based GUI
Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 8 groups, Up to 8 ports per group
All necessary interfaces, connectors, patch cords (if any) and licenses must be delivered along with the switch from day one.
The Switch should be Rack mountable and the switch should be supplied with Indian standard AC power cord.
Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82 ping, traceroute, RADIUS/LDAP, TACACS+, syslog, DNS client

5.3.4 Transceiver/ Media Converter

- (a) SFP Module (Single Mode type) for Manageable switch: SFP module — 100FX or 1000 based SX module to support 100FX or Gigabit speeds over 62.5/125 Single mode Fiber up to a distance of 220 mts for 1000 based SX and 2kms for 100FX
- (b) Media Converter: For Single-Mode Fiber (10/ 100 Mbps) for 1 Port
- One RJ-45 10/ 100 BASE-TX port ST or SC 100 BASE-FX fiber port
 - Data Transfer rate – 10/100 Mbps Full Duplex; UTP Cable Type: Category 6
 - Fiber Cable: 62.5/125 micron
 - Cable Length: up to 2 Km
 - Indicators: Power Indication, FX/RX Link Indication, UTP/RX Link Indication, Full/Half Duplex Indication

- Compatibility: Standards IEEE 802.3 10Base-T, 802.3u 100 Base-TX and 100 Base-FX Protocol CSMA / CD
- Connection Specification: One RJ-45, ST or SC Option, as required

5.3.5 Voltage Stabilizer

S/N	Parameter	Minimum Specification
1	Device capacity	400VA
2	Voltage Correction	Automatic, IC Controlled
3	Input Voltage Range	130 V to 280 V
4	Frequency Range	50 Hz +/- 5 %
5	Output Voltage Range	200 V to 230 V, +/-5 %
6	Efficiency	> 95%
7	Protection/Cut off	Over Voltage and over Current Protection, Thermal and Electronic Overload
8	Device Construction	Compact and modular construction for easy handling and servicing
9	Power Outlets	4 Nos. 5 Amp Indian Standard Power Outlets
10	Operating Temperature	0-55 ° C. The bidder has to take into consideration of the internal temperature adjustment of the junction box
11	Status Display/ Indicator	Should display status of device like on/off, Low-high voltage indicator

5.3.6 Surge Protector

S/N	Parameter	Minimum Specification
1	Clamping Voltage	240 V
2	Response time	<10 ns
3	Energy Dissipation	Min 500 joules
4	Max voltage Spike protection	Up to 400 Volts
5	Max current Spike Protection	5000 Amps
6	Cable	Heavy duty Cable of standard Length
7	Power Outlet	Min. 4 Nos. 5 Amp Indian Standard Power Outlets
8	Operating Temperature	0-55 ° C. The bidder has to take into consideration of the internal temperature adjustment of the junction box

5.3.7 Wireless/ RF Radio (Base as well as Remote)

S/N	Minimum Specification
1	Should support communication requirement including voice, video, data applications
2	Should operate in 5.x GHz frequency band as per WPC notification no. G.S.R.1048[E]
3	Should support point-to-multi point mode and PoE
4	Radio (Remote CPE side) should be able to deliver minimum throughput of 100mbps and Base Station Radio must be capable to deliver 1Gbps or higher aggregate capacity from day one.
5	Should be able to connect locations at a distance of up to 10kms
6	Base station Radio should support 360-degree coverage i.e. it should connect to Remote Radio in any direction
7	Port: <ul style="list-style-type: none"> ▪ Base Station: 2x10/100 Base-Tx Ethernet; 1x1G SFP port; 1x10/100 PoE Port ▪ Remote/CPE Radio: 2x10/100 Base-Tx Ethernet; 1x10/100 PoE Port
8	Should support 802.3u encoding

9	Should be manageable through Console, SNMP (v1, v2, v2c), Http/ssl
10	Should support IPv6 from day 1
11	Should be discoverable in the existing NMS tool to have MIS reports of uptime, availability, reachability etc.
12	The outdoor unit should be IP65 or better compliant
13	Operating Ambient Temperature: 0 to 55 °C The bidder should take into consideration the internal temperature adjustment of the bracket/Enclosure and other outdoor conditions at the location
14	Should have inbuilt surge protection mechanism
15	Should support AES128 encryption and Asymmetric Bandwidth
16	Should be WPC compliant / TEC approved at the time of bidding.
17	Radios should be supplied with all the required accessories like power cable, Adapter, connector, licenses etc. if any.

5.3.8 Section – 6

TECHNICAL BID FORMAT:

Note:

The bidder has to upload/attach/submit a file as per below format along with relevant supporting documents like Datasheet, brochures, etc. for quoted make & model confirming the technical as well as functional compliance of RFP terms and conditions.

S/N	Item Description	Unit	Make and Model	Matched/ Not Matched	Deviation/ Remarks If any	Brochures/ Document Attached (Yes/No)	Supporting
1							
2							
3							
4							
5							

Important Note: Immediate temporary Replacement of faulty equipment/s need to be provided to end-users during the period of repair without any additional cost to Govt. of Gujarat. Bidder is required to maintain sufficient spare inventory for the above purpose.

Section – 7: FINANCIAL BID FORMAT

(Amount in Rs. & without tax)

S/ N	Item Description	Make & Model	UoM	Quantity	Unit Price with 5yrs warranty	Total Price (without Tax)	Rate of GST in %
A	B	C	D	E	F	G=(E*F)	H
A OFC Cabling (Including Civil work and Accessories)							
1	<u>6F core Single mode armored OFC Cable (UA - Loose Tube Multi tube)</u> (Unit price should Inclusive of supply, installation, commissioning of all the required line items like Fiber Cost, Labor charges, digging/laying, HDP pipe, RCC half-round pipe, Route-marker/Indicator (Iron Made with Reflective Painting with Min. height of 1ft) and any other item, if any as per the Section-5 (Specification) of this RFP)		Mtr	6,000			
2	6F SM OFC TERMINATION (Single END) Including rack mount/wall mount LIU - / PIGTAILS-LC Type / 2 MTR Duplex Patch Cord FC/ST/SC to SC/LC/ST/FC (3 Nos.) / With proper tagging and Identification of OFC		Nos	250			
3	Horizontal Boring for Road Crossing for laying OFC as per Guide lines mentioned in section 5. (Digging at 1.65 Mtrs.)		Mtr.	800			
4	Laying of Optical fiber cable in HDPE pipe duly fixed on Wall including testing.		Mtr	2000			
5	Supply and Termination of Single Mode Pigtails (LC/SC Type) Inclusive of all (Material, Labor etc...)		Nos	200			
6	Fiber to Fiber splicing and testing including all accessories, manpower etc.		Nos.	2000			
7	Fiber Patch Cord-3Mtr length FC/ST/SC to SC/LC/ST/FC Patch cord for Singlemode Fiber Duplex		Nos.	100			
8	Fiber Patch Cord-5Mtr length FC/ST/SC to SC/LC/ST/FC Patch cord for Singlemode Fiber Duplex		Nos.	100			
B LAST MILE EQUIPMENTS							
9	SFP Module (Single Mode type) for Managed switch		Nos	150			
10	Media Converter: For Single-Mode Fiber (10/ 100 Mbps) for 1 Port		Nos	200			
11	8 Port Managed L2 Gigabit Fibre Switch with PCB Patch Panel		Nos	5000			
12	8 Port Managed L2 Switch with PCB Patch Panel		Nos	8000			
13	16 Port Managed L2 Switch with PCB Patch Panel		Nos	2000			
14	6U- MS Rack Wall Mount / floor mountable 19" with 650mm depth; 6 socket AC power distribution unit, 4 Fan for cooling and 1U cable manager		Nos	5000			

15	12U- MS Rack Wall Mount / floor mountable 19" with 650mm depth; 6 socket AC power distribution unit, 4 Fan for cooling and 1U cable manager		Nos	2500			
C STRUCTURED CABLING & ACCESSORIES							
16	Structured CAT 6 LAN cabling work (including Supply, installation and Termination of CAT6 cables, PVC flexible Pipes and accessories, RJ45 termination at work station along with I/O boxes, Face Plates, Casing and Capping, conduits, RJ-45 Connector and configuring node in network)		Per User End point	20000			
17	CAT-6 cable Patch Cord with RJ-45 at both end-1Mtr length		Nos.	5000			
18	CAT-6 cable Patch Cord with RJ-45 at both end-2Mtr length		Nos.	5000			
19	CAT-6 cable Patch Cord with RJ-45 at both end-3Mtr length		Nos.	1000			
D Other Items							
20	Power Strip with 6 plug Sockets, switches, Light Indicators, fuse protection and Spike Suppressor (Reputed Make)		Nos	1000			
21	GI Pipe-4" dia		Mtr	10000			
22	Voltage Stabilizer		Nos	1000			
23	Surge Protector		Nos	1000			
E REPAIRING WORK ITEMS							
24	Replacement of faulty power adaptor for transceivers		Unit	100			
25	I/o Box for CAT-6 Cable		Nos	2000			
26	Cashing Patti-32MM		Mtr	2000			
27	Cashing Patti-50MM		Mtr	2000			
28	Restructure of Cabling Including Removal and refixation/installation		Mtr	1000			
29	CAT 6 LAN Cable inclusive of supply, laying etc.		Mtr	10000			
G Wireless/RF Link (Including Civil work and Accessories)							
30	Base Station Site -Unit price should Inclusive of supply, installation, commissioning of all the required line items like Wireless radios, Foundation, Antennas, mounting structure (pole/Mast), clamps, cables (active/Passive), lightening arrester, earthing, aviation lamp, etc. as per the scope of work, terms & condition of this RFP document.		Per Site	2500			
31	Remote Station Site -Unit price should Inclusive of supply, installation, commissioning of all the required line items like Wireless radios, Foundation, Antennas, mounting structure (pole/Mast), clamps, cables (active/Passive), lightening arrester, earthing, aviation lamp, etc. as per the scope of work, terms & condition of this RFP document.		Per Site	5000			
32	Base Station Radio		Nos.	1000			

33	Remote Station Radio		Nos.	1000				
34	Antenna system		Nos.	2500				
35	STP cable		Nos.	2500				
36	Pole (Length-3mtr; Galvanized)		Nos.	5000				
37	Tabular Painted Mast (Guy wire supported)		Nos.	1500				
38	Self-Supported painted Mast		Nos.	1000				
Grand Total (for all the line item)								

Important Note:

- a) The quantity mentioned above for all line items is notional for evaluation purpose only. However, actual order quantity may vary during the contract tenure depending upon the actual requirement of the Government of Gujarat.
- b) Above mentioned line items shall include Supply, installation, testing, commissioning and O&M support during the on-site warranty period of 5years from the date of FAT as per the RFP's functional and technical requirement.
- c) Bidder is required to submit bid specific MAF issued by OEM for the items wireless Radios, OFC and Switches.
- d) Bidder is allowed to quote only one make & model for each line item. Further, bidders are not allowed to change the quoted make & model during the contract period.
- e) L1 Bidder shall be arrived from sum total of all the line items without taxes to the TENDERER and then L1 bidder may be called for further negotiations.
- f) The rate contract is purely for arriving at the unit rates for above line items and it does not guarantee any purchase order.
- g) Discovery of Active component in Tenderer's Network Management System: All the network switches mentioned in above table should be discovered in the Network Management System (NMS) of tenderer hosted at Gujarat State Data Centre, Gandhinagar. If on account of non-availability of GSWAN/GFGNL uplink and bidder is not able to discover the switch in NMS then only 60% payment of the total approved bill value of that active component in Purchase/work order will be released and remaining 40 Percent payment will be released only after discovery of switch through NMS. However, due to non-availability of said uplink at the office/location and because of that if there is a delay of more than two months in discovery of device in NMS from the date of FAT of switch/active component, in that case DDOs will further release balance 30% payment and final 10% payment will be released only after discovery in NMS of TENDERER.
- h) Non-acceptance of the above condition(s) or Conditional bid shall be rejected.

Section - 8
PERFORMANCE BANK GUARANTEE
(To be stamped in accordance with Stamp Act)

Ref: _____ Bank Guarantee No. _____

Date: _____

To
Gujarat Fibre Grid Network Limited (GFGNL)
Block No: 6, 5th Floor, Udyog Bhavan, Sector-11,
Gandhinagar 382010

Dear Sir,

1. WHEREAS..... (Name of Bidder) hereinafter called "the Bidder" has undertaken, in pursuance of Agreement dated, (hereinafter referred to as "the Agreement for **RFP for empanelment of Agencies for LAN/OFC cabling work including Supply, Installation and Commissioning of Last Miles equipment on turnkey basis at various Government Offices at Village level to leverage the Bharat Net Phase-II OFC backbone throughout the State of Gujarat AND** WHEREAS it has been stipulated in the said Agreement that the Bidder shall furnish a Bank Guarantee ("the Guarantee") from a scheduled bank for the sum specified therein as security for implementing PROJECT.
2. WHEREAS we _____ ("the Bank", which expression shall be deemed to include its successors and permitted assigns) have agreed to give the GFGNL/DST, Government of Gujarat ("Tenderer") the Guarantee:
THEREFORE, the Bank hereby agrees and affirms as follows:
The Bank hereby irrevocably and unconditionally guarantees the payment of all sums due and payable by the Bidder to Tenderer under the terms of their Agreement dated _____.
Provided, however, that the maximum liability of the Bank towards Tenderer under this Guarantee shall not, under any circumstances, exceed _____ in aggregate.
3. In pursuance of this Guarantee, the Bank shall, immediately upon the receipt of a written notice from Tenderer in that behalf and without delay/demur or set off, pay to Tenderer any and all sums demanded by Tenderer under the said demand notice, subject to the maximum limits specified in Clause 1 above. A notice from Tenderer to the Bank shall be sent by Registered Post (Acknowledgement Due) at the following address:

Attention Mr. _____.
4. This Guarantee shall come into effect immediately upon execution and shall remain in force for a period of months _____ from the date of its execution. The Bank shall extend the Guarantee for a further period which may mutually be decided by the bidder and Tenderer. The liability of the Bank under the terms of this Guarantee shall not, in any manner whatsoever, be modified, discharged, or otherwise affected by:
 - Any change or amendment to the terms and conditions of the Contract or the execution of any further Agreements.
 - Any breach or non-compliance by the Bidder with any of the terms and conditions of any Agreements/credit arrangement, present or future, between Bidder and the Bank.
5. The BANK also agrees that Tenderer at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the BIDDER and not

withstanding any security or other guarantee that Tenderer may have in relation to the Bidder's liabilities.

6. The BANK shall not be released of its obligations under these presents by reason of any act of omission or commission on the part of Tenderer or any other indulgence shown by Tenderer or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the BANK.
7. This Guarantee shall be governed by the laws of India and the courts of Ahmedabad shall have jurisdiction in the adjudication of any dispute which may arise hereunder.

Dated this the Day of

Witness

(Signature)

(Signature)

(Name)

(Name)

Bank Rubber Stamp

(Name)

(Official Address)

Designation with Bank Stamp

Plus Attorney as per Power of
Attorney No.

Dated:

Section - 9

ANNEXURE - I

Bid Processing Fees and Earnest Money Deposit Details

Sr. No.	Item	Amount (In Rs.)	Name of the Bank and Branch	Demand Draft No.
1	Bid Processing Fees			
2	Earnest Money Deposit (E.M.D.)			

ANNEXURE - II

Form No. E1

Experience in supply, installation commissioning and maintenance of the similar Systems

Name of the Bidder:

Sr. No.	Name of Organization	Address of the installation	Start date of the project	Completion Date of the Project	Scope of the work. Also specify the system installed	Specify No. of Active and Passive Components	Value of the project in Rupees

Note: Please attach purchase order/ contract agreement and completion certificate for each of project details mentioned

Form no. E2

Experience in Operation and Maintenance

Sr. No.	Name of the Customer	Address of the Installation	Start Date of Project	Completion Date of the Project	Scope of Work	Value of the project in Rupees
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Note:

1. Attach the necessary supporting proof/document for above details.
2. Please mention only those projects which meet the eligibility criteria.

Form no. E3

Authorization Letters

Item	Make and Model	Name of OEM	Authorization letter attached? (Yes/No)

Form no. E4**Manpower Details**

Sr. No.	Name	Date of Joining	P.F. No./ ESIC No.	Education Qualification	Experience Details with Project work upon
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Note: attach the necessary supporting proof/document for above details.

Form no. E5**Office in GUJARAT**

Sr. No.	Address	Contact Person	Contact nos.	Type of supporting document attached
1				
2				

Note: You may mention more than one office (if applicable) by adding multiple rows which may be added by "NUMBER OF ROWS TO ADD".

Form no. E6**Service Centers Detail**

Sr. No.	Address	Contact Person	Contact nos.	Type of supporting document attached
1				
2				
3				

Note: You have to mention minimum 3 authorized service centers as per eligibility criterion. If you like to add more service centers (if applicable) by adding multiple form which may be added by "NUMBER OF ROWS TO ADD".

Form No. E7 Financial Strength of the Applicant

Financial Year	Annual Turn Over	Related Annual turnover (as per eligibility Criteria)	Audited Accounts submitted. (Yes/No)
2016-2017			
2017-2018			
2018-2019			

Note: Please fill this form and attach the audited Annual Accounts for the last three financial years.

Form no. E8**ISO 9001:2008 and 14001:2004 certification for Manufacturing**

Sr. No.	Item	Make and Model	Name of OEM	ISO certification valid up to	ISO certification attached? (Yes/No)
1					
2					
3					
4					
5					
6					
7					

Form no. E9**Check list for FAT (Final Acceptance Test)**

Sr. No.	Item	Remarks
1	Device Should be configured as per GOG instruction.	
2	Numbering / tagging	
3	Site Drawing	
4	Network Layout	
5	Site Survey Report	
6	Bill of Materials details	
7	Customer Site completion report.	
8	Cable Route path	

Annexure A
Format of Earnest Money Deposit in the form of Bank Guarantee

Ref: _____ Bank Guarantee No. _____
Date: _____

To,
DGM (Technical)
Gujarat Informatics Limited
Block No: 2, 2nd Floor, Karmayogi Bhavan, Sector-10A, Gujarat, India

Whereas _____ (here in after called "the Bidder") has submitted its bid dated _____ in response to the RFP no: _____ for RFP for empanelment of Agencies for LAN/OFC cabling work including Supply, Installation and Commissioning of Last Miles Equipment on Turnkey basis at various Government Offices at Village level to leverage the Bharat Net Phase-II OFC backbone throughout the State of Gujarat on TurnKey basis and Supply, Installation and Commissioning of Last Miles Equipments for Government Offices in the State of Gujarat on behalf of Department of Science and Technology, Government of Gujarat KNOW ALL MEN by these presents that WE _____ having our registered office at _____ (hereinafter called "the Bank") are bound unto the _____, Gujarat Informatics Limited (GIL) in the sum of ----- for which payment well and truly to be made to Gujarat Informatics Limited, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 2020.

THE CONDITIONS of this obligation are:

1. The E.M.D. may be forfeited:
 - a. if a Bidder withdraws its bid during the period of bid validity
 - b. Does not accept the correction of errors made in the tender document;
 - c. In case of a successful Bidder, if the Bidder fails:
 - i. To sign the Contract as mentioned above within the time limit stipulated by purchaser or
 - ii. To furnish performance bank guarantee as mentioned above or
 - iii. If the bidder is found to be involved in fraudulent practices.
 - iv. If the bidder fails to submit the copy of purchase order and acceptance thereof.

We undertake to pay to the tenderer/Purchaser up to the above amount upon receipt of its first written demand, without tenderer/ Purchaser having to substantiate its demand, provided that in its demand tenderer/ Purchaser will specify that the amount claimed by it is due to it owing to the occurrence of any of the abovementioned conditions, specifying the occurred condition or conditions.

This guarantee will remain valid up to 9 (nine) months from the last date of bid submission. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the OWNER/PURCHASER and further agrees that if this guarantee is extended for a period as mutually agreed between bidder and owner/purchaser, the guarantee shall be valid for a period so extended provided that a written request for such extension is received before the expiry of validity of guarantee.

The Bank shall not be released of its obligations under these presents by any exercise by the OWNER/PURCHAER of its liability with reference to the matters aforesaid or any of them or by reason or

any other acts of omission or commission on the part of the OWNER/PURCHASER or any other indulgence shown by the OWNER/PURCHASER or by any other matter or things.

The Bank also agree that the OWNER/PUCHASER at its option shall be entitled to enforce this Guarantee against the Bank as a Principal Debtor, in the first instance without proceeding against the SELLER and not withstanding any security or other guarantee that the OWNER/PURCHASER may have in relation to the SELLER's liabilities.

Dated at _____ on this _____ day of _____ 2020.

Signed and delivered by

For and on Behalf of

Name of the Bank and Branch and
Its official Address

Approved Bank: All Nationalized Bank including the public sector bank or Private Sector Banks or Commercial Banks or Co-Operative and Rural Banks (operating in India having branch at Ahmedabad/ Gandhinagar) as per the G.R. no. EMD/10/2019/50/DMO dated 01.11.2019 (or as per the latest revision in GR/Guidance) along with its earlier referenced GRs issued by Finance Department or further instruction issued by Finance department time to time.