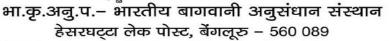


# ಭಾ. ಕೃ. ಅನು. ಪ – ಭಾರತೀಯ ತೋಟಗಾಲಿಕಾ ಸಂಶೋಧನಾ ಸಂಸ್ಥೆ





# ICAR-Indian Institute of Horticultural Research Hesaraghatta Lake Post, Bengaluru - 560 089

EPABX: 080-23086100 Extn: 218 & 217 FAX: 080-28466291 - Email: purchase.iihr@icar.gov.in

F.No.29-3/2024-25/SP/CHES-Chettalli/329941

Dated:03.10.2024

### NOTICE FOR INVITING TENDER THROUGH E-PROCUREMENT

Online Bids are invited from interested firms under two bid system (Technical bid/financial bid) for: Providing and Installation of Solar Street lights at ICAR-IIHR, CHES-CHETTALLI, Kodagu -571 248, Manual bids will not be entertained.

Tender documents may be downloaded from e-procurement website of CPPP https://eprocure.gov.in/eprocure/app as per the schedule given in CRITICAL DATE SHEET as under:

# CRITICAL DATE SHEET

| <b>Tender No.</b> F.No. 29-3/2024-25/SP/CHES-Chettalli |   |
|--|---|
|  | ICAR-INDIAN INSTITUTE OF                        |
| Name of Organization                                   | HORTICULTURAL RESEARCH,                         |
|  | Hesaraghatta, Lake Post, Bangalore              |
| Date and Time for Issue/Publishing                     | 03.10.2024. at 05:00 PM                         |
| Document Download/Sale Start Date                      | 03.10.2024 at 05:00 PM                          |
| and Time   |   |
| Bid Submission start Date and Time                     | 03.10.2024 at 05:00 PM                          |
| Bid Submission End Date and Time                       | 23.10.2024 at 03:00 PM                          |
| Date and Time for Opening of Technical Bids            | 25.10.2024 at 10:00 AM                          |
| Address for Communication                              | Senior Administrative Officer (Purchase), IIHR, |
|  | Hesaraghatta Lake Post, Bangalore               |

Sd/-CHIEF ADMINISTRATIVE OFFICER (SG)

#### INSTRUCTIONS FOR ONLINE BID SUBMISSION

- The Tender form/bidder documents may be downloaded from the <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>. Online submission of Bids through Central Public Procurement Portal (<a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>) is mandatory. Manual/Offline bids shall not be accepted under any circumstances.
- 2. Tenderers/bidders are requested to visit the website <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> regularly. Any changes/modifications in tender enquiry will be intimated by corrigendum through this website only.
- In case, any holiday is declared by the Government on the day of opening, the tenders will be opened on the next working day at the same time. The Council reserves the right to accept or reject any or all the tenders.
- 4. The Firms are required to deposit (in original) EMD of Rs.18,000/- in the shape of Demand Draft in favour of THE DIRECTOR, ICAR, UNIT-IIHR payable at Bangalore may be addressed to Senior Administrative Officer (Purchase), IIHR, Hesaraghatta Lake Post, Bangalore-560089 on or before 23.10.2024 by 3:00 PM.
- 5. Please note that only online Bids will be accepted.
- 6. Bidders need not to come at the time of Technical as well as financial bid opening at IIHR. They can view live bid opening after login on CPPP e-procurement portal at their remote end. If any dispute arises, Within Bengaluru Jurisdiction only.
- 7. The firms are also required to upload copies of the following documents for Technical eligibility and Evaluation:-

### Technical Bid

# 1. No EMD exemption is given for MSME/ Udyog Aadhar or NSIC and other firms

- 2. Scanned copy of the documents Registered with PWD/CPWD/MES/Railways.
- 3. PAN Card copy
- 4. GST Number with Registration Certificate
- 5. Bank details of the firm.
- 6. Income Tax Returns for the last three years (2021-22,2022-23,2023-24).
- 7. Profit and loss account & Balance Sheet which are audited & duly certified by the Chartered Accountant for the last three years (2021-22,2022-23,2023-24).
- 8. Turnover of the business should be <u>Rs.30.00 Lakhs</u> per year (2021-22,2022-23,2023-24). And Chartered Accountant certified profit and Loss account; Balance sheet to this effect may be enclosed.
- 9. Scanned copy of work/supply order for having successfully completed similar works

during last 5 years ending last day of month previous to the one in which bids are invited should be either of the following:

a) Three similar completed works costing not less than the amount equal to 40(forty) percent of the estimated cost of Rs.3,60,000/- each

b) Two similar completed works costing not less than the amount equal to 50(Fifty) percent of the estimated cost of Rs.4,50,000/- each

- c) One similar completed works costing not less than the amount equal to 80 (eighty) percent of the estimated cost of Rs.7,20,000/- each
- 10. Tender acceptance letter (Annexure-V) is mandatory.
- 11. Latest copies of the GST returns for six months (January 2024 to July 2024)

## 12. DESIGN & SCOPE:-

This Estimate caters for the following works:

#### **DESIGN & SCOPE:-**

This Estimate caters for the following works:

- 1. SITC of Solar Street light Units (Integrated).
- 2. This includes providing necessary RCC at the base and below the ground, depends on the soil condition.
- 3. The unit should be theft proof arrangement and all-weather and insect proof metallic container secured with align bolts, wiring & etc. complete Solar street lights installation on site as per requirement.
- 4. Repainting of existing Solar Street light poles with silver colour paint.

### (Similar Works: Providing and Installation of Solar street lights )

#### Financial Bid:-

- Price Bid as BOQ XXX.xls
- Evaluation criteria: Tender will be awarded to the lowest quoted Firm among those firms qualified in the Technical Bid. In case, two or more firms quote the same amount in r/o all the items work together as a whole, then the tender will be awarded to the Firm which has got more average turnover in the last 3 years, based on IT returns/Profit & Loss account/Turnover duly certified by the CA and uploaded along with Tender through CPP.

Sd/-CHIEF ADMINISTRATIVE OFFICER(SG)

<u>A</u>

n

#### Annexure-II

## **Terms & Conditions**

- 1. The tenderer shall quote rates, which will include the supply, installation & other incidental charges.GST, if any, should be indicated separately.
- 2. The rates should be quoted as per the BOQ uploaded on the CPP Portal (reference may be obtained from Annexure-III). GST, if any, should be indicated separately. It must be noted that the contract shall be awarded to the firm which fulfils all the required terms and conditions and remains L-I for **Total cost**.
- 3. The firm must also possess valid PAN No. & GST registration number and a copy of the same must also be enclosed with the tender document.
- 4. Latest copies of the GST returns for six month(January ,2024 to July ,2024)
- 5. Copy of Income Tax Return Statement may be furnished for the Financial year <u>2021-22,2022-</u>23,2023-24.
- 6. Profit and loss account & Balance Sheet which are audited & duly certified by the Chartered Accountant for the last three years (2021-22,2022-23,2023-24).
- 7. Turnover of the business should be <u>Rs.30.00 Lakhs</u> per year (2021-22,2022-23,2023-24). And Chartered Accountant certified profit and Loss account; Balance sheet to this effect may be enclosed.
- 8. Modification in the tender documents after the closing date is not permissible.
- **9.** The successful firm shall **commence work** within 10 days from the date of confirmed **work order** and if the work not completed in time then EMD shall be forfeited. The rates quoted shall be valid for one year from the date of opening of tender.
- 10. The contractor/bidder or his representative may contact the undersigned at **Tel. No. 080-23086100 Extn: 217 & 211** for any further clarification. No variation in terms and quality of the items/specifications shall be entertained or else EMD/Security deposit shall be forfeited.
- 11. The bidder is advised to visit the site of works at his own expenses and obtain all information that may be necessary for preparing the quotation. Submission of quotation is acceptance by the tenderer that he has inspected the site or he is aware of all conditions.
- 12. The Director, ICAR-IIHR, shall have the right to reject all or any of the offers, accept more than one offer, and assign part of the job without assigning any reason.
- 13. Merely quoting of lowest rates does not mean that order shall be given to that firm. The competent authority will finally decide on the basis of quality & performance of past installations.
- 14. The Firms are required to deposit (in original) an Earnest Money Deposit of Rs.18,000/amount mentioned against item in the form of Demand Draft from any of the Commercial
  Bank in favour of THE DIRECTOR, ICAR, UNIT-IIHR payable at Bangalore may be
  address to Senior Administrative Officer (Purchase), IIHR, Hesaraghatta Lake Post,
  Bangalore-560089 on or before 23.10.2024. No quotation shall be considered without the
  earnest money deposit. Demand draft drawn in favour of any officer other than 'THE
  DIRECTOR, ICAR UNIT-IIHR payable at Bangalore' will not be accepted and the tender will
  be rejected. The earnest money will be refunded only after the finalization of the procurement
  and no interest will be paid on earnest money. The request letter for refund of EMD &
  performance security is to be submitted by the firm.
- 15. Rates once finalized will not be enhanced/reduced during the currency of the contract.
- 16. In case, the successful bidder shows inability at any stage, after the contract is finalized and awarded, for whatsoever reason(s), to honour the contract, the earnest money /performance security deposited would be forfeited.

- 17. The Director, ICAR-IIHR reserves the right to cancel the contract at any time during the currency period of the contract without giving any reason.
- 18. The firm, to whom the tender will be awarded, will have to deposit the **performance security** equal to 3% of the total quoted amount at which the Tender will be awarded within 21 days from the date of receipt of work order and the same will be retained during the Defect liability period(warranty) of One year. In the sense, for any material and execution defects, the firm has to set right the defects within 10 working days and maintain the said work. If the services are not found to be satisfactory, the performance security is liable to be forfeited. No interest will be paid on performance security.
- 19. If any dispute(s) arises between IIHR and the firm with reference to the contract, IIHR will decide it and its decision will be binding on the firms.
- 20. Bid Validity: 90 days
- 21. Payment:- No advance or part payment will be given. The payment will be released after satisfactory completion of the work and certificate from the Indentor/Engineer.
- 22. The supplier/firm has to submit the GST return for having remitted the GST amount paid by the institute to the concerned authority within 30 days from receipt of payment from IIHR, otherwise their EMD and SD/PS will not be released and such firms shall be blocklisted.
- 23.No EMD exemption is given for MSME/ Udyog Aadhar or NSIC and other firms.
- 24. Work Completion: 60 days from the date of issue of work order
- 25. GST extra as applicable should be indicated separately in the column provided. Otherwise such quotes will be rejected.

Payment Terms: In order to facilitate for speedy settlement of payment you are requested to Furnish the following details as below:

- 1. Name of the firm:
- 2. Name of the Bank:
- 3. IFSC Code of Bank:
- 4. Name of the Account & Account No.:

| <ul><li>5. Branch Code:</li><li>6. Amount to be paid:</li><li>7. E-mail address of the party:</li><li>8. GST No. and Pan No. Copies</li></ul> |                                     |
|---|-------------------------------------|
|   | 'Terms & Conditions are acceptable' |
| Dated   | (Authorized signatory of the firm)  |

# MINIMUM TECHNICAL REQUIREMENTS / STANDARDS

Annexure-II(a)

- 1. The LED solar street lighting system should be designed to operate for dusk to dawn.
- 2. SPV MODULES:
- i. Only indigenous modules of IEC Tested shall only be used in the project. Crystal line high power/efficiency

cells shall be used in the solar photovoltaic module.

ii. The power Output of the module shall not be less than 75 Wp at 16.4 + 0.2 Volt at STC, if MPPT is not used

with positive tolerance.

- iii. The module efficiency should not be less than 14%.
- iv. The open circuit voltage of the PV modules under STC should be at least 21.0 Volts.
- v. PV module must be warranted for output wattage, which should not be less than 90% at the end of 10 years

and 80% at the end of 25 years.

vi. The terminal box on the module shall be designed for long life out door operation in harsh environment

should have a provision for opening for replacing the cable, battery & Luminaire if required.

- vii. The offered module shall be in accordance with the requirements of MNRE.
- viii. Protective devices against surges at the PV module shall be provided.
- viii. Low voltage drop bypass diodes shall be provided and if required, blocking diode(s) may also be provided.

# **IDENTIFICATION AND TRACEABILITY:**

Each PV module must use a identification tag which must contain the following information:

- i Name of the manufacturer with logo
- ii Month and year of the manufacture
- iii. Unique serial No
- iv. Model No of the module with voltage and rated wattage
- v. Made in India

# **Battery:**

- i. Lithium-Ferro-Phosphate (Li-Fe-Po4)
- ii. Capacity of the battery shall not be less than 12.8 V (nominal), 30 Ah at STC, 384 Watt Hour.
- iii. The battery cycle life should be 2000 cycle at 95% discharge.
- iv. BMS (Battery Management System) should be part of battery pack and battery pack enclosure should be as

per standard.

v. The battery pack should be integrated with the system in such way that it is theft proof and not removable from

system. It should be installed with combination of module structure/luminaire.

i. The height of battery pack will be approximate, 4.5 to 5 Meters above the ground.

ii. The system must withstand wind velocity of 150 km/hr.

iii. The battery pack should be capable of high rate of heat dissipations.

iv. The battery box should be acid proof and corrosion resistant, hot dip galvanized metallic box (IP 65) with antitheft locking arrangement.

v.The battery should operate between temperature range of 0 degree C to 55 degree C

# The other feature of the battery should be:

Sr. No. Description Specifications

- 1 Battery Configuration Minimum 12.8V- 30AH; Li-fe-PO4
- 2 Working Temperature Range (both for charging & discharging) 0-60 degree

### **Annexure-III**

(Reference for BOQ) (To be quoted in format provided on CPP Portal)

Price bid for: Providing and Installation of Solar Street lights at ICAR-IIHR, CHES-CHETTALLI,Kodagu -571 248

| Sl.<br>No. | Name of item                                      | Quantity | Per unit price* (in<br>figures/words) (as<br>per BOQ) |
|------------|---|----------|---|
| 01         | Providing and Installation of Solar Street lights | 01       |   |
|            | at ICAR-IIHR, CHES-CHETTALLI,Kodagu -             | Unit     |   |
|            | 571 248   |          |   |

<sup>\*</sup>Annexure-VIII

- Items should be of reputed make and suitable for high end elite users
- GST extra as applicable should be indicated separately in the column provided. Otherwise such quotes will be rejected.
- ICAR-IIHR, CHES-CHETTALLI, Kodagu 571 248

**Note:** The above mentioned Financial Proposal/Commercial bid format is provided as BoQ\_XXXX/xls along with this tender document at <a href="https://eprocure.gov.in/eprocure/app.">https://eprocure.gov.in/eprocure/app.</a> Bidders are advised to download this BoQ\_XXXX.xls as it is and quote their offer/rates in the permitted column and upload the same in the Financial bid. **Bidder shall not tamper/modify downloaded price bid template in any manner**. In case if the same is found to be tempered/modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with IIHR.

# **Annexure-IV**

EPABX: 080-23086100 Extn: 218 & 217

FAX: 080-28466291 - Email: purchase.iihr@icar.gov.in



Name of the Firm\_\_\_\_\_

# ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH

# HESSARAGHATTA LAKE POST, BANGALORE-560 089

| Register | red/Postal Address                        |                                  |
|----------|---|----------------------------------|
|          |   |                                  |
| 1        | Permanent Account Number (PAN)            |                                  |
| 2        | GST Registration No.                      |                                  |
| 3        | Bank Details                              |                                  |
| a        | Bank Name                                 |                                  |
| b        | Branch Address                            |                                  |
|          |   |                                  |
|          |   |                                  |
| c        | Account Number                            |                                  |
| d        | Type of account (current/saving) MICR No. |                                  |
| e        | IFSC Code                                 |                                  |
|          |   |                                  |
|          |   |                                  |
|          |   |                                  |
| Date:    |   | Name of the Authorized Signatory |
| Place:   |   | Stamp & Signature                |

# TENDER ACCEPTANCE LETTER

(To be given on Company Letter Head)

| To,    | Date:   |
|--------|---|
|        | ne Director, CAR-IIHR,  |
| He     | esaraghatta Lake Post,  |
| Ва     | angalore-560089.  |
| Sub:   | Acceptance of Terms & Conditions of Tender.   |
| Tende  | r Reference No  |
| Name   | of Tender/Work:   |
|        |   |
| Dear S | Sir,  |
| 1.     | I/ We have downloaded/obtained the tender document(s) for the above mentioned' Tender/work' from the web site(s) namely:  |
|        | As per your advertisement, given in the above mentioned website(s).   |
| 2.     |   |
| 3.     | The corrigendum(s) issued from time to time by your department/organization too have also been taken into consideration, while submitting this acceptance letter. |
| 4.     | I/we hereby unconditionally accept the tender conditions of above mentioned tender documents/corrigendum(s) in its totality/entirely.                             |
| 5.     |   |
| 6.     |   |
|        | Yours Faithfully,   |
|        | (Signature of the Bidder, with Official Seal)   |

### INSTRUCTIONS FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.

#### REGISTRATION

- Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>.) by clicking on the link 'Online bidder Enrollment' on the CPP Portal which is free of charge.
- As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (class II or Class III certificates with signing key usage) issued by any certifying authority recognized by CCA India (e.g. Sify/nCode/eMudhra etc.) with their profile.
- Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- Bidder then logs in to the site through the secured log-in by entering their users ID/password and the password of the DSC/e-Token.

## SEARCHING FOR TENDER DOCUMENTS

- There are various search options built in the CPP Portal. To facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- Once the bidders have selected the tenders they are interested in, they may download the
  required documents/tender schedules. These tenders can be moved to the respective 'My
  Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS/email in case there is any corrigendum issued to the tender document.
- The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

#### PREPARATION OF BIDS

- Bidder are requested to visit the site at the Institute ICAR-IIHR,Bangalore, Karnataka and discuss with STO(Electrical), ICAR-IIHR, Bangalore before preparing the bid clarify the doubts and understand the requirements.
- Bidder should take into account any corrigendum published on the tender document before submitting their bids.

- Please go through the tender advertisement and the tender document carefully to
  understand the documents required to be submitted as part of the bid. Please note the
  number of covers in which the bid documents have to be submitted, the number of
  documents- including the names and content of each of the document that need to be
  submitted. Any deviations from these may lead to rejection of the bid.
- Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/schedule and generally, they can be in PDF/XLS/RAR/DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- To avoid the time and effort required I uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use 'My Space' or 'Other important Documents' area available to them to upload such documents. These documents may be directly submitted from the 'My Space' area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

### **SUBMISSION OF BIDS**

- Bidder should log into the site will in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other technical issues.
- The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- Bidder has to select the payment option as 'offline' to pay the tender fee/EMD as applicable and enter details of the instrument.
- Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- Bidders are requested to note that they should necessarily submit their financial bids in the Format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cell with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric, encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

- The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- Upon the successful and timely submission of bids (i.e. after clicking 'Freeze Bid Submission' in the portal), the portal will give a successful bid submission message and a bid summary will be displayed with the bid no. and the date and time of submission of the bid with all other relevant details.
- The bid summary has to printed and kept as an acknowledgement of the submission of the bid.

#### ASSISSTANCE TO BIDDERS

- Any queries relating to the tender documents and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contract person indicated in the tender.
- Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

\*\*\*\*

# **Annexure-VII**

# Details of Works & EMD

| Sl. | Purchase of item                                  | Qty  | Earnest     | File. No. for reference |
|-----|---|------|-------------|-------------------------|
|     |   |      | Money in    |                         |
| No. |   |      | INR         |                         |
|     | <b>Providing and Installation of Solar Street</b> |      |             |                         |
|     | lights at ICAR-IIHR, CHES-                        | 01   |             | 29-3/2024-25/SP/CHES-   |
| 01  | CHETTALLI,Kodagu -571 248                         | UNIT | Rs.18,000/- | Chettalli/329941        |
|     |   |      |             |                         |

# Note:

- 1) EMD defined on to the Portal is MINIMUM. Bidder has to submit the EMD as per item for which quoting for.
- 2) No EMD exemption is given for MSME/ Udyog Aadhar or NSIC and other firms.

<sup>\*</sup>Location: ICAR-IIHR, CHES - CHETTALLI, Kodagu -571 248.

# **Annexure-VIII**

# <u>TECHNICAL SPECIFICATION FOR:</u> Providing and Installation of Solar Street lights at ICAR-IIHR, CHES-CHETTALLI, Kodagu -571 248

| Sl.N<br>o | PARAMETERS             | Description                | Unit | Qty |
|-----------|------------------------|----------------------------|------|-----|
| 1         | PV Module              | Solar photovoltaic         | Set  | 32  |
|           |                        | module of 80 Watt, 25      |      | Nos |
|           | watt integrated solar  |                            |      |     |
|           |                        | street Light with 80 watt  |      |     |
|           |                        | solar panel.               |      |     |
| 2         | Battery.               | In built Lithium Ferro     |      |     |
|           |                        | Phosphate (Li-Fe-PO4 or    |      |     |
|           |                        | LFP) minimum 12.8          |      |     |
|           |                        | Volt, 30 Ah.               |      |     |
| 3         | Light Source.          | White Light Emitting       |      |     |
|           |                        | Diode (W-LED) 12           |      |     |
|           |                        | Watt( LED +Driver)         |      |     |
| 4         | Light Out Put.         | Using LEDs which emits     |      |     |
|           |                        | ultraviolet light will not |      |     |
|           |                        | be permitted.              |      |     |
|           |                        | White colour (colour       |      |     |
|           |                        | temperature 5500-6500      |      |     |
|           | K). Lumen efficacy of  |                            |      |     |
|           | LED min 135            |                            |      |     |
|           |                        | lumens/Watt @350 mA.       |      |     |
|           |                        | The illumination should    |      |     |
|           |                        | be uniform without dark    |      |     |
|           |                        | bands or abrupt            |      |     |
|           |                        | variations, and soothing   |      |     |
|           |                        | to the eye. Higher light   |      |     |
|           |                        | output will be preferred.  |      |     |
| 5         | Mounting of light,     | Approx. 4.5 to 5 Meter     |      |     |
|           | Controller and Battery | above the ground,          |      |     |
|           | Pack.                  | Mounted at pole or         |      |     |
|           |                        | below the mounting         |      |     |
|           |                        | structure.                 |      |     |
| 6         | Average duty Cycle.    | Dusk to dawn.              |      |     |
| 7         | Pole Height            | 6 Mtr pole and cable set   |      |     |
|           | <u> </u>               | Complete installation      |      |     |
|           |                        | like Pit digging,          |      |     |
|           |                        | erecting, concreting the   |      |     |
|           |                        | pole etc, as per the site  |      |     |
|           |                        | condition.                 |      |     |

| 8 SITC of Battery, Charge control with LED Lights | Supply & Installation of solar street light unit consist of 12.8 volt, 30AH batteries (Li-Fe PO4 or LFP), charge control with suitable capacity LED Lights, as per the site condition. |  | 17<br>Nos |  |
|---|--|--|-----------|--|
|---|--|--|-----------|--|

Sd/-CHIEF ADMINISTRATIVE OFFICER (SG)