



HYDERABAD GROWTH CORRIDOR LIMITED

HGCL Office Building, 2nd Floor, Kajaguda Road,

Adjacent to ORR, Nanakramguda-500104

NAME OF THE WORK:-Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

Bid Document

Volume-I

HYDERABAD GROWTH CORRIDOR LIMITED

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BID NOTICE No.181/CGM(T)/HGCL//DGM(Elec)/service road st. Lighting/2022-23, Dt:03-04-23

NAME OF WORK :

Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

**NAME AND ADDRESS OF THE
CONTRACTOR WHO DOWN
LOADED THE BID DOCUMENTS.**

STANDARD BID DOCUMENT

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HYDERABAD GROWTH CORRIDOR LIMITED

BID NOTICE

BID NOTICE No.181/CGM(T)/HGCL//DGM(Elec)/service road st.Lighting/2022-23, Dt:03-04-23

1. Tenders for the work mentioned below are invited from the Contractors / Contracting firms registered with Government of Telangana.

1)	Name of the work	:	Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur
2)	Estimate Contract value of work put to Tender	:	Rs.9,45,67,819/-
3)	Period of completion of work	:	3 Months
4)	Form of contract / Class of contractor eligible	:	Lumpsum. Single entity registered under G.O. Ms. No 94,I& CAD Dept. (PW COD) Dept.,Dt.1.7.2003 & GOMs No.66 I&CAD Dt.2-4-2015 Class I (Electrical) with Electrical A-Grade License.
5)	E.M.D(Bid Security): In the form of BG/DD in the name of MANAGING DIRECTOR, HGCL. Bank & Br.: S.B.I, Tarnaka, Hyderabad Account No: 62017194053 IFSC No:SBIN0020454 MICR Number: 500002359 Scanned copy as proof of payment shall be uploaded.	:	Rs.9,45,678/-
6)	Date and time for downloading of tenders	:	03-04-2023
7)	Last date and time for submission of Tenders	:	17-04-2023 Up to 3.00 PM

8)	Date and time of opening of tenders	:	17-04-2023 @ 3.30 PM
	a) Technical Bid	:	
	b) Pre- Bid Meeting	:	---
	c) Mockup Test	:	The Mockup test by the technically qualified bidders has to be arranged within 7 days from the date of intimation.
	d) Price Bid	:	will be decided later

Note: *Following conditions will over rule the conditions stated in the tender documents, wherever relevant and applicable.*

2.

- a) The intending Bidders need to contact the Chief General Manager (T), HGCL for information on e-procurement.
- b) The intending Bidders need to register in the electronic procurement market place of Government of Telangana by login the website, www.tender.telangana.gov.in On registration in the e-procurement market place, you will be provided an user ID and password using which you can submit the bids in on line.
- c) The bidder shall authenticate the bid with his Digital keys for submitting the bid electronically on e-Procurement platform and the bids not authenticated by digital keys of the bidder will not be accepted on the e-Procurement platform. For obtaining Digital keys, they may Contact: Telangana Technology Services Limited, HACA Bhavan, 2nd floor, Opp. To Assembly, Nampally, Hyderabad-500004 Phone: 040-23226970 Fax: 040-23228057
- d) They may please Contact Registration Authorities of any Certifying Authorities in India. The list of CAs is available by clicking the link <https://tender.telangana.gov.in/login.html> Technical Helpdesk Vupadhi Techno Services Pvt. Ltd. 1st Floor, Ramky Grandiose, Sy. No: 136/2 & 4, Gachibowli, Hyderabad - 500032. Telangana State.+91 40-33762222, 23, 7337445545 Contact Details for Payment related Queries/Support. For Axis:98493 15284 For ICICI:+91 22-61376752 or +91 22-61376644.
- e) While submitting the tender on the e-procurement market place, Bidders need to scan and upload all the required documents as per the tender requirements/conditions. However, the tenders of those bidders shall be acceptable who have paid the required EMD as per tender conditions. The scanned copy as proof of payment shall be up loaded without which the bids will not be considered.
- f) Service and gateway charges shall be borne by the bidders only.

- g) If the bidder is participating first time in e-procurement, then, it is obligatory on the part of the bidder to fulfill all formalities such as registration, obtaining Digital Signature Certificate/keys etc. well in advance.
- h) The bidder whoever is submitting the tender on e-procurement platform shall invariably upload the scanned copies of the all documents as mentioned.
- EMD shall be from an Indian Scheduled commercial Bank (excluding Cooperative Banks) as defined in section 2€ of RBI Act, 1934.
 - No proposal will be accepted without valid earnest money deposit and tender document fee.
 - Technical Bid: Bidders must positively complete online e-tendering procedure at www.tender.telangana.gov.in. They have to submit the documents as prescribed in the tender online in the website.
 - **Financial Proposal:-** Bidder must submit the financial bid document as per format given in tender document in online and uploaded as per instructions therein.
 - The Bidder must be technically qualified in all respects and qualified in mockup test then only the Price Bid will be opened in online. The bidder can view the price bid opening date by visiting our web site.
- i) Bidders are requested to visit our e-tendering website & HMDA website regularly for any clarifications and /or for extension of due date for submission or corrigendum/addendum etc.
- j) HMDA/ HGCL shall not be responsible in any way for delay/difficulties/ inaccessibility of the downloading facility from the website for any reason what so ever.
- The e-procurement market place provides an online self-service registration facility to such of the contractors who are already registered with respective participating departments for supply of specified goods and services.

3. As per G.O.Ms.No.174 I & CAD Dept., dt.1.9.2008 :

- i) Submission of original Hard Copies of the uploaded scan copies of CHALLAN / BG towards EMD by participating bidders to the tender inviting authority before opening of the price bid is dispensed forthwith.
- ii) All the bidders shall invariably upload the scanned copies of CHALLAN/BG in e-procurement system and this will be the primary requirement to consider the bid as responsive.

- iii) The Department shall carry out the technical bid evaluation solely based on the Uploaded certificates/documents, CHALLAN/BG towards EMD in the e-procurement System and open the price bids of the responsive bidders.
- iv) The Department will notify the successful bidder for submission of original hard copies of all uploaded documents, CHALLAN/BG towards EMD prior to entering into agreement.
- v) The successful bidder shall invariably furnish the original CHALLAN/BG towards EMD, certificates/documents of the uploaded scanned copies to the Tender inviting Authority before entering into agreement either personally or through courier or post and the receipt of the same within the stipulated date shall be the responsibility of the successful bidder. The Department will not take any responsibility for any delay in receipt/non-receipt of original CHALLAN/BG towards EMD, certificates/documents from the successful bidder before the stipulated time. On receipt of documents, the Department shall ensure the genuinity of the CHALLAN/BG towards EMD and all other certificates/documents uploaded by the bidder in e-procurement system in support of the qualification criteria before concluding the agreement.
- vi) If any successful bidder fails to submit the original hard copies of uploaded certificates/documents, CHALLAN/BG towards EMD within the stipulated time or if any variation is noticed between the uploaded documents and the hard copies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on e-Procurement platform for a period of 3 years. The e- Procurement system would deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the tender Inviting Authority in the system. Besides this, the Department shall invoke all processes of law including criminal prosecution of such defaulting bidder as an act of extreme deterrence to avoid delays in the tender process for execution of the development schemes taken up by the Government. The information to this extent may be displayed in the e-procurement platform website.

4.
 - a) A minimum of 3 days time gap shall be maintained between opening of technical bids and opening of price bids.
 - b) The successful (L1) tenderer shall furnish the original hard copies of all the Certificates / statements uploaded by him before concluding agreement.
 - c) The tenderer shall be required to furnish a declaration in online stating that the soft copies uploaded by them are genuine. Any incorrectness / deviation noticed will be viewed seriously and apart from cancelling the work duly forfeiting the EMD, criminal action will be initiated including suspension of business.
 - d) Before concluding the agreement with the L1 tenderer, the tender inviting authority shall ensure the genuinity of CHALLAN/BG furnished by bidder towards EMD and all the certificates uploaded by the bidder online by deputing responsible departmental officials.
 - e) The Government as further decided that, notwithstanding any existing provisions of the T.S. Public works Department Code as well as other orders and executive instructions in force if any tenderer fails to submit the hard copies of CHALLAN/BG for EMD, hard copies of uploaded documents within the stipulated time the tenderer will be suspended disqualified from participating in the tenders on 'e-procurement plat form' for a period of 12 months from the date of bid submission. The suspension of tenderer shall be automatically enforced by the e-procurement system (As per G.O.Ms. No.6 I&CAD (PW-Reforms) Dept., dt.11.1.2005 and G.O.Ms.No.245 I&CAD (PW-Reforms) dept., dt. 30.12.2005)

5. **Action to be taken against the lowest bidder, who back out at the time of Agreement, the contract Registration will be suspended for a period of one year duly forfeiting the E.M.D. as per G.O.Ms.No.259, T.R&B (Roads-V) Dept., dt.6.9.2008.**

6. Eligibility criteria for opening the Price Bid:

1. The Bidder should have satisfactorily executed the works as a prime Contractor/ Authorized Sub Contractor.

Note:

- a) *Single entity registered under G.O. Ms. No 94, I & CAD Dept. (PW COD) Dept.,Dt.1.7.2003 & GOMs No.66 I&CAD Dt.2-4-2015 Class I (Electrical) with Electrical A-Grade License or equivalent issued by Govt. of Telangana.*
- b) *The Bidders shall have to submit following documents (certified by Notary / attested by the Gazetted officer) along with technical bid.*
- c) *All Experience of Govt./Semi Govt./ Govt. under takings with in India only will be considered on production of work completion Certificate signed by an Engineer not below the rank of Executive Engineer counter signed by an officer not less than rank of Superintending Engineer. The certificate must clearly indicate (i) name of the work (II) the date of commencement of work (III) the date of completion of work (IV) Nature of work (V) that the work has been completed satisfactory. (VI) Contract value, billing amount. (VII) Performance of the contractor.)*
- i) The bidders should possess **Class-I (Electrical) with A-Grade Licence (Electrical)** or equivalent issued by Govt. of Telangana.
- ii) Copy of GST Registration.
- iii) Copy of Permanent Account Number i.e. (PAN) Card.
- iv) Proof of payment of EMD.
- v) Copy of latest Income Tax returns i.e. FY 2021-22 submitted to IT Dept. along with proof of its submission
- vi) Liquid assets and/ or credit facilities of not less than **Rs.9.46 Crores** (credit facility/ letter of credits/ Solvency certificate certificates from banks etc).
- vii) Satisfactorily completed as a prime contractor/ authorized sub contractor in similar works of value not less than **Rs.18.91 crores** in any one year during the last 10 financial years i.e. from **2013-2014 to 2022-2023 (up to submission of bid date)** (updated to current price level at the rate of 10% per year) Similar nature of work means the agreement/ work order should contain Supply, installation, testing & commissioning of external illumination or supply and laying of underground cables or operation & maintenance of

street lighting works. For any project spreading over two or more financial years, the value of work will be considered on pro-rata basis. (As per Annexure -4).

viii) **Minimum key quantities:**

The Minimum key quantities executed in any one financial year during last ten(10) financial years financial years **i.e. from 2013-2014 to 2022-2023 (up to submission of bid date)** shall be as follows (as per Annexure-5).

SI. No	Item	Qty
1	Supply installation testing & commissioning of (SITC) Electrical street light Poles (7.0 m & above height poles)	2600 Nos.
2	SITC Road Street lighting with LED/conventional luminaries (above 90W)	4840 Nos
3	SITC PVC insulated, PVC Sheathing / XLPE Underground cable (16Sqmm & above cable)	80.00 Km

ix) Details of existing commitments i.e. work on hand and works for which tenders are submitted (value of B: shall be furnished by the bidders).

Note: Bid capacity computed by the formula $(2AN - B)$ shall be greater than the ECV.

Bid capacity: The bidder who meets the above qualification criteria and whose available bid capacity is more than the estimated contract value will be qualified for opening of price bid. The available bid capacity will be calculated as under:

Available bid capacity : $2AN - B$.

Where,

A= Value of works executed in their name in any one financial years during the last ten(10) financial years i.e. **from 2013-2014 to 2022-2023 (up to submission of bid date)** (updated to current price level at the rate of 10% per year) taking into account the work completed as well as works in progress

OR

Annual turnover in works executed in any one financial year during the last ten years /(10) financial years i.e. **from 2013-2014 to 2022-2023 (up to submission of bid date)** (updated to current price level at the rate of 10% per year) certified by chartered accountant.

N= Number of years prescribed for completion of the work for which tenders are invited (months/12).

B= value of existing commitments and ongoing works to be completed during the period of completion of works tenders are invited.

Note:

The statement showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be issued by the Engineer-in-Charge of Govt. Dept./ undertaking not below the rank of executive Engineer or equivalent and countersigned by the rank of SE or equivalent. The statement to the above effect will be clearly enclosed to the bidding document, and the tenderer shall furnish the particulars invariably in the same format failing which the tender shall be treated as incomplete and summarily rejected.

- x) The bidders shall furnish a declaration to the effect that the required key equipment (as per the statement enclosed) is available with him or that he shall lease or hire the equipment. (as per Annexure-8).
- xi) The bidder should declare the availability of the experienced key personnel as per statement enclosed (Annexure -7) for execution of the work.
- xii) Information regarding any litigation with Government during the last five years, in which the bidder is involved (Litigation History) should be furnished. If there is no litigation history, a NIL report should be submitted. As per proforma (Annexure-9) enclosed.
- xiii) **Declaration on Genuineness of the certificates:** The bidder shall be required to furnish a declaration as per the statement enclosed Any incorrectness/ deviations noticed in the certificate will be viewed seriously and apart from cancelling the work (Annexure-10).
- xiv) Lighting design calculations shall be submitted for each typical road configuration for all the proposed luminaries using Dialux. (as per ANNEXURE-11). Soft copy of photometry files to be submitted along with design calculation reports. Lux levels have to be submitted in grid distribution area(for each design luminaries make, wattage ,lumen output, Color temperature and other luminaries parameter have to be submitted . as per ANNEXURE-11).

The application and all enclosures shall be signed by a duly authorized representative holding Power of Attorney for signing the application, and a certified copy of the Power of Attorney signed by the legally authorized representative of the firm shall accompany the application.

2. The Bidders who determined to have complied with the eligibility criteria, (I to XIV above) will be called for the mockup test. The price bid of the Bidders who qualified in the Mockup test only will be opened.
3. If the office happens to be closed on the dates specified above, the respective activity will be performed at the designated time on the next working day without any notification.
4. Any other details can be had from the Office of the Chief General Manager, HGCL.
5. The CGM, HGCL reserves the right to reject the tenders without assigning any reasons.
6. All the Bidders are requested to follow up the e-procurement website of Govt. of Telangana www.tender.telangana.gov.in for e-procurement procedure and for additional information, like addendums, and corrigenda etc. Any addendums and corrigenda etc. will also be published in HMDA website: www.hmda.gov.in and no paper publication will be issued.

Chief General Manager (Tech),
Hyderabad Growth Corridor Limited,
HGCL Office building, 2nd floor, Kajaguda road,
Adjacent to ORR, Nanakramguda-500104
Email:cgmhgcl@gmail.com

INSTRUCTIONS TO THE BIDDERS

INSTRUCTIONS TO BIDDERS

A – GENERAL

Name of work: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

Scope of work:

- 1.0 The **CHIEF GENERAL MANAGER (TECH), HYDERABAD GROWTH CORRIDOR LIMITED** here in after called "the Employer" invites Bids for the construction and completion of works (as defined in these documents, hereinafter referred to as "the Works") detailed in the table given in the instruction to bidders.
- A) The successful bidder will be expected to complete the works within 12 months from the date of commencement of the Works.
- B) The Works under this Contract shall be carried out in accordance with the bidding documents constituting the Contract and shall consist of:
Lighting design calculations shall be submitted for each typical road configuration for the entire proposed luminary using Dialux. Soft copy of photometry files to be submitted along with design calculation reports. Lux levels has to be submitted in grid distribution area and to meet the lux levels as per technical specifications mentioned in section-5(for each design luminary make, wattage ,lumen output, colour temperature and other luminary parameter has to be submitted along with technical bid).

SI. No	LOCATION	DESCRIPTION
1.	Service road from Nanakramguda to My home Avathar Rotary (inner side of ORR) – 2.20Km	The service road width is 16.0m without median for which street lighting is to be provided using existing/available removed 6.0 m pole with single arm bracket of 1.5m length on both sides of road opposite to each other with available existing removed luminaire led street lights @ 25.0 m spacing.
2.	Service road from My home Avathar Rotary to TSPA junction (inner side of ORR) – 6.5Km	The service road is designed with median of 1.0m and 7.5m width on both sides of median. The street lighting is provided using 9.0 m pole with twin bracket of 1.0m length with 2x 120-130 watt (not less than 16250 lumens) led street lights @ 30.0 m spacing on 1.0 m width median.
3.	Service road from Narsingi to Kollur junction (both sides of ORR) – 2X13.5Km	The service road is designed with median of 1.0m and 7.5m width on both sides of median. The street lighting is provided using 9.0 m pole with twin bracket of 1.0m length with 2x 120-130 watt (not less than 16250 lumens) led street lights @ 30.0 m spacing on 1.0 m width median.

- C) The successful bidder shall plan the work in such a manner that, the works of illumination on Main Carriageway, Junctions and Service roads are to be completed so as to put the illumination system in operation at the earliest.
- D) Availability of the Project Area: The Employer shall provide the right-of-way for road and bridge works and other appurtenant works to the Contractor. However, the Contractor shall have to make his own arrangements, at his own cost for the land required by him for site offices, stock yard, concrete batching plant, casting yard, testing laboratories, labour camps, other camps, etc.
- E) The successful bidder is required to complete the works within the period stipulated in IFB from the date of the Commencement of the Works.
- F) The Employer has engaged Deputy General Manager as “the Engineer” for the Project. The Chief General Manager (Tech) of HGCL will act as the Employer.
- a) ECV put to tender: **Rs. 9.46 Crores**
 - b) Period of completion : 3 Months.
 - c) SSR adopted: Common SSR of **2022-23**
 - d) Details of provisions included in the ECV put to tender.

1. Seigniorage charges : As per GO Ms. No. 67
2. Contract profit and Overheads : @ 13.615 %

- e) The rates mentioned in Schedule “A” are also inclusive of all overhead charges and include the following :
- i) Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.
 - ii) Office furniture, equipment and communications
 - iii) Expenditure on Corporate office of contractor
 - iv) Site supervision
 - v) Documentation and “as built” drawings
- Mobilization/ de-mobilization of resources
 - Labour camps with minimum amenities and transportation to work sites.
 - Light vehicles for site supervision including administrative and managerial requirements.
 - Laboratory equipment and quality control including field and laboratory testing.
 - T & P and survey instruments and setting outworks, including verification of line, dimensions, trial pits and bore holes, where required.
 - Watch and ward
 - Traffic management safety precaution during construction
 - Expenditure on safeguarding environment
 - Sundries
 - Financing Expenditure
 - Work Insurance/ compensation
 - Engaging of hydra with bucket.
 - Maintenance for five years

G) The Reimbursable amounts are as follows

GST will be paid as per the rules in vogue

The Chief General Manager, HGCL invites tenders for the above works vide

BID NOTICE No.181/CGM(T)/HGCL//DGM(Elec)/service road str.Lighting/2022-23, Dt:03-04-23

- 1.1 As per the directions issued by the Government in GO MS No.174 I&CAD (PW-REFORMS) dated 1.9.2008, submission of original hard copies of the uploaded scan copies of CHALLAN/BG towards EMD and other certificates/documents by participating bidders to the tender opening authority before opening of the price bid is dispensed with. **All the bidders shall invariably upload the scanned copies of CHALLAN/BG in e-procurement system will be the primary requirement to consider the bid as responsive. The Department shall carry out the technical bid evaluation solely based on the uploaded certificates/documents, CHALLAN/BG towards EMD and open the price bids of the responsive bidders.** The Department will notify the Successful bidder for submission of original hard copies of all uploaded documents, CHALLAN/BG towards EMD prior to entering into agreement.
- 1.2 The Successful bidder shall invariably furnish the original CHALLAN/BG towards EMD, Certificates/documents of the uploaded scanned copies of the tender inviting authority before entering into the agreement either personally or through courier or post and the receipt of the same within the stipulated date shall be the responsibility of the successful bidder. The Department will not take any responsibility for any delay in receipt/non-receipt of original CHALLAN/BG towards EMD, certificates/documents from the successful bidder before the stipulated time. On receipt of documents, the department shall ensure the genuinity of the CHALLAN/BG towards EMD and all other certificates/documents uploaded by the bidder in support of qualification criteria before concluding agreement.
- 1.3 If the successful bidder fails to submit the original hard copies towards EMD and other documents with in the stipulated time, the successful bidder will be suspended from participating in the tenders on e-procurement for a period of three years. The e-procurement system will deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the tender inviting authority and also criminal prosecution shall be invoked
- 1.4 The tenderers shall be required to furnish a declaration in online stating that the soft copies uploaded by them are genuine. Any incorrectness / deviations noticed will be viewed seriously and apart from cancelling the work duly forfeiting the EMD, Criminal action will be initiated including suspension of business.
- 1.5 The successful tenderer is expected to complete the work within the time period specified in the bid.

2. Firms Eligible to Tender:

2.1 The Firms who

- i) Possess the valid registration in the class and category mentioned in the BID and satisfy all the conditions therein.
- ii) Are not blacklisted or debarred or suspended by the Government for whatever the reason, prohibiting them not to continue in the contracting business.
- iii) Have complied with the eligibility criteria specified in the BID are the eligible tenderers.

2.2 Firms Ineligible to Tender:

- i) A retired officer of the Govt. of Telangana or Govt. of India executing works is disqualified from tendering for a period of two years from the date of retirement without the prior permission of the Government.
- ii) The Bidder who has employed any retired officer as mentioned above shall be considered as an ineligible bidder.
- iii) The contractor himself or any of his employees is found to be Gazetted Officer who retired from Government Service and had not obtained permission from the Government for accepting the contractor's employment within a period of 2 years from the date of his retirement.
- iv) The Contractor or any of his employees is found at any time after award of contract, to be such a person who had not obtained the permission of the Government as aforesaid before submission of the tender or engagement in the Contractor's service.
- v) Contractor shall not be eligible to tender for works in the division / circle where any of his near relatives are employed in the rank of Assistant Engineer or Assistant Executive Engineers and above on the Engineering side and Divisional Accounts Officer and above on the administrative side. The Contractor shall intimate the names of persons who are working with him in any capacity or are subsequently employed. He shall also furnish a list of Gazetted /Non-Gazetted, State Government Employees related to him. Failure to furnish such information bidder is liable to be removed from the list of approved contractors and his contract is liable for cancellation.

Note: Near relatives include

1. Sons, step sons, daughters, and stepdaughters.
2. Son-in-law and daughter-in-law.
3. Brother-in-law and sister-in-law.
4. Brothers and Sisters.
5. Father and Mother.
6. Wife / Husband.
7. Father-in-law and Mother-in-law
8. Nephews, nieces, uncle and aunts
9. Cousins and
10. Any person residing with or dependent on the contractor.

3. Qualification data of the Bidders:

The bidder shall furnish the following particulars online in the formats enclosed and supported by documentary evidence as specified, invariably in the same format. The documents shall be numbered in the same sequence as listed in the statement. The documents uploaded may be checked as per the check list accompany the tender.

Note: The Partnership firms, which are registered as Contractors shall intimate the change in partnership deed, if any, as per GO Ms No.58, I & CAD, Dated: 23-4-2002 within one month of such change. Failure to notify the change to the registration authority in time will entail the firms to forfeit their registration and their tender will be rejected. The intimation of change of partners if any and the acceptance by the Registration authority may be enclosed.

Qualification Criteria:

7. The Bidder should have satisfactorily executed the works as a prime Contractor/ Authorized Sub Contractor.

Note:

- a) *Single entity registered under G.O. Ms. No 94, I & CAD Dept. (PW COD) Dept.,Dt.1.7.2003 & GOMs No.66 I&CAD Dt.2-4-2015 Class I (Electrical) with Electrical A-Grade License or equivalent issued by Govt. of Telangana.*
- b) *The Bidders shall have to submit following documents (certified by Notary / attested by the Gazetted officer) along with technical bid.*
- c) *All Experience of Govt./Semi Govt./ Govt. under takings with in India only will be considered on production of work completion Certificate signed by an Engineer not below the rank of Executive Engineer counter signed by an officer not less than rank of Superintending Engineer. The certificate must clearly indicate (i) name of the work (II) the date of commencement of work (III) the date of completion of work (IV) Nature of*

work (V) that the work has been completed satisfactory. (VI) Contract value, billing amount. (VII) Performance of the contractor.)

- i) The bidders should possess **Class-I (Electrical)** with **A-Grade Licence (Electrical)** or equivalent issued by Govt. of Telangana.
- ii) Copy of GST Registration.
- iii) Copy of Permanent Account Number i.e. (PAN) Card.
- iv) Proof of payment of EMD.
- v) Copy of latest Income Tax returns i.e. FY 2021-22 submitted to IT Dept. along with proof of its submission
- vi) Liquid assets and/ or credit facilities of not less than **Rs.9.46 Crores** (credit facility/ letter of credits/ Solvency certificate certificates from banks etc).
- vii) Satisfactorily completed as a prime contractor/ authorized sub contractor in similar works of value not less than **Rs.18.91 crores** in any one year during the last 10 financial years i.e. **from 2013-2014 to 2022-2023 (up to submission of bid date)** (updated to current price level at the rate of 10% per year) Similar nature of work means the agreement/ work order should contain Supply, installation, testing & commissioning of external illumination or supply and laying of underground cables or operation & maintenance of street lighting works. For any project spreading over two or more financial years, the value of work will be considered on pro-rata basis. (As per Annexure -4).
- viii) **Minimum key quantities:**
The Minimum key quantities executed in any one financial year during last ten(10) financial years financial years **i.e. from 2013-2014 to 2022-2023 (up to submission of bid date)** shall be as follows (as per Annexure-5).

SI. No	Item	Qty
1	Supply installation testing & commissioning of (SITC) Electrical street light Poles (7.0 m & above height poles)	2600 Nos.
2	SITC Road Street lighting with LED/conventional luminaries (above 90W)	4840 Nos
3	SITC PVC insulated, PVC Sheathing / XLPE Underground cable (16Sqmm & above cable)	80.00 Km

- ix) Details of existing commitments i.e. work on hand and works for which tenders are submitted (value of B: shall be furnished by the bidders).

Note: Bid capacity computed by the formula (2 AN –B) shall be greater than the ECV.

Bid capacity: The bidder who meets the above qualification criteria and whose available bid capacity is more than the estimated contract value will be qualified for opening of price bid. The available bid capacity will be calculated as under:

Available bid capacity : 2AN-B.

Where,

A= Value of works executed in their name in any one financial years during the last ten(10) financial years i.e. **from 2013-2014 to 2022-2023 (up to submission of bid date)** (updated to current price level at the rate of 10% per year) taking into account the work completed as well as works in progress

OR

Annual turnover in works executed in any one financial year during the last ten years /(10) financial years i.e. **from 2013-2014 to 2022-2023 (up to submission of bid date)** (updated to current price level at the rate of 10% per year) certified by chartered accountant.

N= Number of years prescribed for completion of the work for which tenders are invited (months/12).

B= value of existing commitments and ongoing works to be completed during the period of completion of works tenders are invited.

Note:

The statement showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be issued by the Engineer-in-Charge of Govt. Dept./ undertaking not below the rank of executive Engineer or equivalent and countersigned by the rank of SE or equivalent. The statement to the above effect will be clearly enclosed to the bidding document, and the tenderer shall furnish the particulars invariably in the same format failing which the tender shall be treated as incomplete and summarily rejected.

- x) The bidders shall furnish a declaration to the effect that the required key equipment (as per the statement enclosed) is available with him or that he shall lease or hire the equipment. (as per Annexure-8).
- xi) The bidder should declare the availability of the experienced key personnel as per statement enclosed (Annexure -7) for execution of the work.
- xii) Information regarding any litigation with Government during the last five years, in which the bidder is involved (Litigation History) should be furnished. If there is no litigation history, a NIL report should be submitted. As per proforma (Annexure-9) enclosed.

- xiii) **Declaration on Genuineness of the certificates:** The bidder shall be required to furnish a declaration as per the statement enclosed Any incorrectness/ deviations noticed in the certificate will be viewed seriously and apart from cancelling the work (Annexure-10).
- xiv) Lighting design calculations shall be submitted for each typical road configuration for all the proposed luminaries using Dialux. (as per ANNEXURE-11). Soft copy of photometry files to be submitted along with design calculation reports. Lux levels have to be submitted in grid distribution area(for each design luminaries make, wattage ,lumen output, Color temperature and other luminaries parameter have to be submitted . as per ANNEXURE-11).

The application and all enclosures shall be signed by a duly authorized representative holding Power of Attorney for signing the application, and a certified copy of the Power of Attorney signed by the legally authorized representative of the firm shall accompany the application.

Note:

- a) The tenders will be opened online on the specified date by the Chief General Manager HGCL.
- b) The price-bids of such bidders who are determined to have complied with the eligibility criteria, will only be opened.

3.1 Joint venture/Consortium along with agreement as per annexure- 12 & 13: Deleted

Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements:

- a) There shall be a Joint Venture Agreement between the constituent firms specific for the contract packages for which the bids are submitted. The JV Agreement shall include among other things, the joint venture's objectives, the proposed management structure, the proposed distribution of responsibilities both financial as well as technical for execution of the work, the contribution of each partner to the joint venture operation, the commitment of the partners to joint and several liability for due performance, recourse/sanctions within the joint venture in the event of default or withdrawal of any partner and arrangements for providing the required indemnities.

- b) The most experienced partner(Lead Partner) of the Joint Venture will provide suitable experienced personnel for at least 3 (three) positions at site for the purpose of general planning, site management and plant operations, during the whole period of contract execution and a statement to this effect should be included in the Joint Venture Agreement.
- c) The bid, and in the case of the successful bidder, the Form of Agreement, shall be signed and / or executed in such a manner as may be required for making it legally binding on all partners (including operative parts of the ensuing Contract in respect of Arbitration Agreement etc.)
- d) The partner-in-charge shall be authorized to incur liabilities and to receive instructions for and on behalf of all partners of the Joint Venture and the entire execution of the Contract including payment shall be carried out exclusively through the partner-in-charge. A statement to this effect should be included in the joint venture agreement.
- e) All partners of the Joint Venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms, and a statement to this effect shall be included in the joint venture agreement.
- f) Bid Security as required can be furnished by any partner.
- g) The performance security of a joint venture shall be in the name of the joint venture only.
- h) Joint Venture Agreement shall contain a clause to the effect that there shall be a separate JV Bank Account (distinct from the Bank Accounts of the individual partners) to which the individual partner shall contribute their share capital and/or working capital.
- i) Joint Venture Agreement shall also contain a clause to the effect that the financial obligations of the JV shall

be discharged through the said JV Bank Account only and also all the payments received by the JV from the Employer shall be through that account alone

- j) In the event of any other partner leaving the JV, it shall be intimated to the Employer within 30 days by the other partner(s). Failure to do so shall be construed as default of the Contractor and the Employer may take action under **clause 61** of the condition of the contract
- k) In case the joint venture agreement is not acceptable to the Employer, the joint venture will modify the agreement so as to be acceptable to the Employer.
- l) The bid submitted shall include all information as required under the provisions of **Clause 5** and furnished separately for each partner
- m) Joint ventures must comply with the following requirements:
 - Subject to complying individual experience requirements mentioned in Clause 3 of Instructions to Bidder.
- n) **Even though the bidder meet the above qualifying criteria, they are liable to be disqualified / debarred / suspended / blacklisted if they have**
 - Furnished false / fabricated particulars in the forms, statements and / annexures submitted in proof of the qualification requirements and/or not turned up for entering into agreement, when called upon.
 - Record of poor progress such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc. and/or Participated in the previous bidding for the same work and had quoted unreasonably high tender percentage and even while execution of the work, if found that the work was awarded to the Contractor based on false / fake certificates of experience, the Contractor will be blacklisted and work will be taken over invoking clause 61 of PS to APSS.

- 3.2 Quality Control laboratory: Deleted.
- 3.3 Tenders up to 5 % Excess will be considered as per the G.O.Ms.No 230, Dt. 13-08-2007 and the tenders with an excess of above 5% of the estimated contract value will be rejected.
- 3.4 For tenders up to 25% less than the estimated contract value of work, no additional security deposit is required. But for tenders less than 25% of the estimated Contract Value of work, the difference between the tendered amount and 75% of the estimated contract value, shall be paid by the successful bidder at the time of concluding agreement as an additional security to fulfill the contract through a Bank Guarantee or Demand Draft on a **Nationalised/Schedule Bank** in the prescribed format valid till completion of the work in all respects
- 3.5 a) If the percentage quoted by a bidder is found to be either abnormally high or with in the permissible ceiling limits prescribed but under collusion or due to unethical practices adopted at the time of tendering process, such tenders shall be rejected.
- b) A bidder submitting a Tender which the tender accepting authority considers excessive and or indicative of insufficient knowledge of current prices or definite attempt of profiteering will render himself liable to be debarred permanently from tendering or for such period as the tender accepting authority may decide. The Tenderer overall percentage should be based on the controlled prices for the materials, if any, fixed by the Government or the reasonable prices permissible for the Tenderer to charge a private purchaser under the provisions of clause-6 of the hoarding and profiteering prevention ordinance of 1943 as amended from time to time and on similar principle in regard to labour supervision on the construction.
4. **One Tender per Tenderer:**

4.1 Each Tenderer shall submit only one Tender for the work. A Tenderer who submits more than one Tender will cause disqualification of all the Tenders submitted by the Tenderer.

5. Cost of Tendering

5.1 The bidder shall bear all costs associated with the preparation and submission of his Tender and the tender inviting authority will in no case be responsible and liable for those costs.

6. Site Visit.

6.1 The Tenderer, at the Tenderer's own responsibility and risk is advised to visit and examine the Site of Work and its surroundings and obtain all information that may be necessary for preparing the Tender for entering into a contract, for execution of the work. The costs of visiting the site shall be at the Tenderer's own expense.

B. TENDER DOCUMENT

7. Contents of Tender document.

7.1 One set of Tender document, comprises of the following:

Technical bid

- 1) BID
- 2) Instruction to Tenderers
- 3) Forms of Tender and qualification information
- 4) Conditions of Contract.
- 5) Specifications
- 6) List of approved makes
- 7) Drawings
- 8) Forms of Securities. i.e., EMD, Additional Security etc.

Price bid

Bill of Quantities and Price bid.

8. Clarification on Tender Documents

8.1 A prospective Bidder requiring any clarification on Tender documents may contact the Tender Inviting Officer at the address indicated in the BID. The Tender Inviting Officer will also respond to any request for clarification, received through post.

9. Amendment to Tender Documents

9.1 Before the last date for submission of Tenders, the Tender Inviting Officer may modify any of the Contents of the Tender Notice, Tender documents by issuing amendment / Addendum.

9.2 Any addendum/amendments issued by the Tender Inviting Officer shall be part of the Tender Document and it shall be kept in online.

9.3 To give prospective Tenderers reasonable time to take an addendum into account in preparing their bids, the Tender Inviting Officer may extend if necessary, the last date for submission of tenders.

C. PREPARATION OF TENDERS.

10. Language of the Tender.

10.1 All documents relating to the tender shall be in the English Language only.

11. Documents comprising of the Tender.

11.1 The bidder who so ever is submitting the tender on e-procurement platform shall invariably upload the scanned copy of the all documents as mentioned as well as submit the copy of the same in physical form as per the checklist and original EMD in the form of BG within 2 days from the date of submission of tender The Bidders shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity.

11.2 The technical bids will be opened on line by the Chief General Manager at the time and date as specified in the tender documents. All the statements, documents, certificates, proof of payment of EMD etc., uploaded by the Tenderers will be downloaded for technical evaluation. The clarifications, particulars if any required from the Bidders will be obtained in the conventional method by addressing the bidders. The technical bids will be evaluated against the specified parameters/criteria, same as in the case of conventional tenders and the technically qualified bidders will be identified. The result of technical bid evaluation will be displayed on the e market place, which can be seen by all the bidders who participated in the tenders. The technically qualified bidders will be allowed for mockup test. The price of bidders shall be opened online at the notified date of those who qualify in technical bid and mockup test.

12. Bid Offer:

12.1 Bill of Quantities called Schedule “A” and the bid offer accompanies the tender document as Volume-I. It shall be explicitly understood that the Tender Inviting Officer does not accept any responsibility for the correctness or completeness of this schedule ‘A’ and this schedule ‘A’ is liable to alterations by omissions, deductions or additions at the discretion of the Chief General Manager or as set forth in the conditions of the contract. The Schedule “A” shall contain the items of work indicated as part–I and LS provisions as part–II. The percentage quoted by the contractor shall be applicable only to part –I. However, the provisions contained in the part –II will be operable basing on the conditions provided in the Tender Document. The bidder will have to state clearly their willingness to execute the work at certain specific percentage of excess or less or at par of the ECV indicated in Part-I at the space provided therein in Schedule ‘A’. The bidder should quote his lump-sum tender based on this schedule of quantities. He should quote

his offer as an overall tender percentage. The overall tender percentage should be written both in words and figures. The bid offers i.e., percentage shall be written both in figures and words legibly and free from erasures, over writings or corrections of figures. Corrections where unavoidable should be made by crossing out, and rewriting duly initializing with date.

12.2 The Schedule –A (or Price-bid) contains not only the quantities but also the rates worked out by the Department and the amount for each item and total value of the estimated contract. The tenderer should workout his own rates keeping in view the work, site conditions and quote his overall tender percentage with which he intends to execute the work.

12.3 The bid offer shall be for the whole work and not for individual items / part of the work.

12.4 All duties, taxes, and other levies payable by the contractor as per State / Central Government rules, shall be included in the tender percentage quoted by the bidder.

12.5 The tendered contract amount as computed based on overall tender percentage is subject to variation during the performance of the Contract in accordance with variation in quantities etc.

12.6 Transaction fees payable to TSTS,

The service charges payable to **TSTS** at the time of submission of E-tender is as indicated below:

The participating bidders will pay transaction fee at 0.04% of ECV (Estimated Contract Value) + applicable GST on 0.04% of ECV

GST as levied by the Government of India on transaction fee if any, electronic payment gateway charges are to be borne by the bidders.

12.7 Charges payable to TSTS towards corpus fund:

The successful bidder will pay further fee at 0.04% of ECV (Estimated Contract Value) payable to Managing Director, TSTS. The ceiling amount of Corpus Fund for works costing ECV up to Rs. 50.00 Crore is Rs.10,000/-and for works costing ECV above Rs. 50.00 Crore is Rs.25,000/-to create a e-procurement corpus fund to be administered by TSTS.

The above fee is payable by the successful bidder through a DD drawn in favour of Managing Director, TSTS, Hyderabad at the time of conclusion of the agreement. The said DD shall be sent to Managing Director TSTS by the Chief General Manager who is entering into agreement with the successful bidder.

13. Validity of Tenders:

13.1 Tenders shall remain valid for a period of not less than **three months** from the last date for receipt of Tender specified in BID.

13.2 During the above mentioned period no plea by the Tenderer for any sort of modification of the tender based upon or arising out of any alleged misunderstanding of misconceptions or mistake or for any reason will be entertained.

13.3 In exceptional circumstances, prior to expiry of the original time limit, the Tender Inviting Officer may request the Bidders to extend the period of validity for a specified additional period. Such request to the Tenderers shall be made in writing. A Tenderer may refuse the request without forfeiting his E.M.D. A Tenderer agreeing to the request will not be permitted to modify his Tender, but will be required to extend the validity of his E.M.D. for the period of the extension.

14. Earnest Money Deposit (Bid Security):

14.1 The bidder shall furnish, Bid Security equivalent to 1% of ECV. A proof of payment of Bid Security is to be scanned and uploaded in e-procurement system along with the Bid and this will be the primary requirement to consider the bid as responsive. The performance security of the successful bidder, 10.00% of ECV / TCV whichever is higher, shall be paid at the time of concluding Agreement. This performance security is against performance security and retention money and can be in the form of B.G. or D.D.

14.2 The Bid Security of unsuccessful Bidders will be returned no sooner the tenders are finalized or end date of the Tender validity period whichever is earlier.

14.3 The 1% proof of payment of Bid Security paid by the successful bidders at the time of submission of Tender the Demand Draft will be discharged if the Tenderer furnishes performance security for the full 10.00% at the time of concluding agreement.

14.4 The performance security furnished by the successful tenderer will not carry any interest and it will be dealt with as provided in the conditions stipulated in the tender. The performance security shall **furnished and it shall be valid for the duration of warranty period for Seven (7) years and in case any valid extension of contract period is granted, the validity of BGs shall also be extended for the corresponding period.** The

Bank Guarantee on **Nationalized/Schedule Bank** furnished by the Tenderer towards additional security amount shall be valid till the work is completed in all respects.

- 14.5 The Bid Security shall be forfeited.
- (a) If the Tenderer withdraws the Tender during the validity period of Tender.
 - (b) In the case of a successful Tenderer, if he fails to sign the Agreement for whatever the reason.
- 14.6 In consideration of the Chief General Manager HGCL, Tender committee undertaking to investigate and to take into account each tender and in consideration of the work thereby involved, all Earnest Money deposited by the Tenderer will be forfeited to HGCL in the event of such tenderer either modifying or with-drawing his tender at his instance within the said validity period of three months.
- 15. Signing of Tenders.**
- 15.1 If the tender is made by an individual, it shall be signed with his full name and his address shall be given. If it is made by a firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, and the name and address of each member of the firm shall be given, if the tender is made by a corporation it shall be signed by a duly authorized officer who shall produce with his tender satisfactory evidence of his authorization. Such tendering corporation may be required before the contract is executed, to furnish evidence of its corporate existence. **Tenders signed on behalf of G.P.A. holder will be rejected.**
- 15.2 The Tender shall contain no alterations or additions, except those to comply with instructions issued by the Tender Inviting Officer, or as necessary to correct errors made by the Tenderer, in which case all such corrections shall be initialed by the person signing the Tender.
- 15.3 No alteration which is made by the Tenderer in the contract form, the conditions of the contract, the drawings, specifications or statements / formats or quantities accompanying the same will be recognized; and, if any such alterations are made the tender will be void.

D. SUBMISSION OF TENDERS.

16. Submission of Tenders:

16.1 The bidders who desire to participate in e-procurement should upload the scanned copies in the prescribed formats of tender documents, in support of eligibility in the prescribed formats of tender documents, in support of eligibility for opening of their price bid, as mentioned in the clause 25. The bidders shall sign on all the statements, documents, certificates which are uploaded by them owing responsibility for their correctness / authenticity. The documents uploaded online will only be considered for evaluation as per G.O.Ms.No.174, Irrigation & CAD (PW-Reforms) Department, Dated 01.09.2008.

16.2 The Department will not hold any risk and responsibility for the loss in transit during uploading of the scanned document, for the invisibility of the scanned document online, and any other problem(s) encountered by the Tenderers while submitting his bids online.

Related certificates, documents etc., duly attested are to be scanned and uploaded on to the 'e' procurement platform at www.tender.telangana.gov.in in support of items mentioned in the document.

16.3 The Tenderer shall invariably ensure that all the documents pertaining to the qualification criteria should be uploaded and furnished on e-procurement platform.

16.4 Any other condition regarding receipt of tenders in conventional method appearing in Tender document may be treated as Non-applicable.

17. Last date / time for Submission of the Tenders.

17.1 Tenders must be submitted on line not later than the date and time specified in BID.

17.2 The Chief General Manager may extend the dates for issue and receipt of Tenders by issuing an amendment in which case all rights and obligations of the Chief General Manager and the Tenderers will remain same as previously.

18. Late Tenders.

- 18.1 Any Tender received after the last date / time prescribed in BID will be summarily rejected.

19. Modification to the Tender.

- 19.1 No Tender shall be modified after the last date /time of submission of Tenders.

E) TENDER OPENING AND EVALUATION

20. Tender opening

- 20.1 The Technical bids will be opened online by the Cheif General Manager, HGCL at the time and date as specified in the tender documents. All the Statements, documents, certificates, Demand Draft / Bank Guarantee etc., uploaded by the Tenderers will be verified and downloaded, for technical evaluation. The clarifications, particulars, if any, required from the bidders, will be obtained eitgher online or in the conventional method by addressing the bidders. The technical bids will be evaluated against the specified parameters / criteria same as in the case of conventional tenders and the technically qualified bidders will be identified. The result of Technical bids evaluation will be displayed on the ‘e’ market place, which can be seen by all the Tenderers who participated in the Tenders.

The department shall carry out the technical bid evaluation solely based on the uploaded certificates/documents, DD/BG towards EMD in the e-procurement system. Those who qualify in technical will be allowed for mockup test and open the price bids of the responsive bidders those who pass the mockup test only.

- 20.2 DELETED

- 20.3 DELETED.

21. Clarification on the Technical Bid.

- 21.1 The tender opening authority may call upon any Tenderer for clarification on the statements, documentary proof relating to the technical bid. The request for clarification and response thereto shall be in writing and it shall be only on the qualification information furnished by the Tenderer. The clarification called for from the Tenderers shall be furnished within the stipulated time, which shall not be more than a week.

21.2 The Tenderer if so desirous, shall agree in writing to furnish the clarification called for within the stipulated time and, for disqualification and rejection of his tender in the event of failure to do so.

22. Examination of technical Bids and Determination of Responsiveness

22.1 The Chief General Manager will evaluate whether each Tenderer is satisfying the eligibility criteria prescribed in the tender document and declares them as a qualified Tenderer.

22.2 If the Technical Bid of a Tenderer is not satisfying any of the eligibility criteria it will be rejected by the Chief General Manager. However, the tender accepting authority detects any error in the evaluation of Tenders by the tender accepting authority while returning the tenders may direct the Chief General Manager, to re-evaluate the tenders.

22.3 If any alteration is made by the Tenderer in the tender documents, the conditions of the contract, the drawings, specifications or statements / formats or quantities the tender will be rejected.

22.4 The technical bid of such bidders, who are determined to have complied with the eligibility criteria, and approved by the Tender Committee of HGCL will be intimated to conduct the mockup test.

22.5 **Mockup Test:** The Bidder is required to supply 10 Nos. light fixtures (wattage not more than 130 watts and lumen output not less than 16250 lumens along with test reports from CPRI/ NABL Lab for electrical & photometric parameters) as per proposed design along with the other accessories of light fixtures / luminaries of specified types as per submitted design and specifications mentioned in the tender. Out of which 2 nos. randomly selected for testing at CPRI/ (NABL) lab for luminar parameters & these two luminaries will not be returned. The test parameter should met with tender specifications, Supply & fixing of poles and light fixtures etc., for the mockup shall be done with 4 nos. poles with 30 meters spacing and 8 Nos. light fixtures on the existing 4 lane ORR service road of width 7.5m/7.5m location shown by the HGCL. The mock up shall meet the requirements of average 25 Lux (with MF 0.85), transverse uniformity $E_{min}/E_{max} \geq 0.33$, $E_{min}/E_{avg} \geq 0.4$, longitudinal uniformity ($E_{min}/E_{max} \geq 0.7$) on 4 lane service road for road width of 7.5Mtrs/7.5m with median 1.0m. The Bidder shall depute representative having complete knowledge to explain their product in detail. Bidder shall organize & bear all cost of providing samples material, illumination arrangement power generator, transport, loading, unloading, security, etc. for the mockup. Mockup will be evaluated by a committee, nominated by HGCL. If required modifications will be suggested and an

undertaking to agree to the modifications without any financial implications will be taken from the Bidder. However, in case of major changes, if any in the work or if HGCL feels that some modifications need to be done to create a level playing field, a revision in the price bid could be allowed only at the discretion of HGCL. Those who qualify in the mockup as above shall be invited for the opening of financial bid. The cost of mockup shall be borne by the bidder". To avoid delay, the bidder should get ready with all arrangements to carryout MOCKUP test at any time within 7 days from the date of intimation letter.

The bidder shall supply the proposed materials /equipments required for mockup test and lab test for all items specified in the mockup test criteria and the equipment shall be supplied.

23. Price Bid Opening:

23.1 At the specified date and time, the price bids of all the technically qualified bidders who pass the mockup test will be opened online by the Chief General Manager and the result will be displayed on the 'e' market place which can be seen by all the bidders who participated in the Tenders.

23.2.1 The price bids of qualified Tenderers whose technical bids are found satisfying the eligibility criteria and who passed the Mock-up test shall be considered for opening in the presence of representatives of the qualified bidders.

23.2.2 Deleted

23.3 Deleted.

23.4 Tenders shall be scrutinized in accordance with the conditions stipulated in the Tender document. In case of any discrepancy of non-adherence conditions the Tender accepting authority shall communicate the same which will be the binding both on the tender opening authority and the Tenderer. In case of any ambiguity, the decision taken by the Tender Accepting Authority on tenders shall be final.

24. Evaluation and Comparison of Price Bids

24.1 The Chief General Manager will evaluate and compare the price bids of all the qualified Tenderers.

24.2 Negotiations at any level are strictly prohibited. However, good gesture rebate, if offered by the lowest Tenderer prior to finalization of tenders may be accepted by the tender accepting authority.

24.3 Selection of Tenderer among the lowest & equally quoted tenderers will be in the following orders:

- a) The Tenderer whose bid capacity is higher will be selected.
- b) In case the bid capacity is also same the Tenderer whose annual turnover is more will be preferred.
- c) Even if the criteria incidentally become the same, the turnover on similar works and thereafter machinery available for the work and then the clean track record will be considered for selection.

25. Discrepancy in Tender percentage quoted.

25.1 In case of any discrepancy between the overall tender percentage quoted in words and figures, the percentage quoted in words shall prevail. In case the Tenderer has quoted overall tender percentage only in words and not in figures or vice versa, such tender shall be treated as incomplete and rejected.

26. Process to be Confidential.

26.1 Information relating to the examination, clarification, evaluation and comparison of Tenders and recommendations for the award of a contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced by the tender accepting authority. Any effort by a Tenderer to influence the processing of Tenders or award decisions may result in the rejection of his Tender.

26.2 No Tenderer shall contact the Chief General Manager or any authority concerned with finalization of tenders on any matter relating to its Tender from the time of the Tender opening to the time the Contract is awarded. If the Tenderer wishes to bring additional information to the notice of the Chief General Manager, it should do so in writing.

26.3 Before recommending / accepting the tender, the tender recommending / accepting authority shall verify the correctness of certificates submitted to meet the eligibility criteria and specifically experience. The authenticated agreements of previous works executed by the lowest Tenderer shall be called for.

- 26.4 Tenders will be finalized by the Executive Engineers / General Managers / Chief General Managers for the works costing up to Rs.2 Crores. The tenders for the works costing more than Rs.2 Crore will be referred to HGCL Tender Committee along with Technical Bid evaluation for consideration. The Committee of tenders shall scrutinize the tenders submitted by Engineer-in-Chief / Chief General Manager / Project administrators in accordance with the conditions stipulated in the Tender Document and in case any discrepancy of non-adherence to the conditions, the same shall be communicated which will be binding both on the tender concluding authority and contractor. In case of any ambiguity the decision taken by the HGCL Tender Committee on tenders shall be final.

F. AWARD OF CONTRACT

27. Award Criteria

- 27.1 The Chief General Manager will award or recommend to the competent tender accepting authority for award of the contract to the Tenderer who is found qualified technically and in Mockup test as per the Tender conditions and whose price bid is lowest.
- 27.2 The tender accepting authority reserves the right to accept or reject any Tender or all tenders and to cancel the Tendering process, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the reasons for such action.
- 27.3. The tenders are invited in 4 Packages. The bidders are free to participate in all the tenders but only two works will be awarded to each bidder on becoming L1 subject to the availability of his bid capacity.
- 27.4 The price bids shall be opened randomly by taking up lottery for the 4 packages. After opening of the first package, the bid capacity of the L1 bidder for the 2nd work shall be evaluated and considered. If the L1 bidder satisfies the bid capacity by evaluating with the ECV of the 2nd package then it shall be considered for opening of the price bid of the 2nd bid ,if not his financial bid will not opened and similar criteria shall be followed for all packages.

28. Notification of Award and Signing of Agreement.

28.1 The Tenderer whose Tender has been accepted will be notified of the award of the work by the Chief General Manager, prior to expiration of the Tender validity period by registered letter.

This letter (hereinafter and in the Conditions of Contract called “Letter of Acceptance”) will indicate the sum that the Government will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the “Contract Amount”).

28.2 When a tender is to be accepted the concerned Tenderer shall attend the office of the Chief General Manager concerned on the date fixed in the Letter of acceptance. Upon intimation being given by the Chief General Manager, of acceptance of his tender, the Tenderers shall make payment of the balance E.M.D., and additional security deposit wherever needed by way of Demand Draft or unconditional and irrevocable Bank Guarantee obtained from a **Nationalized/Schedule Bank**, and sign an agreement in the form prescribed by the department for the due fulfillment of the contract. Failure to attend the Chief General Manager’s office on the date fixed, in the written intimation, to enter into the required agreement shall entail forfeiture of the Earnest Money deposited.

28.3 The written agreement to be entered into between the contractor and the Government shall be the foundation of the rights and obligations of both the parties and the contract shall not be deemed to be complete until the agreement has first been signed by the contractor and then by the proper officer authorized to enter into contract on behalf of the Government.

28.4 The successful Tenderer has to sign an agreement within a period of 15 days from the date of receipt of communication of acceptance of his tender. On failure to do so his tender will be cancelled duly forfeiting the E.M.D., paid by him without issuing any further notice and action will be initiated for black listing the Tenderer.

29. Corrupt or Fraudulent Practices

29.1 The Government requires that the bidders / suppliers / contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Government

- (a) define for the purposes of the provision, the terms set forth below as follows:
 - (i) “corrupt practices” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a Government official in procurement process or in contract execution: and
 - (ii) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Government and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish in Tender prices at artificial non-competitive levels and to deprive the Government of the benefits of free and open competition.
- (b) Will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- (c) Will blacklist / or debar a firm, either indefinitely or for a stated period of time, if at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a Government Contract.
- (d) Further more, Tenderers shall be aware of the provisions stated in the General Conditions of Contract.

**FORMS OF TENDER
&
CHECK LIST FOR QUALIFICATION CRITERIA**

CHECK LIST FOR QUALIFICATION CRITERIA

Annexure –I

CHECKLIST TO ACOMPANY THE TENDER

Note: The bidder shall furnish the following particulars online in the formats enclosed and supported by documentary evidence as specified, invariably in the same format. The documents shall be numbered in the same sequence as listed in the statement. The documents uploaded may be checked as per the check list accompany the tender. The bidder has to check in which financial year he is meeting qualification criteria and mention on the top of the proforma and enclose the related experience certificates only.

S.No	Description	Submitted in Cover 'A'	Page No. (see Note below)
1	The bidders should possess Class-I (Electrical) with A-Grade Licence (Electrical) or equivalent issued by Govt. of Telangana	Yes / No	
2	Copy of GST Registration.	Yes / No	
3	Copy of Permanent Account Number i.e. (PAN) Card.	Yes / No	
4	proof of payment of EMD	Yes / No	
5	Copy of latest Income Tax returns i.e. FY 2021-22 submitted to IT Dept. along with proof of its submission.	Yes / No	
6	Proof of liquid assets in the shape of Solvency certificates etc., for the required amount.	Yes / No	
7	A copy of experience certificate issued by competent authority duly Satisfactorily completed as a prime contractor/ authorized sub contractor in similar works of value not less than Rs.18.91 crores in any one year during the last 10 financial years i.e. from 2013-2014 to 2022-23 (up to submission of bid date) (updated to current price level at the rate of 10% per year) Similar nature of work means the agreement/ work order should contain Supply, installation, testing & commissioning of external illumination or supply and laying of underground cables or operation & maintenance of street lighting or erection of Transformers, panels and electrical line works. For any project spreading over two or more financial years, the value of work will be considered on pro-rata basis. (As per Annexure -4).	Yes / No	

8	Minimum key quantities: The Minimum key quantities executed in any one financial year during last ten(10) financial years financial years i.e. from 2013-2014 to 2022-23 shall be (as per annexure-5) with supporting certificates	Yes / No	
9	Details of maximum value of works executed in their name taking into account the work completed as well as works in progress in any one year during the last 10 financial years i.e. from 2013-2014 to 2022-23 with supporting certificates (updated to current price level at the rate of 10% per year) (value of 'A' for Bid capacity calculation) (as per annexure-6)	Yes / No	
10	Details of existing commitments i.e., work on hand with Supporting Certificates .(value of 'B' for Bid capacity calculation)	Yes / No	
11	Bid capacity calculation sheet (2AN-B)	Yes / No	
12	Declaration on availability of Key equipment as per proforma (as per annexure-8)	Yes / No	
13	Declaration on availability of Key personnel as per proforma (as per annexure-7)	Yes / No	
14	Declaration on Litigation history as per proforma (as per annexure-9).	Yes / No	
15	Declaration towards genuineness of the certificates as per proforma. (as per annexure-10).	Yes / No	
16	Lighting design calculations shall be submitted for each typical road configuration for all the proposed luminaires using Dialux.(as per annexure -11).	Yes / No	

Note:

1. The information shall be filled-in by the Tenderer in the checklist and the declarations shall be enclosed to the Technical bid for the purposes of verification as well as evaluation of the Tenderer's Compliance to the qualification criteria as provided in the Tender document. All the Certificates, documents, statements / declarations as per checklist shall be uploaded .

DECLARATIONS & ANNEXURES

ANNEXURE- 4

➤ **PQ year is financial year at which bidder meeting qualification criteria FY-**

Sl.No.	Name of Customer	Name of the work	Gross Value of agreement, Date & Number	Gross Value of Work Done (in Rs.)	Work Start Date	Work Completion Date	Completion Years	FY for PQ	Years for PQ	Project Value at PQ FY	Project Value at current level i.e FY 2022-23
1	2	3	4	5	6	7	8=7-6	9	10	11=5/8*10	12=11*2.35
Model calculation											
1	PWD -Delhi			444117916	26.03.2013	23.09.2015	2.50	2013-14	1.00	177,647,166	417470840.10

Year before FY 2022-23	Multiplying Factor
One : FY 2021-22	1.10
Two : FY 2020-21	1.21
Three : FY 2019-20	1.33
Four : FY 2018-19	1.46
Five : FY 2017-18	1.61
Six : FY 2016-17	1.77
Seven : FY 2015-16	1.95
Eight : FY 2014-15	2.14
Nine : FY 2013-14	2.35

ANNEXURE- 5

Name of the bidder										Total Qty			For 1 FY 2013-2014		
Sl. No.	Name of Customer	Name of the work	Gross Value of agreement, Date & Number	Gross Value of Work Done	Start Date	Completion Date	Completion Years	FY for PQ	Years for PQ	Poles	LED luminaries	SITC of UG cable(km)	Poles	LED luminaries	SITC of UG cable
1	2	3	4	5	6	7	8	9	10	11	12	13	14= 11/8*10	15= 12*8/10	16= 13/8*10
Model Calculation															
1	PWD -Delhi			444117916	26.03.2013	23.09.2015	2.50	2013-14	1.00	3800	7289	185	1520	2916	74

ANNEXURE- 6

Sl.No.	Name of Customer	Name of the work	Gross Value of agreement, Date & Number	Gross Value of Work Done (in Rs.)	Work Start Date	Work Completion Date	Completion Years	FY for PQ	Years for PQ	Project Value at PQ FY	Project Value at current level i.e FY 2022-23
1	2	3	4	5	6	7	8=7-6	9	10	11=5/8*10	12=11*2.35
Model Calculation											
1	PWD -Delhi			444117916	26.03.2013	23.09.2015	2.50	2013-14	1.00	177,647,166	417470840.10

ANNEXURE- 7
KEY PERSONNEL

I / We _____ declare that the following essential key personnel required for the project during Design, Supply, Installation, Testing, Commissioning, of illumination available /hired with me as notes against each:

S. No	Key Personnel	Qualifying	Experience	No. of Persons required
1	Project Manager	B.E. (Elect.) or Equivalent	Min. 5 years as Project Manager	1
2	Site Engineer-1	B.E/ Dipoma (Elect.)/ or Equivalent	Min 3 years	1
3	Site Engineer-2	B.E./ Diploma (Civil.) or Equivalent	Min 3 years	1
4	Accident prevention Officer	Any Graduate	5 years relevant experience	1

Skilled workers and operators Minimum 5% shall have obtained certificate of proficiency from any institute.

Signature of the Tenderer

ANNEXURE-8

DECLARATION ON KEY EQUIPMENT

I / We _____ declare that the following equipment is owned or leased/hired by me as notes against each:

S.No.	Equipment Type and Characteristics	Capacity	Minimum No. Required.	Owned	Leased/Hired
1	Bucket elevator	Not less than 13.0 Mtr Height	1Nos.		
2	Escort	5 tons	1Nos.		
3	Tractors with trailer	-	1Nos.		

Signature of the Tenderer

ANNEXURE-9

INFORMATION ON LITIGATION HISTORY

S. No	Case No. / Year	Court where filed.	Subject Matter / Prayer in the case.	Respondent's i.e., SE / CE	Present Stage.
1	2	3	4	5	6

Note: A **NIL** report should be furnished if there is no litigation history

Signature of the Tenderer

ANNEXURE-10
DECLARATION ON GENUINENESS OF THE
CERTIFICATES

I / We have gone through carefully all the Tender conditions and solemnly declare that I / we will abide by any penal action such as disqualification or black listing or determination of contract or any other action deemed fit, taken by, the Department against us, if it is found that the statements, documents, certificates produced by us are false / fabricated. I / We hereby declare that, I / We have not been blacklisted / debarred / Suspended / demoted in any department in Telangana state or in any State due to any reasons.

Signature of the Tenderer

ANNEXURE-11

Lighting design calculations shall be submitted for each typical road configuration for the entire proposed luminary using Dialux. Soft copy of photometry files to be submitted along with design calculation reports. Lux levels has to be submitted in grid distribution area and to meet the lux levels as per technical specifications mentioned in section-5(for each design luminary make, wattage ,lumen output, colour temperature and other luminary parameter has to be submitted along with technical bid).

SI. No	LOCATION	DESCRIPTION
1.	Service road from Nanakramguda to My home Avathar Rotary (inner side of ORR) – 2.20Km	The service road width is 16.0m without median for which street lighting is to be provided using existing/available removed 6.0 m pole with single arm bracket of 1.5m length on both sides of road opposite to each other with available existing removed luminaire led street lights @ 25.0 m spacing.
2.	Service road from My home Avathar Rotary to TSPA junction (inner side of ORR) – 6.5Km	The service road is designed with median of 1.0m and 7.5m width on both sides of median. The street lighting is provided using 9.0 m pole with twin bracket of 1.0m length with 2x 120-130 watt (not less than 16250 lumens) led street lights @ 30.0 m spacing on 1.0 m width median.
3.	Service road from Narsingi to Kollur junction (both sides of ORR) – 2X13.5Km	The service road is designed with median of 1.0m and 7.5m width on both sides of median. The street lighting is provided using 9.0 m pole with twin bracket of 1.0m length with 2x 120-130 watt (not less than 16250 lumens) led street lights @ 30.0 m spacing on 1.0 m width median.

CONDITIONS OF CONTRACT

TENDER

Date:

To

The Chief General Manager,
HGCL.

Sir,

I / We do hereby tender and if this tender be accepted, under take to execute the following work
Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur as shown in the drawings and described in the specifications deposited in the office of the Chief General Manager, HGCL Hyderabad with such variations by way of alterations or additions to, and omissions from the said works and method of payment as provided for in the “conditions of the contract” for the sum of Rupees. **9,45,67,819.00 (Rupees Nine Crores and Forty Five Lakhs Sixty Seven Thousand Eight hundred and Nineteen only/-)** or such other sum as may be arrived under the clause of the standard preliminary specifications relating to “Payment on lump-sum basis or by final measurement at unit rates”

I/WE have also quoted percentage excess or less on E.C.V., in Schedule ‘A’ Part-I, annexed (in words and figures) for which I/We agree to execute the work when the lumpsum payment under the terms of the agreement is varied by payment on measurement quantities.

I/WE have quoted Percentage excess or less on E.C.V., in Schedule ‘A’ Part – I both in words & figures. In case of any discrepancy between the Percentage excess or less on E.C.V., in words and figures, the rates quoted words only shall prevail.

I/WE agreed to keep the offer in this tender valid a period of Three month(s) mentioned in the tender notice and not to modify the whole or any part of it for any reason within above period. If the tender is withdrawn by me/us for any reasons whatsoever, the earnest money paid by me/us will be forfeited to Government

I/WE hereby distinctly and expressly, declare and acknowledge that, before the submission of my/our tender I/We have carefully followed the instructions in the tender notice and have read the A.P.S.S. and the preliminary specifications therein and the A.P.S.S. addenda volume and that I/We have made such examination of the contract documents and the plans, specifications and quantities and of the location where the said work is to be done, and such investigation of the work required to be done, and in regard to the material required to be furnished as to enable me/us to thoroughly understand the intention of same and the requirements, covenants, agreements, stipulations and restrictions contained in the contract, and in the said plans and specifications and distinctly agree that I/We will not hereafter make any claim or demand upon the Government based upon or arising out of any alleged misunderstanding or misconception /or mistake on my/or our part of the said requirement, covenants, agreements, stipulations, restrictions and conditions.

I/WE shall not assign the contractor or sublet any portion of the same except the conditions in clause 5.1 of conditions of contract – General - A. In case if it becomes necessary such subletting with the permission of the Chief General Manager, HGCL shall be limited to (1) Labour contract, (2) Material contract, (3) Transport contract and (4) Engaging specialists for special item of work enjoined in A.P.S.S.

IF MY/OUR tender is not accepted the sum shall be returned to me/us on application when intimation is sent to me/us of rejection or at the expiration of three months from last date of receipt of this tender, whichever is earlier. If my/our tender is accepted the earnest money shall be retained by the Government as security for the due fulfillment of this contract. If upon written intimation to me/us by the Chief Engineer's Office, I/We fail to attend the said office on the date herein fixed or if upon intimation being given to me/us by the Chief Engineer or acceptance of my/our tender, and if I/We fail to make the additional security deposit or to enter into the required agreement as defined in condition-3.5 of the tender notice, then I/We agree the forfeiture of the earnest money.

Any notice required to be served on me/us here under shall be sufficiently served on me/us if delivered to me/us hereunder shall be sufficiently served on me/us if delivered to me/us personally or forwarded to me/us by post to (registered or ordinary) or left at my/our address given herein. Such notice shall if sent by post be deemed to have been served on me/us at the time when in due course of post it would be delivered at the address to which it is sent.

I/WE fully understand that the written agreement to be entered into between me/us and Government shall be the foundation of the rights of the both the parties and the contract shall not be deemed to be complete until the agreement has first been signed by me/us and then by the proper officer authorised to enter into contract on behalf of Government.

I/We agree to pay transaction fee @ 0.03% of ECV (Estimated Contract value) + applicable GST over transaction fee for all works, at the time of bid submission electronically. For tenders wherever ECV is not available, i.e., for goods and services, the transaction fee shall be calculated on quoted value.

I/We agree to pay GST as levied by the GOI on transaction fee if any, electronic payment gateway charges.

I/WE will employ the following technical staff for supervising the work as per declaration and will see that one of them is always at site during working hours, personally checking all items of works and pay extra attention to such works as required special attention (eg) Reinforced concrete work.

I / WE declare that I/WE agree to recover the salaries of the technical staff actually engaged on the work by the department, from the work bills, if I/We fail to employ technical staff as per the tender condition.

TENDERERS / CONTRACTOR'S CERTIFICATE.

- (1) I/WE hereby declare that I/We have perused in detail and examined closely the Andhra Pradesh Standard Specifications, all clauses of the preliminary specifications with all amendments and have either examined all the standards specifications or will examine all the standard specifications for items for which I/We tender, before I/We submit such tender and agree to be bound and comply with all such specifications for this agreement which I/We execute in the Irrigation & Command Area Development Department.
- (2) I/WE certify that I/We have inspected the site of the work before quoting my Percentage excess or less on ECV, I /We have satisfied about the quality, availability and transport facilities for stones sand and other materials.

- (3) I/WE am/are prepared to furnish detailed data in support of all my quoted rates, if and when called upon to do so without any reservations.
- (4) I/WE hereby declare that I/We will pay an additional security deposit in terms of conditions 3.6 of Instructions to Tenderers
- (5) I/WE hereby declare that I am/we are accepting to reject my tender in terms of condition 3.7 of instructions to Tenderers
- (6) I/WE hereby declare that I am/We are accepting for the defect liability period as 24 months
- (7) I/WE declare that I/WE will procure the required construction materials including earth and use for the work after approval of the Engineer-in-Charge. The responsibility for arranging and obtaining the land for borrowing or exploitation in any other way shall rest with me/us for the materials for construction, I/WE shall ensure smooth and un-interrupted supply of materials.
 - a) I/WE declare that the responsibility for arranging and obtaining the land for disposal of spoil/soil not useful for construction purposes shall rest with me/us.
 - b) I/WE declare that I/WE shall not claim any compensation or any payment for the land so arranged for disposal of soil and the land for borrow area. My/our quoted percentage excess or less ECV., are inclusive of the land so arranged and I/We will hand over the land so arranged for disposal of soil to; the department after completion of work.
 - c) I/WE declare that I/WE will not claim any extra amount towards any material used for the work other than the quoted works for respective schedule 'A' items.
- (8) I/WE declare that I/WE will execute the work as per the mile stone programme, and if I/WE fail to complete the work as per the mile stone programme I abide by the condition to recover liquidated damages as per the tender conditions.
- (9) I/WE declare that I/WE will abide for settlement of disputes as per the tender conditions.

DECLARATION OF THE TENDERER.

- 1) I/WE have not been black listed in any department in Andhra Pradesh due to any reasons.
- 2) I/WE have not been demoted to the next lower category for not filing the tenders after buying the tender schedules in a whole year and my/our registration has not been cancelled for a similar default in two consecutive years.
- 3) I/WE agree to disqualify me/us for any wrong declaration in respect of the above and to summarily reject my/our tender.

Address of the Tenderer :

Phone No.:

Fax No.:

CONTRACTOR.

Note: If the tender is made by an individual, it shall be signed with his full name and his address shall be given. If it is made by a firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, and the name and address of each member of the firm shall be given, if the tender is made by a corporation it shall be signed by a duly authorized officer who shall produce with his tender satisfactory evidence of his authorization. Such tendering corporation may be required before the contract is executed, to furnish evidence of its corporate existence. **Tenders signed on behalf of G.P.A. holder will be rejected**

CONDITIONS OF CONTRACT

A. GENERAL

1. Interpretation:

- In interpreting these Conditions of Contract, singular also means plural, male also means female, and vice-versa. Headings have no significance. Works have their normal meaning under the language of the contract unless specifically defined. The Engineers-in-charge will provide instructions clarifying queries about the conditions of Contract.

- The documents forming the Contract shall be interpreted in the following order of priority:
 - 1) BID
 - 2) Instruction to Tenderers
 - 3) Forms of Tender and qualification information
 - 4) Conditions of Contract.
 - 5) Specifications
 - 6) List of approved makes
 - 7) Drawings
 - 8) Forms of Securities. i.e., EMD, Additional Security etc.
 - 9) Bill of quantities (Price-bid)
 - 10) Any other document listed as forming part of the Contract.

2. Engineer-in-Charge's Decisions:

- 2.1 Except where otherwise specifically stated, the Engineer-in-charge will decide the contractual matters between the Department and the contractor in the role representing the Department.

3. Delegation:

- 3.1 The Engineer-in-charge may delegate any of his duties and responsibilities to other officers and may cancel any delegation by an official order issued.

4. Communications:

- 4.1 Communications between parties, which are referred to in the conditions, are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act)

5. Sub-contracting:

- If the prime contractor desires to sub-let a part of the work, he should submit the same at the time of filing tenders itself or during execution, giving the name of the proposed Sub-contractor, along with details of his qualification and experience. The Tender Accepting Authority should verify the experience of the Sub-contractor and if the Sub-contractor satisfies the qualification criteria in proportion to the value of work proposed to be sub-let, he may permit the same. The total value of works to be awarded on sub-letting shall not exceed 50% of contract value. The extent of subletting shall be added to the experience of the sub-contractor and to that extent deducted from that of the main contractor.

6. Other Contractors:

- 6.1 The Contractor shall cooperate and share the Site with other contractors, Public authorities, utilities, and the Department. The Contractor shall also provide facilities and services for them as directed by the Engineer-in-charge.

7. Personnel:

- The Contractor shall employ the required Key Personnel named in the Schedule of Key Personnel to carry out the functions stated in the Schedule or other personnel approved by the Engineer-in-charge. The Engineer-in-charge will approve any proposed replacement of Key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- Failure to employ the required technical personnel as per agreement by the contractor, amount will be recovered from the contractors bills towards technical personnel as per SSR 2019-2020.
- The technical personnel should be on full time and available at site whenever required by Engineer in Charge to take instructions.
- The names of the technical personnel to be employed by the contractor should be furnished in the statement enclosed separately.
- In case the contractor is already having more than one work on hand and has undertaken more than one work at the same time, he should employ separate technical personnel on each work.
- If the contractor fails to employ technical personnel the work will be suspended or department will engage a technical personnel and recover the cost thereof from the contractor.
- If the Engineer-in-charge asks the contractor to remove a person who is a member of Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the site forthwith and has no further connection with the work in the contract.

8. Contractor's Risks:

- 8.1 All risks of loss of or damage to physical property and of personnel injury and death, which arise during and in consequence of the performance of the contract, are the responsibility of the contractor.

9. Insurance:

9.1 The Contractor shall provide, in the joint names of the Department and the contractor, insurance cover from the Start Date to the end of the Defects Liability Period i.e., 6 months after completion for the following events which are due to the Contractor's risks.

- a) loss of or damage to the Works, Plant and Materials;
- b) loss of or damage to the Equipment;
- c) loss of or damage of property in connection with the Contract; and
- d) Personal injury or death of persons employed for construction.

9.2 Policies and certificates of insurance shall be delivered by the Contractor to the Engineer-in-charge at the time of concluding Agreement. All such insurance shall provide for compensation to be payable to rectify the loss or damage incurred.

- i) The contractor shall furnish insurance policy in force in accordance with proposal furnished in the Tender and approved by the Department for concluding the agreement.
- ii) The contractor shall also pay regularly the subsequent insurance premium and produce necessary receipt to the Engineer-in-Charge, well in advance.
- iii) In case of failure to act in the above said manner the department will pay the premium and the same will be recovered from the Contractors payments.

9.3 Alterations to the terms of insurance shall not be made without the approval of the Engineer-in-Charge.

10 Site Inspections:

10.1 The contractor should inspect the site and also proposed quarries of choice for materials source of water and quote his percentage including quarrying, conveyance and all other charges etc.

10.2 The responsibility for arranging the safety precautions on Outer Ring Road main carriage way and hydra with bucket to stand and diamond core cutting of holes by the core cutting machine operator etc.,

11 Contractor to Construct the Works:

11.1 The Contractor shall construct and Commission the Work in accordance with the specifications and Drawings.

12 Diversion of streams / Vagus / Drains: Deleted

12.1 The contractor shall at all time carry out construction of cross drainage works in a manner creating least interference to the natural flow of water while consistent with the satisfactory execution of work. A temporary diversion shall be formed by the contractor at his cost where necessary. No extra payment shall be made for this work.

12.2 No separate payment for bailing out sub-soils, water drainage or locked up rain water for diversion, shoring, foundations, bailing of pumping water either from excavate ion of soils from foundations or such other incidental will be paid. The percentage to be quoted by the contractor is for the finished item of work in situ and including all the incidental charges. The borrow pits

are also to be de-watered by the contractor himself at his expense, if that should be found necessary.

- 12.3 The work of diversion arrangements should be carefully planned and prepared by the contractor and forwarded to the Deputy General Manager technically substantiating the proposals and approval of the Deputy General Manager obtained for execution.
- 12.4 The contractor has to arrange for bailing out water, protection to the work in progress and the portion of works already completed and safety measures for men and materials and all necessary arrangements to complete the work.
- 12.5 All the arrangements so required should be carried out and maintained at the cost of the contractor and no separate or additional payments are admissible.
- 12.6 Coffer Dams.

Necessary coffer dams and ring bunds have to be constructed at the cost of contractor and same are to be removed after the completion of the work. The contractor has to quote his percentage keeping the above in view.

13 Power Supply.

- 13.1 The power supply at available location will permitted to use HGCL power supply on payment basis. In the absence of power supply the contractor shall make his own arrangements for obtaining power from the Electricity dept., at his own cost.
- 13.2 The contractor shall satisfy all the conditions and rules required as per Indian Electricity Act 1910 and under Rule-45(I) of the Indian Electricity Rules, 1956 as amended from time to time and other pertinent rules.
- 13.3 The power shall be used for bonafide Departmental work only.

14 Temporary Diversions (Works on Roads / Highways)

- 14.1 The contractor shall at all time carryout work on the Road / Highway in a manner creating least interference to the flow of traffic while consistent with the satisfactory execution of the same. For all works involving improvements to the existing Road / Highway, the contractor shall in accordance with the directions of the Engineer-in-charge provide and maintain during the execution of the work a passage for traffic, either along a part of the existing carriage way under improvement or along a temporary diversion constructed close to the Road / Highway.
- 14.2 If in the opinion of the Engineer-in-Charge, it is not possible to pass the traffic on part width of the carriageway for any reason, a temporary diversion close to the Road / Highway shall be constructed as directed. It shall be paved with the materials such as hard morrum, gravel and stone, metal to the specified thickness as directed by the Engineer-in-Charge. In all cases, the alignment, gradients and surface type of the diversion including its junctions,

shall be approved by the Engineer-in-charge before the Road / Highway is closed to traffic.

14.3 The contractor shall take all necessary measures for the safety of traffic during construction and provide erect and maintain such barricades, including signs, markings, flags lights and information and protection of traffic approaching or passing through the section of the Road / Highway under improvement. Before taking up any construction, an agreed phased programme for the diversion of traffic on the Road / Highway shall be drawn up in consultation with the Engineer-in-charge.

14.4 The barricades erected on either side of the carriage way portion of the carriage way closed to traffic, shall be of strong design to resist violation and painted with alternative black and white stripe. Red lanterns or warnings lights of similar type shall be mounted on the barricades at night and kept lit throughout from sunset to sunrise.

15 Ramps:

Ramps required during execution may be formed wherever necessary and same are to be removed after completion of the work. No separate payment will be made for this purpose.

16 Monsoon Damages:

Damages due to rain or flood either in cutting or in banks shall have to be made good by the contractor till the work is handed over to the Department. The responsibility of de-silting and making good the damages due to rain or flood rests with the contractor. No extra payment is payable for such operations and the contractor shall therefore, had to take all necessary precautions to protect the work done during the construction period.

17 The works to be completed by the intended completion date:

17.1 The contractor may commence execution of the works on the start date and shall carry out the works in accordance with the programme submitted by the contractor, as updated with the approval of the Engineer-in-Charge, and complete the work by the Intended completion date.

18 Safety:

18.1 The Contractor shall be responsible for the safety of all activities on the site and persons working on ORR main carriage way, up & down ramps , junctions & service roads 15Mts height bridge to drill the holes and persons working on main carriage way.

19 Discoveries:

- 19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Government. The Contractor is to notify the Engineer-in-charge of such discoveries and carry out the Engineer-in-Charge's instructions for dealing with them.

20 Possession of the Site.

- 20.1 The Department shall give possession of the site to the Contractor. If possession of a part site is given, the Department will ensure that the part site so handed over is amenable to carryout the work at site by the Contractor.

21 Access to the Site:

- 21.1 The Contractor shall provide the Engineer-in-Charge and any person authorised by the Engineer-in-Charge, access to the site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22 Instructions:

- 22.1 The Contractor shall carry out all instructions of the Engineer-in-charge and comply with all the applicable local laws where the Site is located.

23 Settlement of disputes:

- 23.1 If any dispute of difference of any kind whatsoever arises between the department and the Contractor in connection with, or arising out of the Contract, whether during the progress of the works or after their completion and whether before or after the termination, abandonment or breach of the Contract, it shall in the first place, be referred to and settled by the Engineer-in-charge who shall, within a period of thirty days after being requested by the Contractor to do so, give written notice of his decision to the Contractor. Upon receipt of the written notice of the decision of the Engineer-in-Charge the Contractor shall promptly proceed without delay to comply with such notice of decision.
- 23.2 If the Engineer-in-Charge fails to give notice of his decision in writing within a period of thirty days after being requested or if the Contractor is dissatisfied with the notice of the decision of the Engineer-in-Charge, the Contractor may within thirty days after receiving the notice of decision appeal to the Department who shall offer an opportunity to the contractor to be heard and to offer evidence in support of his appeal, the Department shall give notice of his decision within a period of thirty days after the Contractor has given the said evidence in support of his appeal, subject to arbitration, as hereinafter provided. Such decision of the Department in respect of every matter so referred shall be final and binding upon the Contractor and shall forthwith be given effect to by the Contractor, who shall proceed with the execution of the works with all due diligence whether he requires arbitration as hereinafter provided, or not. If the Department has given written notice of his decision to

the Contractor and no claim to arbitration, has been communicated to him by the Contractor within a period of thirty days from receipt of such notice the said decision shall remain final and binding upon the Contractor. If the Department fail to give notice of his decision, as aforesaid within a period of thirty days after being requested as aforesaid, or if the Contractor be dissatisfied with any such decision, then and in any such case the contractor within thirty days after the expiration of the first named period of thirty days as the case may be, require that the matter or matters in dispute be referred to arbitration as detailed below:

SETTLEMENT OF CLAIMS:

Settlement of claims for Rs. 50,000/- and below by Arbitration.

All disputes or difference arising of or relating to the contract shall be referred to the adjudication as follows:

- a) Claims up to a value of rupees 10,000 / - : General Manager, HGCL.
- b) Claims above value of rupees 10,000/- and up to rupees 50,000/- : Chief General Manager, HGCL.

The arbitration shall be conducted in accordance with the provisions of Indian Arbitration and Conciliation Act 1996 or any statutory modification thereof.

The arbitrator shall state his reasons in passing the award. Claims above Rs.50,000/-.

All claims of above Rs.50,000/- are to be settled by a Civil Court of Hyderabad jurisdiction by way of Civil suit and not by arbitration.

A reference for adjudication under this clauses shall be made by the contractor within six months from the date of intimating the contractor of the preparation of final bill or his having accepted payment whichever is earlier.

B. TIME FOR COMPLETION

24 Program:

- 24.1 The total period of completion is 3 months from the date of entering with agreement to proceed including rainy season.
- 24.2 The attention of the Contractor is directed to the contract requirement at the time of beginning of the work, The rate of progress and proportionate value of work done from time to time as will be indicated by the Executive Engineer's Certificate for the value of work done will be required. Date of commencement of their programme will be the date for concluding agreement but not the date of handing over site.
- 24.3 After signing the agreement, the contractor shall forthwith begin the work, shall regularly and continuously proceed with them.
- 24.4 Rate of progress:

Mile stone No.	Period from the date of signing agreement	Minimum percentage of work to be completed (Cumulative)
Milestone-1	End of 2 months	SITC of LED street lighting to service road from Nanakramguda to TSPA junction inner side of ORR – 8.5Km.
Milestone-2	End of 3 months	SITC of LED street lighting to service road from Narsingi to Kollur junction both sides of ORR -27.0Km

- ii) Site schedule of programme of handing over site to the contractor.
- iii) The contractor shall achieve the financial progress, otherwise Liquidated Damages shall be levied as per the condition No.48.3 of conditions of contract.

24.5 The contractor shall commence the works on site within the period specified under condition 17.1 to 24.3 above after the receipt by him of a written order to this effect from the Chief General Manager and shall proceed with the same with due expedition and without delay, except as may be expressly sanctioned or ordered by the Chief General Manager.

24.6 Save in so far as the contractor may prescribe, the extent of portions of the site of which the contractor is to be given possession from time to time and the order in which such portions shall be made available to him and, Subject to any requirement in the contract as to the order in which the works shall be executed, the Chief General Manager will, with the Executive Engineer's written order to commence the works, give to the contractor possession of so much of the site as may be required to enable the contractor to commence proceed with the execution of the works in accordance with the programme if any, and otherwise in accordance with such reasonable proposals of the contractor as he shall by written notice to the Chief General Manager, make and will from time to time as the works proceed, give to the contractor possession of such further portions of the site as may be required to enable the contractor to proceed with the execution of the works with due dispatch in accordance with the said programme or proposals as the case maybe ; if the contractor suffers delay or incurs cost from failure on the part of the Chief General Manager to give possession in accordance with the terms of this clause, the Chief General Manager shall grant an extension of time for the completion of works.

24.7 The contractor shall bear all costs and charges for special or temporary way leases required by him in connection with access to the site. The contractor shall also provide at his own cost any additional accommodation outside the site required by him for the purposes of the work.

24.8 Subject to any requirement in the contract as to completion of any section of the works before completion of the whole of the works shall be completed in accordance with provisions of clauses in the Schedule within the time stated in the contract calculated from the last day of the period named in the statement to the tender as that within which the works are to be commenced or such extended time as may be allowed.

24.9 Delays and extension of time:

No claim for compensation on account of delays or hindrances to the work from any cause whatever shall lie, except as hereafter defined. Reasonable extension of time will be allowed by the officer competent to sanction the extension, for unavoidable delays, such as may result from causes, which in the opinion of the Executive Engineer, are undoubtedly beyond the control of the contract. The Deputy General Manager shall assess the period of delay or hindrance caused by any written instructions issued by him, at twenty five percent in excess of the actual working period so lost.

In the event of the Deputy General Manager failing to issue necessary instructions and thereby causing delay and hindrance to the contractor, the latter shall have the right to claim an assessment of such delay by the Chief General Manager of the Circle whose decision will be final and binding. The contractor shall lodge in writing with the Deputy General Manager a statement of claim for any delay or hindrance referred to above, within fourteen days from its commencement, otherwise no extension of time will be allowed. Whenever authorized alterations or additions made during the progress of the work are of such a nature in the opinion of the Deputy General Managers to justify an extension of time in consequence thereof.

If there are valid reasons for extending the contract period, proposals for extension of time should be sent to the authority competent to accord sanction of Extension of Agreement time sufficiently in advance and in any case at least one month before the expiry of the contract period.

25 Construction Programme:

- 25.1 The Contractor shall furnish within fortnight of the order of the work a programme showing the sequence in which he proposed to carry out the work, monthly progress expected to be achieved, also indicating date of procurement of materials plant and machinery. The schedule should be such that it is practicable to achieve completion of the whole work within the time limit fixed and in keeping with the Mile stone programme specified and shall obtain the approval of the Engineer-in-charge. Further rate of the progress as in the program shall be kept up to date. In case it is subsequently found necessary to alter this program, the contractor shall submit sufficiently in advance the revised program incorporating necessary modifications and get the same approved by the Engineer - in - Charge. No revised program shall be operative without the approval of Engineer - in - Charge.
- 25.2 The Chief General Manager, shall all times have the right, without any way violating this contract, or forming grounds for any claim, to alter the order of progress of the works or any part thereof and The contractor shall after receiving such directions proceed in the order directed. The contractor shall

also report the progress to the Chief General Manager with in 7 days of the Executive Engineers direction to alter the order of progress of works.

- 25.3 The contractor shall give written notice to the Engineer - in - Charge whenever planning or progress of the works is likely to be delayed or disrupted unless any further drawings or order including a direction, instruction or approval is issued by the Engineer - in - Charge within a reasonable time. The notice shall include details of the drawing or order required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.

26 Speed of Work

- 26.1 The Contractor shall at all times maintain the progress of work to conform to the latest operative progress schedule approved by the Engineer - in - Charge. The contractor should furnish progress report indicating the programme and progress once in a month. The Engineer - in - Charge may at any time in writing direct the contractor to slow down any part or whole of the work for any reason (which shall not be questioned) whatsoever, and the contractor shall comply with such orders of the Engineer - in - Charge. The compliance of such orders shall not entitle the contractor to any claim of compensation. Such orders of the Engineer - in - Charge for slowing down the work will however be duly taken into account while granting extension of time if asked by the contractor for which no extra payment will be entertained.
- 26.2 Delays in Commencement or progress or neglect of work and forfeiture of earnest money, Security deposit and withheld amounts: If, at any time, the Engineer - in - Charge shall be of the opinion that the contractor is delaying commencement of the work or violating any of the provisions of the contract or is neglecting or delaying the progress of the work as defined by the tabular statement. "Rate of progress" in the "Articles of Agreement", he shall so advise the contractor in writing and at the same time demand compliance in accordance with conditions of Tender Notice. If the contractor neglects to comply with such demand within seven days after receipt of notice, it shall then or at any time there after, be lawful for the Engineer-in-Charge to take suitable action in accordance with Clause.60 of APSS.

27 Suspension of works by the Contractor.

- 27.1 If the Contractor shall suspend the works, or sublet the work without sanction of the Engineer-in-Charge, or in the opinion of the Engineer - in - Charge shall neglect or fail to proceed with due diligence in the performance of his part of the Contract as laid down in the Schedule rate of progress, or if he shall continue to default or repeat such default in the respects mentioned in clause.27 of the APSS, Engineer - in - Charge shall take action in accordance with Clause 61 of APSS.
- 27.2 If the Contractor stops work for 28 days and the Stoppage has not been authorised by the Engineer - in - Charge the Contract will be terminated under Clause 61 of APSS.

- 27.3 If the Contractor has delayed the completion of works the Contract will be terminated under Clause.61 of APSS.

28 Extension of the Intended Completion Date:

- 28.1 The Engineer - in - Charge shall extend or recommend for extension, in accordance with the Department / Government orders in force, the Intended Completion Date if a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date.
- 28.2 The Engineer - in - Charge shall decide whether and by how much to extend the Intended Completion Date within 30 days of the Contractor asking the Engineer for a decision upon the effect of a Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

29 Delays Ordered by the Engineer-in-Charge:

- 29.1 The Engineer - in - Charge may instruct the Contractor to delay the start or progress of any activity within the Work.

30 Early Warning:

- 30.1 The contractor is to warn the Engineer - in - Charge at the earliest opportunity of specific likely future events or circumstances that may adversely affect the execution of works.
- 30.2 The Contractor shall cooperate with the Engineer - in - Charge in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer - in - Charge.

31 Management Meetings:

- 31.1 The Engineer - in - Charge may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the programme for remaining work and to deal with matters raised in accordance with the early warning procedure.

C. QUALITY CONTROL

32 Identifying Defects:

- 32.1 The Engineer - in - Charge shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer - in - Charge may instruct the Contractor to verify the Defect and to uncover and test any work that the Engineer considers may be a Defect.

33 Tests:

- 33.1 If the Engineer - in - Charge instructs the contractor to carry out a test not specified in the specification to check whether any work has a defect and the contractor shall pay for the test and any samples.

34 Correction of Defects:

- 34.1 The Engineer - in - Charge shall give notice to the contractor of any defects before the end of the defects liability period, which begins on completion. The defects liability period shall be extended for as long as defects remain to be corrected by the contractor.
- 34.2 Every time notice of a defect is given, the contractor shall correct the notified defect within the length of time specified by the Engineer - in - Charge's notice.

35 Uncorrected defects

- 35.1 If the contractor has not corrected the defect within the time specified in the Engineer-in-Charge's notice, the Engineer-in-Charge will assess the cost of having the defect corrected and the contractor will pay this amount.
- 35.2 The Engineer - in - Charge shall introduce O.K cards and prescribed the formats there of. O.K cards shall relate to all major components of the work. The contractor/his authorized representative shall be required to initiate and fill in and present the O.K card to the construction staff who would check the respective items and send to the quality control staff for final check and clearance/O.K. Any defects pointed out by the construction supervision staff or by the Quality Control staff shall promptly be attended to by the contractors and the fact of doing so be duly recorded on the back of O.K card.
- 35.3 The Engineer - in - Charge may also introduce check lists which shall be kept in Bound registers by the construction supervision staff. The contractor may be required to fill up these lists in the first instance and shall be subsequently checked by the Construction / Quality Control engineers.

36 Quality Control

Any required material has to be procured after taking source approval from the Engineer-In-Charge. The material will be dispatched only after testing with respect to tender specifications at factory. The contractor has to arrange conveyance to two members from HGCL from work site to factory to witness the tests.

I. Materials of Foundation bolts :

a) Thickness and Quality Material:

The thickness and quality of the materials shall conform IS standards. For foundation bolts EN-8 material has to be used.

Acceptance criteria:

The Thickness and quality material location shall be chosen only through random techniques as closer as required to yield the minimum number of test results for evaluating a day's work the same will be send to Lab for quality check to meets required specifications.

b) RECOVERY FROM CONTRACTOR:

If any deviation is beyond the above limit, the work shall be rejected.

II. Foundations:

The marking for pole foundations has to be done as per the directions of Engineer-In-Charge. The excavation for pole pits has to be done as per the drawings and specifications and the reinforcement of steel has to be prepared as per the directions of Engineer-in-charge. After verification of pit dimensions and reinforcement by the Engineer-in-charge the permission will be accorded to take up the work. The grade of the concrete will be tested randomly if test results found not satisfactorily the concerned foundations will be rejected. The water curing has to be done regularly from next day of the erection of foundation to 14 days.

III. Materials of octagonal & highmast poles

The octagonal pole has to be manufactured as per the tender specifications, drawing approvals taken from the Engineer-in-charge.

a) Thickness and grade of steel: The thickness and grade of steel materials shall confirm IS standards and tender specifications. The minimum thickness shall not be less than specified thickness.

b) Galvanized Thickness:

The poles and high mast should be fabricated with high tensile steel as per ASTL A572 Grade 50 steel with galvanization of above 90microns thickness.

c) Weight:

The all weight should be as per standard only

d) **RECOVERIES:**
Shortfall in thickness / quantity / weight

Any shortfall in thickness / quantity / weight will be rejected.

IV. luminaires, cables, panels and other related items:

All materials should be supplied as per specifications and IS standards only. Any deviation the work will be rejected.

37 Quality policy:

37.1 The quality of construction shall be of highest standards.

The materials, equipment, tools and plants and workmanship should be of high standards and acceptable quality conforming to the specifications.

The contractor attention is directed to the requirements of materials under the clause “Materials and Workmanship” in the preliminary specifications of APSS. Materials conforming to the latest relevant I.S. Specifications and other approved Codes and Specifications shall be used on the work

38 Quality plan:

The contractor shall draw quality plan based on the Quality Management System of ISO 9001-2000 and submit the same to the Chief General Manager, HGCL, Tarnaka, Hyderabad, at the time of concluding agreement for his approval.

Quality plan for raw materials/ construction materials/ finished products/works:

It shall be responsibility of the contractor to arrange for testing of all materials procured for the works under such consignment or at regular intervals as may be specified in APSS at his cost and only after the engineer is satisfied fully with the test results the materials of those consignments will be allowed to be utilized on the work. The contractor shall maintain a record of test results which shall be made available to the engineers for the inspection.

The contractor shall collect various raw materials, construction materials well in advance before its use and shall get them tested as per the approved quality plan. No material shall be used unless it passes all the check/tests as per the acceptance criteria given and a record of all checks/tests/ verifications shall be maintained at site.

All the materials used in the works including electrical, Sanitary and water supply works should be as per the list of approved materials, makes and suppliers enclosed. The department reserves the right to insist upon using any of the materials from these lists of approved materials.

For all fittings of electrical, sanitary and water supply items, fixtures to doors and windows, supply of steel windows and flush wood doors, paints etc.,, the product marked ISI should be used and shall be of reputed and approved brand/make.

Tests required to be conducted at outside laboratories shall be done at those labs which have availability of required instruments traceable to national standards and which are approved by the Department. Reports obtained from such labs should indicate the calibration status and traceability to national standards of their equipments for accepting the results.

39 Quality control Lab: Deleted

40 Quality Registers

The contractor shall maintain the Quality Test Registers at site in the format specified and record therein the results of all the tests conducted. The relevant reports of the tests conducted shall be maintained in a separate file.

Return of Site documents:

All the site records/ documents mentioned therein shall be returned to the Engineer-in-charge in full shape after the satisfactory completion of the work.

41 Quality Control Inspections:

In addition to the normal inspections by the regular staff in charge of the construction of work, periodical inspection by Chief General Manager or his nominees, the work will also be inspected the Architects and Project Management consultants for this project and any other authorized external quality control agencies. If any sub-standard materials, work or workmanship is noticed, action will be taken based on their observations and these will be affected by the Engineer-in-charge of the execution of the work.

42 Quality Audit:

The Department may engage external agencies for conducting quality audit in which case the following methodology would be adopted:

- i) The external agencies shall conduct quality control tests as per the standard procedures in the presence of Construction and Quality Control Engineers and the Contractor.
- ii) The observations of the external agencies on the quality of work should be recorded then and there and signatures of all the concerned obtained as a token of acceptance of the observations .
- iii) If any sub-standard materials, work or workmanship is noticed, action will be taken based on their observations and these will be affected by the Engineer-in-charge of the execution of the work.

For all works costing more than Rs.2.00 Crores the Contractor shall submit quality plan and also show proof of owning quality lab.

Note: In addition to the normal inspection by the regular staff in-charge of the construction of work, the work will also be inspected by the Deputy General Manager/General Manager Quality control Circle or by the State or District level Vigilance Cell Unit and any other authorised external Agency if any sub-standard work or excess payments are noticed with reference to measurement books etc., during inspection, action will be taken based on their observations and these will be effected by the Engineer-in-Charge of the execution of the work.

Maintenance of Quality, Quantity and Penalties to be imposed for deficient execution of work on the contractors are as follows:

I. Materials of Foundation bolts :

a) Thickness and Quality Material:

The thickness and quality of the materials shall conform IS standards. For foundation bolts EN-8 material has to be used.

Acceptance criteria:

The Thickness and quality material location shall be chosen only through random techniques as closer as required to yield the minimum number of test results for evaluating a day's work the same will be send to Lab for quality check to meets required specifications.

b) RECOVERY FROM CONTRACTOR:

If any deviation is beyond the above limit, the work shall be rejected.

II. Foundations:

The marking for pole foundations has to be done as per the directions of Engineer-In-Charge. The excavation for pole pits has to be done as per the drawings and specifications and the reinforcement of steel has to be prepared as per the directions of Engineer-in-charge. After verification of pit dimensions and reinforcement by the Engineer-in-charge the permission will be accorded to take up the work. The grade of the concrete will be tested randomly if test results found not satisfactorily the concerned foundations will be rejected. The water curing has to be done regularly from next day of the erection of foundation to 14 days.

IV. Materials of octagonal & highmast poles

The octagonal pole has to be manufactured as per the tender specifications, drawing approvals taken from the Engineer-in-charge.

a) Thickness and grade of steel: The thickness and grade of steel materials shall confirm IS standards and tender specifications. The minimum thickness shall not be less than specified thickness.

b) Galvanized Thickness:

The poles and highmast should be fabricated with high tensile steel as per ASTL A572 Grade 50 steel with galvanization of above 90microns thickness.

c) Weight:

The all weight should be as per standard only

e) RECOVERIES:

Shortfall in thickness / quantity / weight

Any shortfall in thickness / quantity / weight will be rejected.

IV. luminaires, cables, panels and other related items:

All materials should be supplied as per specifications and IS standards only. Any deviation the work will be rejected.

GENERAL:

1. The edges of the carriageway shall be correct within a tolerance of +/- 10mm.
2. The negative tolerance of top layer shall not be permitted in conjunction with positive tolerance of bottom layer.
3. The QC shall inspect the work at every stage of execution particularly before laying bituminous layers & during execution of BT layer on their own. QC is meant for quality assurance. Any check after completion does not serve the quality assurance.
4. The contractor shall test all the materials as per agreement specifications and results shall be recorded duly signed by the Contractor or his representative and the section officer. The name of work and quarry location shall be clearly noted in the test reports.

Inspections and Quality Control. For pipeline works

- i) In addition to the quality assurance inspections of the concerned Engineer-In-Charge and his subordinate Engineers of HGCL at site for all the civil works, the contractor is required to cooperate and extend all facilities for the routine / regular / surprise, quality control inspections of the Engineer-In-charge and his subordinate Engineers, HGCL and or for the quality check inspections of third party personnel if any engaged by HGCL including collection and testing of samples.
- ii) In the case of various pipes and manholes, in addition to the required quality assurance inspections and tests by the concerned Engineer-In-Charge and his subordinate Engineers of HGCL at factory and at site as the case may be, the contractor is required to cooperate and extend all facilities for the routine / regular / surprise, quality control inspections and tests for the various pipes and manholes, by the Engineer-In-Charge , HGCL and his subordinate Engineers and or for the quality check inspections and tests by third party personnel if any engaged by HGCL including collection and testing of samples etc.
- iii) In the case of various appurtenances in addition to the required quality assurance inspections and tests by the concerned Engineer-In-Charge and his subordinate Engineers of HGCL at factory and at site as the case may be, the contractor is required to cooperate and extend all facilities for the routine / regular / surprise, quality control inspections and tests for the various valves as above, by the Engineer-In-Charge , HGCL and his subordinate Engineers and or for the quality check inspections and tests by third party personnel if any engaged by HGCL Since such inspections usually involve the inspecting personnel visits to the various manufacturing units at different stages, the cost of said inspections would be borne by HGCL, in case of successful visits. In case of failure of the relevant tests for the valves at the manufacturing units the cost of such inspection would be recovered from the contractor.

D. Cost Control

43 Bill of Quantities:

- 37.1 The Bill Quantities shall contain items for the construction work to be done by the Contractor.
- 37.2 The Contractor is paid for the quantity of the work done at the estimate rate in the Bill of Quantities for each item plus or minus Tender percentage.

44 Changes in the Quantities:

- a. The contractor is bound to execute all supplemental works that are found essential, incidental and inevitable during execution of main work.
- b. The payment of rates for such supplemental items of work will be regulated as under; Supplemental items directly deducible from similar items in the original agreement.
 - i. The rates shall be derived by adding to or subtracting from the agreement rate of such similar item the cost of the difference in the quantity of materials labour between the new items and similar items in the agreement worked out with reference to the Standard Schedule of Rates adopted in the sanctioned estimate with which the tenders are accepted plus or minus over all tender percentage.
 - ii. (a) Similar items but the rates of which cannot be directly deduced from the original agreement.
 - (b) Purely new items which do not correspond to any item in the agreement.
 - iii. The rates of all such items shall be Estimated Rates plus or minus overall Tender premium.

45 Extra Items:

- a. Extra items of work shall not vitiate the contract. The contractor shall be bound to execute extra items of work as directed by the Engineer - in – Charge. The rates for extra items shall be worked out by the Deputy General Managers per the conditions of the Contract and the same are binding on the Contractor.
- b. The contractor shall before the 15th day of each month, submit in writing to the Deputy General Manager a statement of extra items if any that they have executed during the preceding month failing which the contractor shall not be entitled to claim any.

- c. Entrustment of additional items:
- i. Where ever additional items not contingent on the main work and outside the scope of original agreement are to be entrusted to the original contractor dispensing with bids and if the value of such items exceeds the limits up to which the officer is empowered to entrust works initially to contractor without calling for tenders, approval of **next higher authority** shall be obtained. Entrustment of such items on nomination shall be at rates not exceeding the estimated rates.
 - ii. Entrustment of the additional items contingent on the main work will be authorised by the officers up to the monetary limits up to which they themselves are competent to accept items in the original agreement so long as the total amounts up to which they are competent to accept in an original agreement rates for such items shall be worked out in accordance with the procedure (I) For all items of work in excess of the quantities shown in the Bill of Quantities of the Tenders, the rate payable for such items shall be estimate rates for the items (+) or (-) over all tender percentage accepted by the competent authority.
 - iii. Entrustment of either the additional or supplemental items shall be subject to the provisions of the agreement entered into by a Competent Authority after the tender is accepted. The Chief General Manager being the higher authority who entered into the agreement approves the rate for the items / variation in quantity in the current agreement. The items shall not be ordered by an officer on his own responsibility if the revised estimate or deviation statement providing for the same requires the sanction of higher authority.

Note: It may be noted that the term Estimate Rate used above means the rate in the sanctioned estimate with which the tenders are accepted, or if no such rates is available in the estimate, the rate derived will be with reference to the Standard Schedule of Rates adopted in the sanctioned estimate with which tenders are accepted.

46 Cash flow forecasts:

- a. When the program is updated, the contractor is to provide the Engineer-in-charge with an updated cash flow forecast.

47 Payment Certificates:

- a. The Contractor shall submit to the Engineer - in - Charge monthly statements of the estimated value of the work completed less the cumulative amount certified previously.
- b. The Engineer - in - Charge shall check the Contractor's monthly statement within 14 days.
- c. The value of work executed shall be determined by the Engineer - in - Charge.
- d. The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

- e. The Engineer - in - Charge may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

48 Payments:

- a. Payment for the work done by the contractor will be made for the finished work based on the measurements recorded in measurement books by any officer of the department not lower in rank than a Assistant Engineer and check measured by any officer not lower in rank than a Deputy Executive Engineer. The measurement shall be recorded at various stages of the work done and also after work is completed. The contractor shall be present at the time of recording of each set of measurement and their check measurement and accept them then and there so as to avoid disputes at a later stage. If the contractor is not available at the work spot at the time of recording measurements or check measurements the particulars of measurements shall be signed by the authorized agent of contractor based on which the contractor shall accept the set of measurements without any further dispute. If for any reason the contractor's authorized agent is also not available at site when the department decides to suspend the work recording of measurements in the absence of the contractor or his authorized representative the department shall not entertain any claim from the contractor for any loss incurred by him on this account. The Contractor shall however note that the Department cannot indefinitely wait for recording the measurement due to the absence of the Contractor and his authorized agent and check measure them even in the absence of the contractor.
- b. For all material.
 - i) 70% of the agreement rate for each item will be paid for all material as per site requirement after testing at factory and conveyance to site as per specifications and on production
 - ii) 15% of the agreement rate after laying, fixing, and erection & 15% agreement rate after commissioning and put in use.

c. Payments and Certificates:

- i. Payments shall be adjusted for recovery of advance payments, liquidated damages in terms of tender conditions and security deposit for the due fulfillment of the contract. Payment will be made to the Contractor under the certificate duly recording the measurements in the Measurement Books, issued at reasonably frequent intervals by the Engineer - in - Charge, and payment will be the sum equal to 100% of the value of work done as so certified by Engineer-in-charge.
- ii. In case of over payments or wrong payment if any made to the contractor due to wrong interpretation of the provisions of the contract, APSS or Contract conditions etc., such unauthorized payment will be deducted in the subsequent bills or final bill for the work or from the bills under any other contracts with the HGCL or at any time there after from the deposits available with the HGCL.

- iii. Any recovery or recoveries advised by the Government Department either state or central, due to non-fulfillment of any contract entered into with them by the contractor shall be recovered from any bill or deposits of the contractor.
- iv. No claim shall be entertained, if the same is not represented in writing to the Engineer-in-Charge within 15 days of its occurrence.
- v. The contractor is not eligible for any compensation for inevitable delay in handing over the site or for any other reason. In such case, suitable extensions of time will be granted after considering the merits of the case.
- vi. **Wherever the audit parties of A.G point out that the contractor is unintently benefited, then the employer is empowered to recover the same amount from the Contractor and it is binding on the contractor**

d. Intermediate Payments:

- i. For intermediate Stage of work, only part rates as fixed by the Engineer - in - Charge will be paid.
- ii. Part rates shall be worked out for the work done portion based on the actual operations involved keeping in view the value of the balance work to be done, to avoid unintended benefit to the Contractor in initial Stage.
 - a. 70% of the agreement rate for each item will be paid for all material as per site requirement after testing at factory and conveyance to site as per specifications and on production
 - b. 15% of the agreement rate after laying, fixing, and erection & 15% agreement rate after commissioning and put in use.
- iii. Full rate shall be paid when the work is completed to the full profile as noted in the drawings.
- iv. For earthwork in cutting, 10% of the quantity will be with held for intermediate payments and the same will be released after completing the work to the profiles as per drawings and disposal of the spoil material at the specified places and handing over the balance useful stone. For this purpose a length of 25 mts. will be taken as a Unit.
- v. For earth work, embankment formation work, 10% of the quantity will be withheld for intermediate payments and the same will be released after completing the bund to the profiles as per drawings including trimming of side slopes and all other works contingent to the bund profile. For this purpose, 25mts of length will be taken as a Unit.

- vi. For the structure works either with masonry or concrete where the height of structure is more than three meters, the quantities executed in the lower level will be withheld at the rate of one percent for every three meters height, if the balance height of the structure work is more than three meters in being over the executed level and the same will be released only after the entire work is completed as certified by the Engineer-in-Charge.
- vii. For C.M. & C.D. works and for lining works, spread over more than 2 Km. In length 5 percent of the concrete and Masonry quantities will be withheld and the same will be released after completion of all C.M. & C.D. works and lining for the entire length certified by the Engineer-in-Charge.
- viii. Where payment is intended for aggregates by Bill of Quantities item based on stack measurements, 10% of the quantity measured will be withheld. No payment or advance will be made for unfixed materials when the rates are for finished work in site.

49 Interest on Money due to the Contractor:

- a. No omission by the Deputy General Manager or the sub-divisional officer to pay the amount due upon certificates shall vitiate or make void the contract, nor shall the contractor be entitled to interest upon any guarantee fund or payments in arrear, nor upon any balance which may, on the final settlement of his accounts, found to be due to him.

50 Certificate of Completion of works:

- a. Certificate of Completion of works:
 - i. When the whole of the work has been completed and has satisfactory passed any final test that may be prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer-in-Charge accompanied by an undertaking to carry out any rectification work during the period of maintenance, such notice and undertaking shall be in writing and shall be deemed to be request by the Contractor for the Engineer-in-Charge to issue a Certificate of completion in respect of the Works. The Engineer-in-Charge shall, within twenty one days of the date of delivery of such notice either issue to the Contractor, a certificate of completion stating the date on which, in his opinion, the works were completed in accordance with the Contract or give instructions in writing to the Contractor specifying all the Works which, in the Engineer-in-Charge's opinion, required to be done by the Contractor before the issue of such Certificate. The Engineer-in-Charge shall also notify the Contractor of any defects in the Works affecting completion that may appear after such instructions and before completion of the Works specified there in. The Contractor shall be entitled to receive such Certificate of the Completion within twenty one days of completion to the satisfaction of the Engineer-in-Charge of the Works so specified and making good of any defects so notified.
 - ii. Similarly, the Contractor may request and the Engineer-in-Charge shall issue a Certificate of Completion in respect of:

- a) Any section of the permanent works in respect of which a separate time for completion is provided in the Contract, and
- b) Any substantial part of the permanent works which has been both completed to the satisfaction of the Engineer-in-Charge and occupied or used by the department.
 - iii. If any part of the Permanent Works shall have been completed and shall have satisfactorily passed any final test that may be prescribed by the Contract, the Engineer-in-Charge may issue such certificate, and the Contractor shall be deemed to have undertaken to complete any outstanding work in that part of the Works during the period of Maintenance.

51 Taxes included in the bid:

- 51.1 The percentage quoted by the contractor is inclusive of Goods & Services Tax (GST) component on individual items and all other taxes on all materials that the contractor will have to purchase for performance of this contract.
- 51.2 GST component shown in Part 'B' of the estimate shall be added in each bill of the contractors who opt for composition scheme and recovered.
- 51.3 In respect of those contractors, who do not opt for composition scheme, the GST component loaded in the estimate in Part 'B' shall not be released to them with their bills. However, GST loaded in Part 'B' of the estimate shall be recovered and for the recovery made, a deduction certificate shall be issued, based on which they have to claim adjustment through their returns submitted to their respective assessing authorities.

52 Price Adjustment: DELETED

- 52.2 The Price Adjustment shall be both for increase and decrease in the prices for the works completed within the original agreement period.
- 52.3 The price adjustment shall apply only for the work carried out within the agreement period and shall not apply to work carried out beyond the agreed period of completion.

In addition, the Price adjustment shall be for valid extension given for natural calamities duly limiting to the actual period/ days lost and for portion of work where work is delayed due to land acquisition/ shifting of utilities (this shall also be limited to actual length affected).

- 52.4 The variation clause will be when the variation in rates is more or less than 5% of the rate provided in the technical sanctioned estimate based on which bids are invited or All India wholesale price index as stipulated in the G.O.Ms no 35, T(R&B) (R.I) Dept., dated 28/2/2006 on the date twenty eight days prior to closing date of submission of bids whichever is advantageous to the department.
- 52.5 To the extent that full compensation for any rise or fall costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rate and prices included in the contract shall be deemed to include amounts to cover the contingency of such rise or fall in costs.

53 Retention: DELETED

As performance security collecting 10% of ECV/TCV deduction of retention money not required.

54 Liquidated Damages

- a. If for any reason, which does not entitle the contractor to an extension of item, the rate of progress of works, or any section is at any time, in the opinion of the Chief General Manager too slow to ensure completion by the prescribed time or extended time for completion Chief General Manager shall so notify the contractor in writing and the contractor shall there upon take such steps as are necessary and the Chief General

Manager may approve to expedite progress so as to complete the works or such section by the prescribed time or extended time. The contractor shall not be entitled to any additional payment for taking such steps. If as a result of any notice given by the Chief General Manager under this clause the contractor shall seek the Chief General Managers permission to do any work at night or on Sundays, if locally recognized as days or rest, or their locally recognized equivalent, such permission shall not be unreasonably refused.

- b. If the contractor fails to complete whole of the works or any part thereof or section of the works within the stipulated periods of individual mile stones (including any bonafide extensions allowed by the competent authority without levying liquidated damages), the Chief General Manager may without prejudice to any other method of recovery will deduct one tenth of one percent of contract value per calendar day or part of the day for the period of delays subject to a maximum of 10% of the contract value not as a penalty from any monies in his hands due or which may become due to the contractor. The payment or deductions of such damages shall not relieve the contractor from his obligation to complete the works, or from any other of his obligations and liabilities under the contract.
- c. The liquidated damages for the whole of the work:

Mile stone No.	Period from the date of signing the agreement	Minimum percentage of work to be completed (Cumulative)	Liquidated damages amount in Rupees per day
For the Milestone-1	End of 2 months	SITC of LED street lighting to service road from Nanakramguda to TSPA junction inner side of ORR – 8.5Km.	Rs 20,000/-
For the Milestone-2	End of 3 months	SITC of LED street lighting to service road from Narsingi to Kollur junction both sides of ORR -27.0Km	Rs 30,000/-

The maximum amount of liquidated damages for the whole of the works is ten percent of final contract price.

If the progress is made good such that the total work is completed within the final milestone, the intermediate liquidated damages levied for milestones 1 & 2 shall be reviewed by the Chief General Manager, HGCL and waive off the same.

55 Payment of Mobilization Advance : Deleted

56 Securities:

- a. The performance security and Additional Security (for discount tender percentage beyond **25%**) shall be provided to the Department not later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank acceptable to the Department. The performance security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security shall be valid until a date 28 days from the date of issue of the certificate of completion.

57 Cost of Repairs:

- a. Loss or damage to the works or materials to the works between the start date and the end of the defects correction periods shall be remedied by the contractor at the contractor's cost if the loss or damage arises from the contractor's acts or omissions.

E. FINISHING THE CONTRACT

58 Completion:

- a. The Contractor shall request the Engineer-in-Charge to issue a Certificate of completion of the Works and the Engineer-in-Charge will do so upon deciding that the work is completed.

59 Taking Over:

- a. The Department shall take over the Site and the Works within seven days of the Engineer-in-Charge issuing a certificate of Completion and handed over to O&M team for further 7 years maintenance.

60 Final Account:

- a. **The Contractor shall supply to the Engineer-in-Charge a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer-in-Charge shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the**

Engineer-in-Charge shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the final Account is still unsatisfactory after it has been resubmitted, the Engineer-in-Charge shall decide on the amount payable to the Contractor and issue a payment certificate with in 56 days of receiving the Contractor's revised account.

61 Termination:

- a. The Department may terminate the Contract if the contractor causes a fundamental breach of the Contract.
- b. Fundamental breaches of Contract include, but shall not be limited to the following.
 - i) The Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Engineer-in-Charge.
 - ii) The Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
 - iii) The Engineer-in-Charge gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer-in-Charge and
 - iv) The Contractor does not maintain a security which is required and
 - v) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined.
 - vi) If the contractor, in the judgment of the Department has engaged in corrupt or fraudulent practices in competing for or in the executing the contract.
For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Department / Government and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the HGCL of the benefits of free and open competition.
- c. Notwithstanding the above the Department may terminate the contract for convenience.
- d. If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secured leave the Site as soon as reasonably possible.

62 Payment upon Termination:

- a. If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer-in-Charge shall issue a certificate for the value of the work done less advance payments received upon the date of the issue of the certificate, less other recoveries due in terms of the Contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed. Additional Liquidated Damages shall not apply. If the total amount due to the Department exceeds any payment due to the Contractor the difference shall be a debt payable to the Department.

63 Property:

- a. All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Department if the Contract is terminated because of Contractor's default.

64 Release from Performance:

- a. If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Department or the Contractor the Engineer-in-Charge shall certify that the contract has been frustrated. The Contractor shall make the site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all works carried out before receiving it and for any work carried out afterwards to which commitment was made.

F. SPECIAL CONDITIONS

65 Water Supply:

The Contractor has to make his own arrangements for water required for the work and to the colonies and work sites, which are to be established by the Contractor.

66 Electrical Power :

HGCL will be permitted to use the power supply at available locations and payment basis. In absence of power supply the Contractors will have to make their own arrangements for drawing electric power from the nearest power line after obtaining permission from the Telangana State Electricity Board at his own cost. In case of failure of electricity, the Contractor has to make alternative arrangements for supply of electricity by Diesel Generator sets of suitable capacity at place of work.

The contractor will pay the bills of Electricity Board for the cost of power consumed by him.

The contractor shall satisfy all the conditions and rules required as per Indian Electricity Act 1910 and under rule –45(I) of the Indian Electricity Rules, 1956 as amended from time to time and other pertinent rules.

The power shall be used for bonafide Departmental works only.

a. Electric Power for Domestic Supply:

- a) The contractor has to make his own arrangements for the supply of electric power for domestic purposes and the charges for this purpose have to be paid by him at the rates as fixed by the Andhra Pradesh State Electricity Board from time to time.
- b) The contractor will have to make his own arrangements to lay and maintain the necessary distribution lines and wiring for the camp at his own cost. The layout and the methods of laying the lines and wiring shall have the prior approval of the Engineer-in-Charge. All camp area shall be properly electrified. All lines, streets, approaches for the camp etc., shall be sufficiently lighted for the safety of staff and labour of the contractor, at the cost of the Contractor and it will be subject to the approval of the Engineer-in-Charge.

67 Land:

a. Land for Contractor's use:

The contractor will be permitted to use Department land for execution of work. The contractor shall have to make his own arrangements for acquiring and clearing the site, leveling, providing drainage and other facilities for labour staff colonies, site office, work-shop or stores and for related activities. The Contractor shall apply to the Department within a reasonable time after the award of the contract and at least 30 days in advance of its use, the details of land required by him for the work at site and the land required for his camp and should any private land which has not been acquired, be required by the contractor for his use. The same may be acquired by the contractor at his own cost by private negotiations and no claim shall be admissible to him on this account.

The Engineer-in-Charge reserves the right to refuse permission for use of any department land for which no claim or compensation shall be admissible to the contractor. The contractor shall, however, not be required to pay cost or any rent for the Department land given to him.

b. Surrender of occupied land

- a) The Government land as here in before mentioned shall be surrendered to the Engineer-in-Charge within seven days, after issue of completion certificate. Also no land shall be held by the contractor longer than the Engineer-in-Charge shall deem necessary and the contractor shall on the receipt of due notice from the Engineer-in-Charge, vacate and surrender the land which the Engineer-in-Charge may certify as no longer required by the Contractor for the purpose of the work.
- b) The contractor shall make good to the satisfaction of the Engineer-in-Charge any damage to areas, which he has to return or to other property or land handed over to him for purpose of this work. Temporary structures may be erected by the contractor for storage sheds, offices, residences etc., for non-commercial use, with the permission of the Deputy General Manager on the land handed over to him at his own cost. At the completion of the work these structures shall be dismantled site cleared and handed over to the Executive Engineer. The land required for providing

amenities will be given free of cost from Department lands if available otherwise the contractor shall have to make his own arrangements.

c. Contractor not to dispose off Spoil etc.,

The contractor shall not dispose off or remove except for the purpose of fulfillment of this contract, sand, stone, clay ballast, earth, trees and shrubs or other materials obtained in the excavate ion made or lying on the site of the work, and all such materials and produce shall remain property of the HGCL. The Department may upon request from the contractor, or if so stipulated in the conditions of the contract allow the contractor to use any of the above materials for the works either free of cost or after payment as may be specifically mentioned or considered necessary during the execution of the work.

68 Roads:

In addition to existing public roads and roads Constructed by Government, if any, in work area all additional approach roads inside work area and camp required by the Contractor shall be constructed and maintained by him at his own cost. The layout design, construction and maintenance etc. of the roads shall be subject to the approval of the Engineer-in-Charge. The contractor shall permit the use of these roads by the Department / Government free of charge.

It is possible that work at, or in the vicinity of the work site will be performed by the Department or by other contractors engaged in work for the Department during the contract period. The contractor shall without charge permit the Department and such other contractor and other workmen to use the access facilities including roads and other facilities, constructed and acquired by the contractor for use in the performance of the works.

The contractor's heavy construction traffic or tracked equipment shall not traverse any public roads or bridges unless the contractor has made arrangement with the authority concerned. In case contractor's heavy construction traffic or tracked equipment is not allowed to traverse any public roads or bridges and the contractor is required to make some alternative arrangements, no claim on this account shall be entertained.

The contractor is cautioned to take necessary precautions in transportation of construction materials to avoid accidents.

69 Payment for Camp Construction

No payment will be made to the contractor for construction, operation and maintenance of camp and other camp facilities and the entire cost of such work shall be deemed to have been included in the tendered rate for the various items of work in the schedule of quantities and bids.

70 Explosive And Fuel Storage Tanks

No explosive shall be stored within 1/2 (half) KM of the limit of the camp sites. The storage of gasoline and other fuel oils or of Butane, Propane and other liquefied petroleum gases, shall conform to the regulations of Andhra Pradesh State

Government and Government of India. The tanks, above ground and having capacity in excess of 2000 liters, shall not be located within the camp area, nor within 200m, of any building.

71 Labour:

The contractor shall, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

Labour importation and amenities to labour and contractor's staff shall be to the contractor's account. His quoted percentage shall include the expenditure towards importation of labour amenities to labour and staff;

The contractor shall, if required by the Engineer-in-Charge, deliver to the Engineer-in-Charge a written in detail, in such form and at such intervals as the Engineer-in-Charge may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the contractor on the Site and such information respecting Contractor's Equipment as the Engineer-in-Charge may require.

72 Transportation of Labour:

The contractor shall make his own arrangement for the daily transportation of the labour and staff from labour camps colonies to the work spot and no labour or staff of the contractor shall stay at the work spot. No extra payment will be made to the contractor for the above transportation of the labour and his quoted percentage to the work shall include the transportation charges of labour from colonies to work spot and back.

The contractor will at all times duly observe the provisions of employment of children Act XXVI of 1938 and any enactment or modification of the same and will not employ or permit any person to do any work for the purpose under the provisions of this agreement in contravention of said Act. The contractor here by agrees to indemnify the department from and against all claims, penalties which may be suffered by the department or any person employed by the department by any default on the part of the contractor in the observance and performance of the provisions of the employment of children Act. XXVI of 1938 or any enactment or modification of the same.

As per Govt. memo No.721/Gr.(1)/81-35, dt:17.11.87. The contractor shall obtain the insurance at his own cost to cover the risk on the works to labour engaged by him during period of execution against fire and other usual risks and produce the same to the Deputy General Manager concerned before commencement of work.

73 Safety Measures:

1. The contractor shall take necessary precautions for safety of the workers and preserving their health while working in such jobs, which require special protection and precautions. The following are some of the measures listed but they are not exhaustive and contractor shall add to and augment these precautions on his own initiative where necessary and shall comply with directions issued by the Deputy General Manager or on his behalf from time to time and at all times.

2. Providing protective foot wear to workers situations like mixing and placing of mortar or concrete sand in quarries and places where the work is done under much wet conditions.
3. Providing protective head wears to workers at places like underground excavate ions to protect them against rock falls.
4. Providing masks to workers at granulates or at other locations where too much fine dust is floating about and sprinkling water at frequent intervals by water hoses on all stone crushing area and storage bins abate to dust.
5. Getting the workers in such jobs periodically examined for chest trouble due to too much breathing in to fine dust.
6. Taking such normal precautions like fencing and lightening in excavate ion of trenches, not allowing rolls and metal parts of useless timber spread around, making danger areas for blasting providing whistles etc.
7. Supply work men with proper belts, ropes etc., when working in precarious slopes etc.
8. Avoiding named electrical wire etc., as they would electrocute the works.
9. Taking necessary steps towards training the workers concerned on the machinery before they are allowed to handle them independently and taking all necessary precautions in around the areas where machines hoists and similar units are working.

74 Fair Wage Clause:

The contractor shall pay not less than fair wages to laborers engaged by him on the work.

“Fair” wages means wages whether for time or piecework notified by the Government from time to time in the area in which the work is situated.

The contractor shall notwithstanding the revisions of any contract to the contrary cause to be paid to the labour, in directly engaged on the work including any labour engaged by the sub-contractor in connection with the said work, as if the labourers had been directly employed by him.

In respect of labour directly or indirectly employed in the works for the purpose of the contractors part of the agreement the contractor shall comply with the rules and regulations on the maintenance of suitable records prescribed for this purpose from time to time by the Government. He shall maintain his accounts and vouchers on the payment of wages to the labours to the satisfaction of the Executive Engineer.

The Deputy General Manager shall have the right to call for such record as required to satisfy himself on the payment of fair wages to the labours and shall have the right to deduct from the contract amount a suitable amount for making good the loss suffered by the worker or workers by reason of the “fair wages” clause to the workers.

The contractor shall be primarily liable for all payments to be made and for the observance of the regulations framed by the Government from time to time without prejudice to his right to claim indemnity from his sub-contractors.

As per contract labour (Regulation and abolition) Act. 1970 the contractor has to produce the license obtained from the licensing officers of the labour department along with the tender or at the time of agreement.

Any violation of the conditions above shall be deemed to be a breach of his contract.

Equal wages are to be paid for both men and women if the nature of work is same and similar. The contractor shall arrange for the recruitment of skilled and unskilled labour local and imported to the extent necessary to complete the work within the agreed period as directed by the Deputy General Manager in writing.

75. Indemnity Bond:

NAME OF WORK: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

We _____, contractor Resident of _____ do hereby bind our self to pay all the claims which may come (a) under Workmen's Compensation Act. 1933 with any statutory modification there of and rules there under or otherwise for or in respect of any damage or compensation payable in connection with any accident or injury sustained (b) under Minimum wages Act 1948 (c) under payment of wages Act.1936 (d) under the Contractor labour (Regulation and Abolition) Act. 1970 by workmen engaged for the performance of the business relating to the above contract. Failing such payment of claims of workmen engaged in the above work, we abide in accepting for the recovery of such claims, affected from any of our assets with the departments.

Signature of the Contractor

76 Compliance With Labour Regulations:

During continuance of the contract, the contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notifications that may be issued under any labour law in future either by the State or the Central Government or the local authority and also applicable labour regulations, health and sanitary arrangements for workmen, insurance and other benefits. Salient features of some of the major labour laws that are applicable to construction industry are given below. The contractor shall keep the Department indemnified in case any action is taken against Department by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Department is caused to

pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provision stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the contractor, the Engineer-in-charge /Department shall have the right to deduct any money due to the contractor including his amount of performance security. The Department/Engineer-in-Charge shall also have right to recover from the contractor any sum required or estimated to be required for making good the loss or damage suffered by the Department.

The employees of the Contractor and the Sub-contractor in no case shall be treated as the Department of the Department at any point of time.

77 Salient features of some major labour laws applicable to establishment engaged in buildings and other construction work:

- (a) Workmen compensation Act 1923: The Act provides for compensation in case if injury by accident arising out of and during the course of employment.
- (b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if any employee has completed 5 years service or more, or on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments, employing 10 or more employees.
- (c) employees P.F. and Miscellaneous provision Act 1952: The Act provides for monthly contributions by the Department plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.,
- (d) Maternity Benefit Act 1951: The Act provides for leave and some other benefits to women employees in case of confinements or miscarriage etc.
- (e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided by the Principal Department by Law. The Principal Department is required to take certificate of Registration and the contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Department if they employ 20 or more contract labour.
- (f) Minimum wages Act 1948: The Department is supposed to pay not less than the Minimum wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment construction of Buildings, Roads, Runways are scheduled employments.
- (g) Payment of wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made form the wages of the workers.

- (h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to Male or Female workers and for not making discrimination against Female employee in the matters of transfers, training and promotions etc.
- (i) Payment of Bonus Act 1965: The Act Is applicable to all establishments employing 20 or more employees. The Act provides for payment of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs. 3500/- per month or less. The bonus to be paid to employees getting Rs.2500/- per months or above and up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/- per monthly only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- (j) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock- out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- (k) Industrial Employment (Standing Orders) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the State and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Department on matters provided in the Act and get the same certified by the designated Authority.
- (l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and Departments. The Trade Unions registered under the act have been given certain immunities from civil and criminal liabilities.
- (m) Child Labour (Prohibition & Regulation) Act 1986:The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes, Employment Child Labour is prohibited in Building and Construction Industry.
- (n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of service) Act 1979:The Act applicable to an establishment, which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another State). The inter State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.
- (o) The Building and Other Construction workers (regulation of Employment and conditions of service) Act 1996 and the Cess Act of 1996: All the establishments who carryon any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Department of the establishment is required to provide safety

measures at the Building or construction work and other welfare measures, such as Canteens, First-aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Department to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

Recovery towards cess will be made as per Clause 110.

- (p) Factories Act 1948: The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 person or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

78 Liabilities of the Contractor

- a. Accident Relief and workmen compensation:

The contractor should make all necessary arrangements for the safety of workmen on the occurrence of the accident, which results in the injury or death of any of the workmen employed by the contractor, the contractor shall within 24 hours of the happenings of the accident and such accidents should intimate in writing to the concerned Asst. Engineer / Asst. Deputy General Manager of the Department the act of such accident. The contractor shall indemnify Department against all loss or damage sustained by the Department resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or fines if any payable by Govt. as a consequence of Govt. failure to give notice under workmen's compensation Act or otherwise conform to the provisions of the said Act. In regard to such accident.

- b. In the event of an accident in respect of which compensation may become payable under the workmen's compensation Act VIII 23 whether by the contractor, by the Department it shall be lawful for the Deputy General Manager to retain such sum of money which may in the opinion of the Deputy General Manager be sufficient to meet such liability. The opinion of the Deputy General Manager shall be final in regard to all matters arising under this clause.
- c. The contractor shall at all times indemnify the Govt. of T.S. against all claims which may be made under the workmen's compensation act or any statutory modification thereafter or rules there under or otherwise consequent of any damage or compensation payable in consequent of any accident or injuries sustained or death of any workmen engaged in the performance of the business relating to the contractor.

79 Contractor's Staff, Representatives and Labour:

- (a) The contractor shall, at all times, maintain on the works, staff of qualified Engineers, and Supervisors of sufficient experience of similar other jobs to assure that the quality of work turned out shall be as intended in the specifications. The contractor shall also maintain at the works, a Work Manager or sufficient status, experience and office and duly authorize him to deal with all aspects of the day-today work. All communications to any commitments by the Work Manager shall be considered as binding on the Contractor.
- (b) The Contractor shall at all times submit details of skilled and unskilled labour and equipment employed to the Engineer-in-Charge in prescribed proforma as he may require to assess and ensure the proper progress of work.
- (c) If the contractor does not employ the technical person agreed to on the work a fine of Rs.25,000/- will be imposed. If he does not employ for 7days, thereafter it becomes a fundamental breach of contract.

80 Accommodation and food:

The contractor should arrange accommodation he needs, at his own cost. The contractor shall make his own arrangements for supply of food grains, fuel and other provision to his staff and laborers including controlled commodities.

81 Relationship:

Contractor shall have to furnish information along with tender, about the relationship he is having with any officer of the Department, Government of Andhra Pradesh of the rank Assistant Engineer and above engaged in the work and any officer of the rank of Assistant Secretary and above of the Department of Government of Andhra Pradesh.

82 Protection of adjoining premises:

The contractor shall protect adjoining sites against structural, decorative and other damages that could be caused by the execution of these works and make good at his cost any such damages.

83 Work during night or on Sundays and holidays:

The works can be allowed to be carried out during night, Sundays or authorized holidays in order to enable him to meet the schedule targets and the work shall require almost round the clock working keeping in view:

- (i) The provisions of relevant labour laws being adhered to:
- (ii) Adequate lighting, supervision and safety measures are established to the satisfaction of the Engineer-in-Charge and
- (iii) The construction programme given by the Contractor and agreed upon by the Engineer-in-Charge envisages such night working or working during Sundays or authorized holidays.

84 Layout of materials stacks:

The contractor shall deposit materials for the purpose of the work on such parts only of the ground as may be approved by the Engineer-in-Charge before starting work. A detailed survey, clearly indicating position and areas where materials shall be stacked and sheds built is to be conducted by the contractor at his own cost and only after obtaining necessary approval of the plan for use of sites by the Engineer-in-Charge, the Contractor can use the sites accordingly.

85 Use of blasting materials:

Procurement of blasting materials and its storage is the responsibility of the contractor. The contractor shall engage licensed blaster for blasting operation. The contractor is to act in accordance with Indian Explosive Act and other rules prevailing, during the execution of work. It is the responsibility of the contractor to see, that works by other agencies in the vicinity are not hampered, in such cases if any claim is made by other agencies that should be borne by the contractor. Carriage of blasting materials, from the magazine to the work site, is the responsibility of the contractor.

86 Equipment:

- a. The contractor shall have sufficient equipment and labour and shall work such hours and shifts as may be necessary to maintain the progress on the work as per the approval progress schedule. The working and shifts hours shall comply with the Govt. Regulations in force.
- b. It is to expressly and clearly understood that contractor shall make his own arrangements to equip himself with all machinery and special tools and plant for the speedy and proper execution of the work and the department does not undertake responsibility towards their supply.
- c. The department shall supply such of the machinery that may be available on hire basis but their supply cannot be demanded as matter of right and no delay in progress can be attributed to such non-supply of the plant by the department and the department cannot be made liable for any damage to the contractor. The Contractor shall be responsible for safe custody of the departmental machinery supplied to him (which will be delivered to contractor at the machinery yard at site of work) and he has to make good all damages and losses if any other than fire, wear and tear to bring it to the conditions that existed at the time of issue to the contractor before handing over the same to the department. The hire charges for the machinery handed over to the contractor will be recovered at the rate prevalent at the time of supply. The contractor will have to execute supplemental agreement with Deputy General Manager at the time of supply of the machinery.
- d. The acceptance of departmental machinery on hire is optional to the contractor.

87 Steel forms:

Steel forms should be used for all items involving and use of centering and shuttering shall be single plane without any dents and undulations.

88 Inconvenience to public:

The contractor shall not deposit materials at any site, which will cause inconvenience to public. The Engineer-in-Charge may direct the contractor to remove such materials or may undertake the job at the cost of the contractor.

89 Conflict of interest:

Any bribe, commission, gift or advantage given, promised or offered by on behalf of contractor or his partner, agent or servant or any one on his behalf to any officer, servant, representatives, agents of Engineer-in-Charge, or any persons on their behalf, in relation to the obtaining or to execution of this, or any other contract with Engineer-in-Charge shall in addition to any criminal liability, which it may occur, subject to the cancellation of this or all other contracts and also to payment of any loss or damage resulting from any such cancellation. Engineer-in-Charge shall then be entitled to deduct the amount, so payable from any money, otherwise due to the contractor under this or any other contract.

90 Contract documents and materials to be treated as confidential:

All documents, correspondences, decisions and orders, concerning the contract shall be considered as confidential and/or restricted in nature by the contractor and he shall not divulge or allow access to them by any unauthorized person.

91 General obligations of Contractor:

- a. The contractor shall, subject to the provision of the contract and with due care and diligence, execute and maintain the works in accordance with specifications and drawings.
- b. The contractor shall promptly inform the Department and the Engineer-in-Charge of any error, omission, fault and such defect in the design of or specifications for the works which are discovered when reviewing the contract documents or in the process of execution of the works.
- c. If Contractor believes that a decision taken by the Engineer-in-Charge was either outside the authority given to the Engineer-in-Charge by the Contract or that the decision was wrongly taken, the decision shall be referred to the technical expert within 14 days of the notification of the Engineer-in-Charge's decisions.
- d. Pending finalization of disputes, the contractor shall proceed with execution of work with all due diligence.

92 Security measures:

- a) Security requirements for the work shall be in accordance with the Departments general requirements including provisions of this clause and the Contractor shall conform to such requirements and shall be held responsible for the actions of all his staff, employees and the staff and employees of his sub-contractors.
- b) All contractors' employees, representatives and sub-contractor's employees shall wear identifications badges provided by the contractor. Badges shall identify the contractor,

showing and employee's number and shall be worn at all times while at the site. Individual labour will not be required to wear identification badges.

- c) All vehicles used by the contractor shall be clearly marked with contractor's name.
- d) The contractor shall be responsible for the security of the works for the duration of the contract and shall provide and maintain continuously adequate security personnel to fulfill these obligations. The requirements of security measures shall include, but not limited to maintenance of order on the site, provision of all lighting, fencing, guard flagmen and all other measures necessary for the protection of the works within the colonies, camps and elsewhere on the site, all materials delivered to the site, all persons employed in connection with the works continuously throughout working and non working period including nights, Sundays and holidays for duration of the contract.
- e) Other contractors working on the site concurrently with the contractor will provide security for their own plant and materials. However, their security provisions shall in no way relieve the contractor of his responsibilities in this respect
- f) Separate payment will not be made for provision of security services.

93 Fire fighting measures:

- a) The contractor shall provide and maintain adequate fire fighting equipment and take adequate fire precaution measures for the safety of all personnel and temporary and permanent works and shall take action to prevent damage to destruction by fire of trees shrubs and grasses.
- b) Separate payment will not be made for the provision of fire prevention measures.

94 Provisions of Health and Sanitation:

- a. The contractor shall implement the sanitary and watch and ward rules and regulations for all forces employed under this contract and if the Contractor fails to enforce these rules, the Engineer-in-Charge may enforce them at the expenses of the Contractor.

The contractor's special attention is invited to clause 37, 38, 39 and 51 of the preliminary specification to the A.P.S.S. and he is required to provide at his own expenses the following amenities to the satisfaction of Engineer-in-charge concerned.

- b. **First Aid:** At the work site there shall be maintained in a readily accessible place, first aid appliances and medicine including adequate supply of sterilized dressing and sterilized cotton wool. The appliance shall be kept in good order. They shall be placed under the charge of a responsible person, who shall be readily available during working hours.

c. Drinking water:

Water of good quality for drinking purpose shall be provided for the worker on a scale of not less than 2 gallons per head per day.

- a) Where drinking water is obtained from an intermittent public water supply each work site shall be provided with a storage tank, where such drinking water shall be stored.
- b) Every water supply storage shall be at a distance of not less than 10 M. from any latrine drain or other source of pollution where water has to be drained. Any existing well, which is within such proximity of any latrine, drain or other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be dust and water proof.
- c) A reliable pump shall be fitted to each inner well. The trap door shall be keep locked and opened only for inspection or cleaning which shall be done at least once a month.

d. Washing and bathing place:

Adequate washing and bathing places shall be provided separately for men and women. Such place shall be keep clean and well drained, bathing or washing should not be allowed in or near any drinking water well.

e. Latrine and Urinals:

There shall be provided within the area of every work site latrines and urinals in an accessible place to men and women separately. For each of them shall be on the following scales or the scale as directed by Engineer-in-charge in any particular case.

- (i) Where the number of persons employed does not exceed 50 2
- (ii) Where the number of persons employed exceeds 50 but does not exceed 100 3
- (iii) For every additional 100 3

If women are employed, separate latrines and urinals separated from those for men shall be provided on the same scale.

Except in work site provided with water flushed latrines connected with a water borne sewage systems all latrine shall be cleaned at least four times daily and at least twice during working hours and kept in a strict sanitary condition. The receipt scales shall be tarred inside and outside at least once a year.

The excrete from the latrines shall be disposed off at the contractors expenses in a way approved by the local public health authority. The contractor shall also employ adequate number of scavengers and conservancy shall to keep the latrines and urinals in a clean condition.

f. **Shelters during Rest:**

At the work site there shall be provided free of cost two suitable sheds, one for meals and other for rest for the use of workers.

g. **Creches:**

At every work site at which 50 or more women workers are ordinarily employed there shall be provided two huts of suitable size for use of children under the age of 6 years. One hut shall be used for infant's games and other as a bed room. The hut shall be constructed on a standard not lower than the following.

1. Thatched roofs
2. Mud floors and wall
3. Planks spread over the mud floor and covered with matting. The use of huts shall be restricted to children their attendants and mothers of the children.

h. Land should be acquired temporarily for Storing Contractor's materials or for housing their staff.

The contractor should make his own arrangements for temporary acquisition of land required for storing his materials and for the housing of his staff at his own expenses

95 Training of personnel:

The contractor, shall, if and as directed by the Engineer-in-Charge provide free of any charge adequate facilities, for vocational training of Departmental Officers, students, Engineers, supervisors, foremen, skilled workmen etc. not exceeding six in number at any one time on the contractor's work. Their salaries, allowances etc. will be borne by the Department and the training schemes will be drawn up by the Engineer-in-Charge in consultation with the contractor.

96 Ecological balance:

a) The contractor shall maintain ecological balance by preventing de-forestation, water pollution and defacing of natural landscape. The contractor shall so conduct his construction operation as to prevent any unnecessary destruction, scarring, or defacing of the natural surrounding in the vicinity of the work. In respect of the ecological balance, Contractor shall observe the following instructions.

- i) Where unnecessary destruction, scarring, damage or defacing may occur, as result of the operation, the same shall be repaired replanted or otherwise corrected at the contractor's expense. The contractor shall adopt precautions when using explosives, which will prevent scattering of rocks or other debris outside the work area. All work area including borrow areas shall be

smoothened and graded in a manner to conform to the natural appearances of the landscape as directed by the Engineer-in-Charge.

- ii) All trees and shrubbery which are not specifically required to be cleared or removed for construction purposes shall be preserved and shall be protected from any damage that may be caused by the contractor's construction operation and equipment. The removal of trees and shrubs will be permitted only after prior approval by the Engineer-in-Charge. Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other operation and the contractor shall adequately protect such trees by use of protective barriers or other methods approval by the Engineer-in-Charge. Trees shall not be used for anchorages. The contractor shall be responsible for injuries to trees and shrubs caused by his operations. The term "injury" shall include, without limitation bruising, scarring, tearing and breaking of roots, trunks or branches. All injured trees and shrubs be restored as nearly as practicable without delay to their original condition at the contractor's expense.

 - (iii) The contractor's construction activities shall be performed by methods that will present entrance or accidental spillage of solid matter contaminants, debris and other objectionable pollutants and wastage into river. Such pollutant and waste include earth and earth products, garbage, cement concrete, sewage effluent, industrial wastes, radio-active substances, mercury, oil and other petroleum products, aggregate processing, mineral salts and thermal pollution. Pollutants and wastes shall be disposed off in a manner and at sites approved by the Engineer-in-Charge.

 - (iv) In conduct of construction activities and operation of equipments the contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize the air pollution. The excessive omission of dust in to the atmosphere will not be permitted during the manufacture, handling and storage of concrete aggregates and the contractor shall use such methods and equipment as a necessary for collection and disposal or prevention of dust during these operation. The contractor's methods of storing and handling cement shall also include means of eliminating atmospheric discharges of dust, equipment and vehicles that give objectionable omission of exhaust gases shall not be operated. Burning of materials resulting from clearing of trees, bushes, combustible construction materials and rubbish may be permitted only when atmospheric conditions for burning are considered favorable.
- b) Separate payment will not be made for complying with the provisions of this clause and all cost shall be deemed to have been included in the unit rates and prices included in the contract if any provision is not complied with within a reasonable time even after issue of a notice in this respect, the necessary operations would be carried out by the Engineer-in-Charge at the cost of the Contractor, Orders of the Engineer-in-Charge in this respect would be final and binding on the contractor.

97 Preservation of existing vegetation:

- a) The contractor will preserve and protect all existing vegetation such as trees, on or adjacent to the site which do not unreasonably interfere with the construction as may be determined by the Engineer-in-Charge. The contractor will be held responsible for all unauthorized cutting or damage of trees, including damage due to careless operation of equipment, stockpiling of materials or trekking of grass areas by equipment. Care shall be taken by the Contractor in felling trees authorized for removal to avoid any unnecessary damages to vegetation and trees that are to remain in place and to structures under construction or in existence and to workmen.
- b) All the produce from such cutting of trees by the contractor shall remain the property of Department and shall be properly stacked at site, approved by the Engineer-in-Charge. No payment whatsoever shall be made for such cutting and its stacking by the Contractor. If any produce from such cutting is not handed over to the Department by the contractor, he shall be charged for the same at the rates to be decided by the Engineer-in-Charge. The recovery of this amount shall be made in full from the intermediate bill that follows.
- c) The contractor shall also make arrangements of fuel deposits for supply of required fuel for the labourer to be employed for cooking purpose at his own cost in order to prevent destruction of vegetation growth in the surrounding area of the work site.

98 Possession prior to completion:

The Engineer-in-charge shall have the right to take possession of or use any completed part of work or works or any part thereof under construction either temporarily or permanently. Such possession or use shall not be deemed as an acceptance of any work either completed or not completed in accordance with the contract with in the interest of Clause 28 of APSS except where expressly otherwise specified by the Engineer-in-charge.

99 Payment upon termination:

If the contract is terminated because of a fundamental breach of contract by the contractor, the Engineer-in-Charge shall issue a certificate for the value of the work done less advance payment received upon the date of the issue of the certificate and less the percentage to apply to the work not completed as indicated in the contract data. Additional liquidated damages shall not apply. If the total amount due to the Department exceeds any payment due to the contractor the difference shall be a debt payable to the Department. In case of default for payment within 28 days from the date of issue of notice to the above effect, the contractor shall be liable to pay interest at SBI PLR+2% per annum for the period of delay.

100 Access to the contractor's books:

Whenever it is considered necessary by the Engineer-in-Charge to ascertain the actual cost of execution of any particular extra item of work or supply of the plant or material on which advance is to be made or of extra items or claims, he shall direct the contractor to produce the relevant documents such as payrolls, records of personnel, invoices of materials and any or all data relevant to the item or necessary to determine its cost etc. and the contractor shall when so required furnish all information pertaining to the aforesaid items in the mode and manner that may be specified by the Engineer-in-Charge.

101 Drawing to be kept at site:

One copy of the drawings furnished to the contractor shall be kept by the contractor on the site and the same shall at all reasonable time be available for inspection and use by the Engineer-in-Charge and the Engineer-in-Charge's representative and by any other persons authorized by the Engineer-in-Charge in writing.

102 B.I.S. [I.S.I.] books, MoRT&H / APSS to be kept at site:

A complete set of Indian Standard specification, MoRT&H Specification (4th revision referred to in "Technical Specifications" and A.P.S.S. shall be kept at site for reference.

103 Site Order Book:

An order book shall be kept at the site of the work. As far as possible, all orders regarding the work are to be entered in this book. All entries shall be signed and dated by the Department Officer in direct charge of the work and by the contractor or by his representative. In important cases, the Deputy General Manager or the Chief General Manager will countersign the entries, which have been made. The order book shall not be removed from the work, except with the written permission of the Executive Engineer.

104 Variations by way of modification, omissions or additions:

For all modifications, omissions from or additions to the drawings and specifications, the Deputy General Manager will issue revised plans, or written instructions, or both and no modification, omission or addition shall be made unless so authorized and directed by the Deputy General Manager in writing. The Deputy General Manager shall have the privilege of ordering modifications, omission or additions at any time before the completion of the work and such orders shall not operate to annul those portions of the specifications with which said changes do not conflict.

Engineer-in-Charge's Decision:

It shall be accepted as in separable part of the contract that in matters regarding materials, workmanship, removal of improper work, interpretation of the contract drawings and contract specification, mode of the procedure and the carrying out of the work, the decision of the Engineer-in-Charge, which shall be given in writing shall be binding on the contractor.

105 Care and diversion of river/stream:

The contractor shall submit details regarding the diversion and care of river or stream during construction of the work along with a separate print-out of the time table showing earliest and latest start and finish dates of various activities. He should submit a detailed layout plan with drawings for the diversion and care of river during construction of work. The above arrangements shall be at contractor's cost.

106 Income tax

- a) During the currency of the contract deduction of income tax at 2.24% shall be made from the gross value of each bill of the contract, the contract value of which is in excess of Rs.10,000/-for deduction of tax at rates lower than 2.24% procedure stipulated under section 194-C(4) of Income Tax Act, 1961 shall be followed.
- b) Income Tax clearance certificate should be furnished before the payment of final bill.
- c) The contractor's staff, personnel and labour will be liable to pay personnel income taxes in respect of their salaries and wages as are chargeable under the laws and regulations for the time being in force, and the contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

107 Seigniorage charges as per GOMs No 67, I&C(MI) Dept., Dt 26-09-2015 & GOMs No 16 (I&C) dt 16-3-2016.

107.1 Seigniorage charges will be recovered as per rules from the work bills of the contract or based on the theoretical requirement materials at the rates indicated in the above G.Os. and as per Government Orders from time to time

107.2 The rates are liable to be revised and amended from time to time by the State Government, by notification in the 'Telangana Gazette'. If the revised seigniorage fee is more than the above mentioned, the recovery from the contractor's bills is as per revised rates, **without modifying the proposed seigniorage charges as mentioned above.**

107.3 The seigniorage charges are to be recovered as provided in the agreement. Any escalation in these charge beyond the provisions of the agreement are to be borne by the department debiting such escalated amount to the works estimate concerned.

107.4 Deleted

108 Goods & Service Tax (GST):

GST will be paid as per the rules in vogue

109 Supply of construction materials:

- i) The contractor has to make his own arrangements for procurements, supply and use of construction materials.
- ii) All materials so procured should confirm to the relevant specifications indicated in the bidding documents.
- iii) The contractor shall follow all regulations of the Department/Government of India in respect of import licenses etc., of the procurement of the materials is through imports

and he shall be responsible for the payment of applicable duties and taxes, port clearances, inland transportation etc.

- iv) The contractor shall make his own arrangements for adequate storage of the materials.
- a. The contractor shall purchase Bitumen / Emulsion only from the reputed firm i.e., HPCL, BPCL and IOCL. They shall not be permitted to use CRMB bought from private manufactures
- b. The contractors shall procure original bills towards purchase of bitumen / emulsion while submitting the bills for payment.

Deputy General Manager(HGCL) Concerned should endorse the name of work on the bills / vouchers / invoices for which the bitumen / emulsion is utilized to avoid reuse of bills on other works.

The contractors shall order and procure the bitumen / emulsion work wise so that the contractor obtain invoice / bills work wise and submit the same to the Deputy General Manager(HGCL) concerned while preparing the bills.

- c. Deleted

110 Labour cess:

An amount @ 1% (one percent) will be deducted from the bills payable to the contractor as per the provisions of Building & Other Construction workers (Regulation of employment and conditions of service) Act 1996 and Building & Other construction workers welfare cess act 1996 and the cess rules 1998 of Govt of India and G.O Ms No: 69, dt: 03-12-1999 and G.O.Ms No: 57, dt: 26-06-2007 & G.O.Ms No: 41 dt: 30-04-2007 and G.O.Ms No: 59, dt: 29-06-2007.

Any other special conditions applicable to the work put to Tender.]

SECTION -5
TECHNICAL SPECIFICATION
HYDERABAD GROWTH CORRIDOR LIMITED

Name of the Work: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

BID NOTICE No. 181 /CGM(T)/HGCL//DGM(Elec)/service road/2022-23, Dt: 03.04.2023

BIDDING DOCUMENTS FOR ITEM RATE CONTRACT

Section	Description	Page No.
5	Technical Specifications	
6	List of Approved Makes	

SCOPE OF WORK:

Name of the Work: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

Street Lighting Electrical Work:

PROJECT BACKGROUND

The street lighting is to be provided with average Lux Level of 30 for 4 lane service road of Outer Ring Road Hyderabad as under:

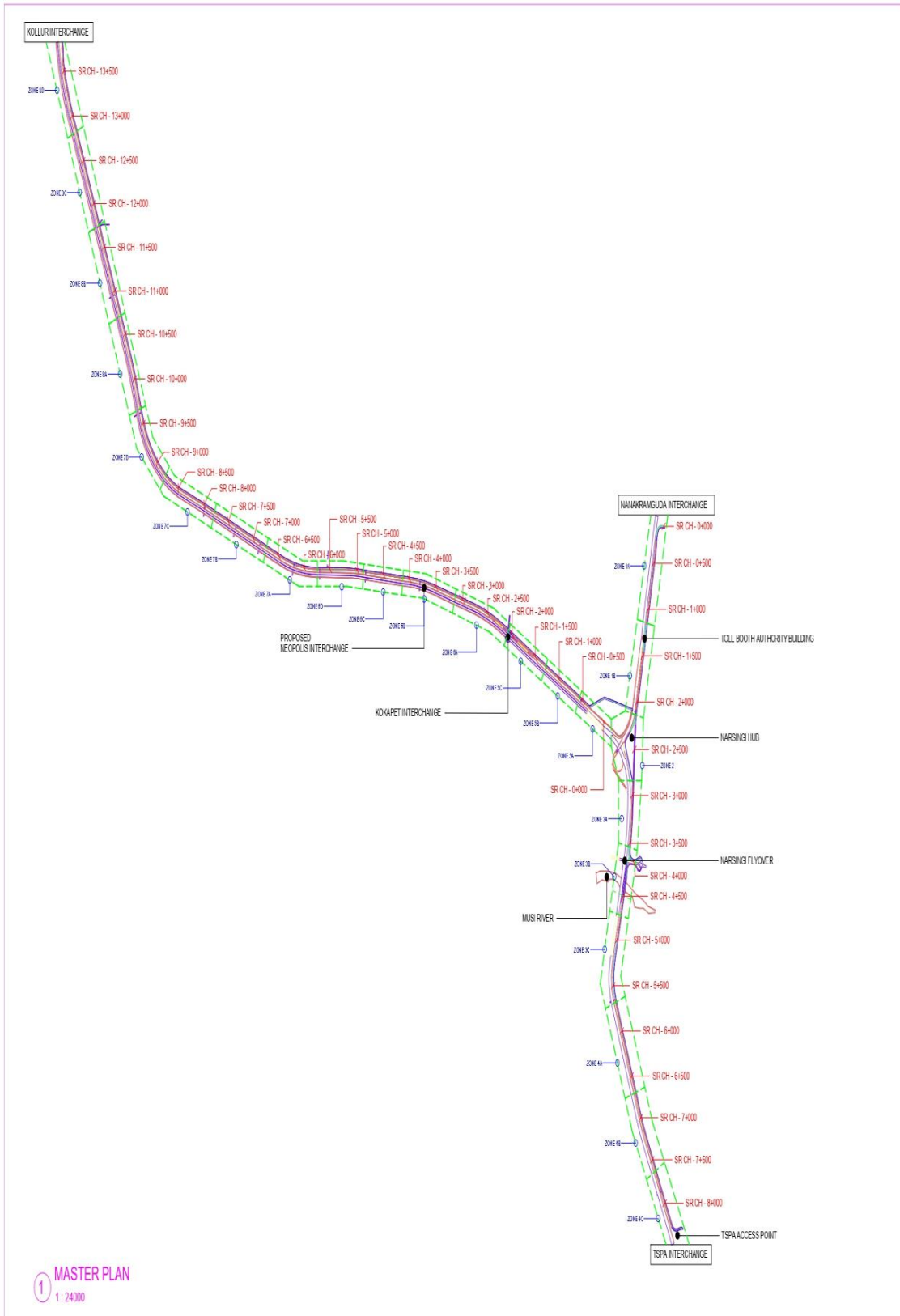
- i. Inner side of ORR from Nanakramguda to My Home Avathar : 2.2.Km**
With available 6.0m height poles and lights with span length of 25m on both sides of service road of 16.0m width placing the poles in opposite to each other.

- ii. Inner side of ORR from My Home Avathar to TSPA junction : 6.5.Km**
With newly proposed 9.0m Poles and lights with span length of 30m on 1.0m median of service road of width 7.5m/7.5m.

- iii. Inner side of ORR from Narsingi to Kollur junction : 8.5.Km**
With newly proposed 9.0m Poles and lights with span length of 30m on 1.0m median of service road of width 7.5m/7.5m.

- iv. Outer side of ORR from Narsingi to Kollur junction : 8.5.Km**
With newly proposed 9.0m Poles and lights with span length of 30m on 1.0m median of service road of width 7.5m/7.5m

Site Location Map



1 MASTER PLAN
1:24000

Highway Lighting:

HGCL Hyderabad and their nominated electrical consultant reviewed various Updated Lighting technology and standards applicable in India as well as Abroad and using recent trends in International / Domestic Lighting has come to a conclusion to follow following standards for maintaining Illumination level for respective areas.

Location	Horizontal Average Illumination at 0.0 m level Road surface	Uniformity [E minimum / E average]	Uniformity Transverse [E minimum / E Maximum]	uniformity longitudinal [E minimum / E Maximum]
4/6/8 Lanes Highways	30	0.4	0.33	>0.7
Cross roads	30	0.4	0.33	>0.7
Service Roads	30	0.4	0.33	>0.7
Junctions	50	0.4	0.25	-
Under Pass Area of bridges / various Junctions below Main carriage ways	30	0.4	0.33	DELETED

Special Note

1. Highway lighting 4/6/8/10 lanes Illumination standards decided by HGCL as per I.S.1944 (Part –I & II) 1970 and as per National Lighting Code 2010(SP72:2010) of BIS.
2. Light Loss Factor: 0.85.to be considered.
3. Major Carriage ways & Flyovers i.e. 6/8 lanes Bidders are requested to match Horizontal Illumination as specified.
4. Grid of illumination Measurement: 1.75m (transverse) x 3.00m (longitudinal) For highways.
5. Grid of illumination Measurement: 1.75m (transverse) x 3.00 m (longitudinal) For Service Roads.
6. Grid of illumination Measurement: 2.5 m (transverse) x 2.5 m (longitudinal) For Junctions.
7. Grid of illumination Measurement: 2.5m (transverse) x 2.5m (longitudinal) For underpass areas of Fly-overs & various junction areas.

Lighting (General Outdoor Illumination):

Outdoor lighting as per Bill of Materials estimated for above project indicates an efficient street lighting/area lighting of the Service Roads .

Pease refer Drawing / Bill of Material along Technical Specifications to follow. For *Successful Bidders* there will be a condition that they have to submit Lighting design for the

Various locations before execution of the work and same has to be approved by *HGCL's* Consultant & Engineer. Lighting design should adhere from the approved Manufacturer list only and there if it is not meeting the desired light level during design or after execution then bidders will have to compensate illumination level with extra supply of Light fittings /poles/electrical mentioned in the list w/o any extra cost.

Initial design have been made based on the luminaries reference in the drawings and there though on each item similar equivalent have been approved; however on different manufacturer equivalent in case design does not match as per location wise requirement there initial luminaries type have to give priority with even in case of initial luminaries catalogue reference if bidders are following respective manufacturer design to be submitted for approval.

Successful Bidders will have to submit execution drawings indicating poles, mast positions and a declaration regarding Specification of Poles and light fittings are followed as per specification mentioned along Bill of Materials. After completion of all works as built drawings has to be submitted duly indicating the poles, High masts and feeder pillar boxes. The numbering should be given to all poles, location wise details of poles connected to each feeder pillar has to be painted on feeder pillar boxes.

Scope of the project:

The services of Street lighting/ High Mast Lighting & Experienced in Electrical contractors/Manufacturer are called for the New Street lighting/ High mast Lighting on Service Roads with modern concept of Lighting as planned. The broad area of scope is detailed in technical specifications / drawing / and bill of materials.

illumination Design Concept

The service road will have 9m Pole with 1.0 m overhang consists of 2x120-130 watt Led street light to cover Road span 7.5 m on one side. Poles will be spaced at 30m Spacing between the poles on same direction. Pole foundation should be 300 mm above the ground level, the mounting height of luminar is about 9.3 mts

ELECTRICAL SYSTEM SECTION WISE –LOCATION WISE

Electrical power supply shall be arranged from existing power source of Main Carriage way of ORR control panels available at every 2.0Km intervals with 4CX25Sqamm LT XLPE cable up to newly proposed distribution panels or as approved by the Engineer In-charge as per the site conditions.

Sub feeder pillar for service road:.

Supplying, installation, testing & commissioning of cubical type IP 55 for outdoor type Distribution Panel for 415V, 3 Phase, 4Wire 50 Hz AC supply system fabricated in compartmentalized (preferably) design from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland plates I/C cleaning & finishing complete with 7 tank process for powder coating in approved shade, having suitable capacity extensible type TPN Copper bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 50KA for 1 Sec., bottom base angle of MS section not less than 50mm x 50mm x 5mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with 1.5 sq.mm. zero halogen fire retardant insulated copper conductor S/C cable, cable alleys, cable gland plates in two half, i/c providing following switch gears.. The panel shall be mounted on the suitable foundation etc complete for finished item of work for service road feeder pillar.

Incoming

1 Set of 32A 4P MCCB 25KA.

RYB LED indicating light protected by 2 Amp. S.P. MCB

10A Auto Manual Switch,6Amps SP MCB 10KA

Outgoing

3 Set of 16 A TP MCB 10 KA /9Nos 16A SP MCB10KA

Auxiliary contactor (2No+2Nc),240AC

HORIZONTAL DIRECTIONAL DRILLING:

Horizontal directional drilling for 160mm /110mm with duct laying and digging the pits for setting high end automated Appolo or equivalent HDD Machine at both ends of crossing has to be done on outer ring road or service roads, up& down ramps with out cutting the roads. Manufacture supply & delivery of 160 /110mMM dia HDPE pipe confirming to IS 4984-1995 including transportation to work site pressure – 8 Kg/sqmm Grade PE-80 has to be laid after drilling the duct before laying the cable and sealing has to be done both end for future usage.

DETAILED TECHNICAL SPECIFICATION OF OCTAGONAL HOT DIP GALVANISED STREET LIGHT POLES.

1.01 Structure:

Poles shall be continuously tapered OCTAGONAL cross section, presenting a good and pleasing appearance and based on proven design conforming to international standards, to give an assured performance, and reliable service. The pole shall be suitable for wind loadings as per IS 875 part3 1987.

1.02 Construction :

Poles shaft shall be fabricated from special steel plates, 3/4 mm thick, conforming to ASTM A 572 Gr 50, cut and folded to form an octagonal section and welded. Steel shall be with less than 0.06 % silicon content to assure a better and lasting quality for galvanizing. Poles shall be made in single section. The welding shall be in accordance with AWS. The procedural weld geometry and the workmanship shall be exhaustively tested on the completed welds. Welding shall be checked by using ultrasonic testing methods also.

Minimum dimensions of the pole shall be as per the enclosed drawings. Poles shall be provided with base plate, which shall be free from any lamination or incursion. The welded connection of the base flange shall be done using a base plate welding machine and shall be fully developed to the strength of the entire section. The base of the pole shall be complete in all respects with base plate before hot dip galvanizing internally and externally as per ASTM A 123 and 153. Pole shall be hot dip galvanized in single dipping method. No cutting or welding shall be allowed on the pole after hot dip galvanising. Hot dip galvanizing above 86 Microns as per BS729. 4 no.s stiffeners should be provided for 12.0/9.0/7.5mts height pole.

An adequate door opening shall be provided at the base of the pole at a convenient location. Provision shall be given inside this door for fixing the electrical terminals. The opening shall be such that it permits clear access to the inside of the pole. The door opening shall be complete with a close fitting, vandal resistant, door; provided with a screw type locking facility.

1.03 Pole bracket

Poles shall be provided with a single arm or double arm bracket as per the requirement of the project. Bracket shall be connected to the pole by using a proper connection as per the enclosed drawings. Brackets also shall be Hot dip galvanized. Poles and Brackets shall be of the same make.

1.04 **Foundation Bolts.**

Foundation bolts for the pole shall be supplied by the pole manufacturer. Foundation bolts shall be designed and manufactured using EN-8 steel as per the enclosed drawings. Exposed threaded portion of the foundation bolts shall be galvanized. Bolts shall be supplied with 2 nuts and 2 washer with lock nut.

All] street lighting will be followed as per above luminaries for street lighting or approved equivalent:

1X 120-130 WATT LED STREET LIGHT

High power Modular Street light is a state of art street lights. Lantern with flexible LED modules with its robust product construction high system efficacy and good optical design.

- LED Street light is recommended for service roads, where as the road width around 7.5mts
- Electrical Load is 120-130 watt.
- Street Light Luminaries should deliver 16250 Lumens. Minimum
- Housing: High pressure Die-cast LM6/ADC12 Aluminum housing with corrosion resistant polyster powder coating with separate optical compartment ,manufacture emblem logo embossed in to the housing.
- Non-Corrosive Optical Cover.
- Extra-white Toughened Glass thermally hardened.
- Mounting bracket: Integrated with Luminaries High pressure die-cast Aluminum
- Gasket: Silicon Rubber.

TECHNICAL SPECIFICATION

[Applicable for Service Road Luminaries]

No	Criteria	Specification for LED street light fitting
1	Luminaries configuration / technical requirement	Shall consist of separate optical and control gear compartment. Driver should be early replaceable in the field condition
2	Housing / Body of fitting	High pressure die cast Aluminum LM6/ADC12 housing with corrosion resistant polyester powder coating with separate optic compartment manufacturer emblem/logo embossed into the housing.
3	Finish	Aesthetically designed housing with corrosion resistant polyester powder coating.
4	Cover / glass	LED cover - UV stabilized Polycarbonate / Integrated optics cover/ Toughened glass. (The integrated optics cover should be non-corrosive, non- yellowing and should not depreciate light due to aging).
5	Glare control details	Luminaire should be full cut-off as per IS 1944. The dome and engineering of Luminair should be in such a way that light should be light up road but should not distract & should not visible to driver while travelling on road.
6	Protection – IP	Optical and Control gear compartment-IP 66
7	Impact resistance	Impact resistance greater than or equal to IK 08
8	Optical assembly	Structured High power LED array with ceramic base and single die for optimized roadway distribution photometric with photometric lenses designed to optimize application efficiency and minimal glare.
9	Operating voltage	140-270 volt universal electronic driver
10	Frequency	50 Hz
11	Power factor	> 0.95
12	Fixture designed ambient Temperature	+ 35 degree C
13	Operating temperature	Range 0 to +50 degree C
14	Working Humidity	10% to 90% RH
15	Storage Temperature	0 to 50 degree C
16	Total Current Harmonic distortion	Total Current Harmonic Distortion should be lesser than 10%
17	Total system wattage and lumens of Fixture including Driver	Nominal value to be printed in the label and within +/- 2% variation from the printed value
18	LED efficacy (lumen/watt)	Efficacy of LED should be greater than 130 lumens / watt.
19	LED Luminaire efficacy	>125 lumen/watt
20	Power efficiency / LED driver efficiency	The efficiency shall be more than 85 % in all cases at all times during project period.

21	Lumen maintenance	L70 @ 50,000 hours
22	Correlated Colour temperature	Correlated Color Temperature shall be nominal 5700K (with variation limits of ± 355 K) per ANSI C78.377A CCT standard.
23	CRI	The value of CRI shall be more than 70.
26	Make of LED	Make of LED: CREE /Philips Lumileds /Osram/Nichia . The LED shall be of Surface Mounted Design
27	Lens	Lens to provide on appropriate LEDs to obtain desired distribution.
28	LED Drive Current	LED Driving current not more than 1050ma
29	Driver Specification	140-270 Volt universal potted electronic/ analog dimmable drivers with internal surge protection more than 4KV SPD in side the luminair with DALI/ (0 to 10 volts) or (any proved technology) Dimming.
30	Lumen Output Variation	The Luminaire light shall be constant. The voltage variation / fluctuations in the specified voltage range shall not impinge upon the lumen it produces. Maximum +/- 2% is allowed throughout in the input operating voltage range.
31	Electrical safety as per IEC.	As per IEC safety standards IEC61000, 61547, 61347
32	Standard Conformations of luminaire	The luminaire conform to IEC 60598 / 10322
33	Reports / certifications	Any CPRI/NABL accredited laboratory for luminaries and driver
34	Luminaries protection	External surge protection of 10KV (DM / CM) and protection device like over voltage and short circuit, over load, open circuit, mis wiring ect., components should be enclosed in a housing / Luminaries
35	Test Reports of luminaries	(a)The luminaire should be tested as per IEC 60598 standards and following test reports should be submitted: Heat Resistance Test, Thermal Test, Ingress Protection Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test & surge test. The Test reports of luminaire should be tested for 'Drop test' as per IEC 60068-2-31/IS9000 Part 7 / Sec 3 standards. The luminaire should be tested for 'Vibration test' as per ANSI/IEC 68-2-6 standards. Measurements of Solid-State Lighting Products) (b) The LED' used should comply to LM-80 standards (IESNA: Approved Method for Measuring Lumen Maintenance of LED Light Sources and LED lumen depreciation time to L70 based on LM-80 data) © The luminaries should be tested for Electrical & Photometric parameters should comply to LM-79 standards and surge test

		(d) Copy of above test certificates should be Submitted with tender. (e) Random samples from supplied lot should be tested at CPRI/NABL and report submitted for acceptance
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36	Serial number	LED street light fitting should be supplied with serial number which should be printed on label the same should fixed to the fitting. The label should mention: Name of Manufacturer, model name and number, system lumen pack, nominal CCT, Wattage of fitting, Date of Manufacture, and other labeling details as per IS.
37	Guarantee	100% replacement guarantee for a period of seven years from the date of energisation for the Electrical and Photometric

General Distribution Board Specifications:

All MDB's/ SDB's/ DB's should be provided with polythene/PVC plastic cover to protect them from rust/damages, during execution of work till the work is actually completed and handed over to the department.

The loose wire boxes/cable end boxes (adaptor boxes) shall be provided on the various electrical boards to facilitate the termination of the wiring in the various mountings. The boxes shall be of the same make as the DB's as far as possible.

Wherever the company made cable end boxes are not available they shall be neatly fabricated with 16 SWG CRCA sheet steel, duly powder coated, dust & vermin proof and the front cover of MS sheet shall be with rubber gasket suitably screwed or with 3mm thick phenolic laminated sheet of Hylam/ Formica instead of MS sheet, as desired by the Engineer-in-charge. The length of such boxes shall be same/or more as the width of the electrical switchboard. Such loose wire boxes are deemed included in the scope of the work and no extra payment shall be made for them.

All floor-mounted panels shall invariably be provided with 200mm height blank cubicles at the bottom and shall be mounted on 75mmX75mmX6mm thick M.S. channel on all the sides. It shall have a continuous earth bus of the same size and material as the main phase running continuously along the length of the panel extending on either side for earth connection.

The doors of all cubicle panels shall be hinged type including those of bus bar chambers and cable Alleys. The locking shall be with chrome plated metal key locks. All doors shall be earthed with copper conductor wire as approved by the Engineer-in-charge.

All panels/DB's shall be suitable for 50°C ambient temperature.

The MCB should be of the same make as that of MCB DB's. Contractor shall obtain approval of the Engineer-in-charge before procurement of MCB DB's. Cables and wires will be connected to MCB's through screw less connectors.

All model of modular accessories required for the work shall be got approved from the Engineer-in-charge from among the approved makes. The base plate shall be preferably in sheet steel or otherwise in unbreakable polycarbonate/ABS. The cover plates shall be screw less type in shade approved by the Engineer-in-charge.

The MCCB's shall be compatible for microprocessor based circuit breaker control modules for reliable protection and accurate measurement. The rated Service breaking capacity (kArms) shall be 100% of Ultimate breaking capacity (kArms). All MCCB's shall be current limiting type with features of load-line reversibility and suitable for horizontal as well as vertical mounting without any de-rating.

MCCB's shall be used with terminal spreaders and all terminals shall be shrouded to avoid direct contact. Cables and wires will be connected to MCCB's through screw less connectors.

Mechanical Castle key interlock shall be provided between the incomer MCCB's, wherever two different incomer sources are provided in the panel, as per the directions of the Engineer in charge. The same is deemed included in the scope of work.

All measuring and indicating instruments shall be protected through fuses/ MCB's and isolating switches. All work should be carried out as per drawings and specifications and as approved by the "Engineer- in- Charge".

L.T CABELS

1. GENERAL

L.T. Cables shall be supplied, inspected, laid, tested and commissioned in accordance with drawings, specifications, relevant Indian Standards, CPWD specifications and cable manufacturer's recommendations. The cable shall be delivered at site in original drums with manufacturer's name clearly written on the drums. The recommendations of the cable manufacturer with regard to jointing and sealing shall be strictly followed.

2. MATERIALS

The LT Power cables shall be XLPE insulated PVC sheathed type aluminum conductor armoured cable conforming to IS : 7098 : Part-I : 1988 with up-to-date amendments and also PVC insulated copper conductor armoured cable conforming to IS:1554 : Part I : 1988 whereas control cable shall be PVC insulated copper conductor armoured/unarmoured cable conforming to IS: 1554 : Part-I : 1988.

3. INSTALLATION OF CABLES

Cables shall be laid directly in ground, pipes, masonry ducts, on cable tray, surface of wall/ceiling etc. as indicated on drawings, BOQ and/or as per the direction of Engineer-In-Charge. Cable laying shall be carried out as per CPWD specifications.

4. INSPECTION

All cables shall be inspected at site and checked for any damage during transit.

5. JOINTS IN CABLES

The Contractor shall take care to see that the cables received at site are apportioned to various locations in such a manner as to ensure maximum utilisation and avoiding of cable joints. This apportioning shall be got approved from Engineer-In-Charge before the cables are cut to lengths.

6. LAYING CABLES IN GROUND

Cables shall be laid by skilled experienced workmen using adequate rollers to minimize stretching of the cables. The cable drums shall be placed on jacks before unwinding the cable. With great care it shall be unrolled on over wooden rollers placed in trenches at intervals not exceeding 2 metres. Cables and other accessories shall be laid as per CPWD specification and other relevant IS codes. Cable shall not be laid in the same trench or alongside a water main.

At all changes in direction in horizontal and vertical planes, the cables shall be bent smooth with a radius of bent not less than 12 times the diameter of cables. Minimum 3 meter long loop shall be provided at both end of cable.

Distinguishing marks may be made on the cable ends for identifications of phases. Insulation tapes of appropriate voltage and in red, yellow and blue colours shall be wrapped just below the sockets for phase identifications.

PROTECTION OF CABLES

The cables shall be protected by bricks laid on the top layer of the sand for the full length of underground cable. Where more than one cables is laid in the same trench, the bricks shall cover all the cables and shall project a minimum of approximately 80mm on either side of the cables. Cable under road crossings and any other places subject to heavy traffic shall be protected by running them through Hume Pipes of suitable size.

EXCAVATION & BACK FILL

All excavation and back fill required for the installation of the cables shall be carried out by the Contractor in accordance with the drawings and requirements laid down elsewhere. Trenches shall be dug true to line and grades. Back fill for trenches shall be filled in layer not exceeding 150mm. Each layer shall be properly rammed and consolidated before laying the next layer.

The Contractor shall restore all surface, roadways, sidewalks, kerbs wall or the works cut by excavation to their original condition to the satisfaction of the Engineer-In-Charge.

LAYING OF CABLES ON CABLE TRAY/SURFACE OF WALL / CEILING

Cable shall be laid on perforated M.S. Cable tray. Cables shall be properly dressed before cable ties/clamps are fixed. Wherever cable tray is not proposed, cables shall be fixed on

surface of wall or ceiling slab by suitable MS clamps/ saddles. Care shall be taken to avoid crossing of cable.

CABLES ON HANGERS OR RACKS

The Contractor shall provide and install all iron hangers racks or racks with die cast cleats with all fixings, rag bolts or girder clamps or other specialist fixing as required.

Where hangers or racks are to be fixed to wall sides, ceiling and other concrete structures, the Contractor shall be responsible for cutting away, fixing and grouting in rag bolts and making good.

The hangers or racks shall be designed to leave at least 25mm clearance between the cables and the face to which it is fixed. Multiple hangers shall have two or more fixing holes. All cables shall be saddled at not more than 150mm centres. These shall be designed to keep provision of some spare capacity for future development.

CABLES TAGS

Cable tags shall be made out of 2 mm thick aluminum sheets, each tag 1-1/2 inch in dia with one hole of 2.5mm dia, 6mm below the periphery. Cable designations are to be punched with letter/number punches and the tags are to be tied inside the panels beyond the glanding as well as below the glands at cable entries. Trays tags are to be tied at all bends. On straight lengths, tags shall be provided at every 5 metres.

TESTING OF CABLES

Prior to installation, burying of cables, following tests shall be carried out. Insulation test between phases, phase & neutral, phase & earth for each length of cable.

- a. Before laying.
- b. After laying.
- c. After jointing.

On completion of cable laying work, the following tests shall be conducted in the presence of the Engineer-In-Charge.

- 2 Insulation Resistance Test (Sectional and overall).
 - o) Continuity Resistance Test.
 - p) Earth Test.

All tests shall be carried out in accordance with relevant Indian Standard code of practice and Indian Electricity Rules. The Contractor shall provide necessary instruments, equipment's and labour for conducting the above tests & shall bear all expenses of conducting such tests.

PROTECTIVE EARTHING & LIGHTNING PROTECTION Scope

The scope of work shall cover earthing stations, laying copper/GI earth strips and connecting the power panels, DBs and switch boards.

Indian TNS system of earthing as shown on IS: 3043 shall be followed for the entire installation under the scope.

All the non-current carrying metal parts of electrical installation shall be earthed properly. All metal conduits, trunking, cable sheaths, switchgear, distribution fuse boards, light fittings and all other parts made of metal shall be bonded together and connected by means of specified earthing conductors to an efficient earthing system. All earthing shall be in conformity with Indian Electricity Rules. The Earthing System shall totally comprise the following:-Earth Electrodes

Earthing Leads Earth Conductors Residual current earth leakage circuit breakers where applicable per IE rules All three phase equipment shall have two separate and distinct body earths and single phase equipment shall have a single body earth.

Standards

The following standards and rules shall be applicable:

- q) IS: 3043 - 1966 Code of Practice for earthing.
- r) Indian Electricity Act and Rules

All codes and standards mean the latest. Where not specified otherwise the installation shall generally follow the Indian Standard Code of Practice or the British Standard Code of Practice in the absence of Indian Standards.

Scheme:

Lightning Protection:

To cater for lightning protection of the complete roof structure made of steel including the flood lighting system it has been proposed to provide for 1 no of 1200 mm long GI finial at top of each of the 22 light mast provided in the inner edge of the roof and one no of 1200 mm long GI finial at the top of the alternate cable supporting steel column on the outer edge of the roof structure. Thus there will be 44 finials, which will be interconnected through horizontal run of GI lightning conductors of 20 mm x 3 mm GI tape both radially from inside to outside and circumference on the outer edge. The complete steel structure should be connected to the lightning system through horizontal conductors. 22nos down conductors here been provided on the outer support column structure and connected to the earth, thus GI plate earth and testing joints.

Body Earthing:

Body earthing of the sports lighting system is provided thus 4nos GI plate earth at each of the sports lighting control room where the earthing is terminated in two nos. of GI earth Busbars. Two sets of GI tape earthing of two no 50 mm X 6 mm GI strip shall independently run from the

sports lighting control up to the roof and distribution board placed there. From distribution boards to individual fixture earthing connection to be continued through 3 core power cables.

Earthing Material

Materials of which the protective system is composed shall be resistant to corrosion or be adequately protected against corrosion. The material shall be as specified in the schedule of quantities BOQ and shall comply with the following requirements:

Galvanised Steel - Galvanized steel used shall be thoroughly protected against corrosion by hot dipped Zinc coating. The material coating shall withstand the test specified in IS 2309:1969.

The strips to be used shall be in maximum lengths available as manufactured normally avoiding unnecessary joints.

Earth Stations

Plate Earthing Station

The earthing station shall be as shown on the approved working drawing. The earth electrodes shall be 600 x 600 x 6 mm GI plate as required. The earth resistance shall be maintained with a suitable soil treatment and watering arrangement as per approved working shown on drawings or as directed at site. Excavated soft soil shall be thoroughly mixed with 6 percent by weight of common salt with 10 percent by weight of water and alternate layers of charcoal and filled in the earth pit. Independent earth shall have same specification subject to meeting the earthing value criterion for communication system. The resistance of each earth station should not exceed 1 ohms. The earth lead shall be connected to the earth plate through brass bolts as per approved working drawings.

Number of Earth Stations

In all cases the relevant provision of rule 33, 61 & 67 of the Indian Electricity Rules 1956 as amended shall be complied with.

The number of stations shall be large enough to trip on over current largest MCCB in the system

Metallic covers or supports of all medium or H.T. apparatus or conductors shall, in all cases be connected to not less than two separate and distinct earth electrodes.

Location of Earth Electrode

The following guidelines shall be followed for locating the earth electrodes An earth electrode shall not be situated less than 3 metres from any building. The excavations for electrode shall not affect the column footings or foundations of the buildings. Entrances, pavements and road ways shall not be used for locating the earth electrode. In such cases electrode may be further away from the building.

The location of the earth electrode shall be such where the soil has reasonable chance of remaining moist, as far as possible.

Method of Installing Watering Arrangement In the case of plate earth electrode, a watering pipe of 50mm dia. of medium class G.I. Pipe shall be provided and attached to the electrode. A funnel with mesh shall be provided at the top of this pipe for watering the earth. The watering funnel attachment shall be housed in masonry enclosure of not less than 1000 x 500 x 600 mm. A cast iron/M.S. frame with cover having identity mode "EARTH" and having locking arrangement shall be suitably embedded in the masonry enclosure.

Earth leads and connections

The strip earthing leads shall be connected to the Earth Electrode at one end and to the main equipment at the other end. The earthing lead shall connect to the earthing network in the installation.

Earth lead shall be bare copper or galvanised steel as specified with sizes shown of on approved working drawings. Copper lead shall have a phosphor content of not over 0.15 percent. Galvanized steel buried in ground shall be protected with bitumen and hessian wrap or polythene faced hessian and bitumen coating. At road crossings necessary hume pipes or UPVC Pipes shall be laid. Earth lead run on surface of wall or ceiling shall be fixed on saddles or wall so that the strip is at least 8mm away from the wall surface.

All earth strips shall be jointed as follows:

- Copper : Copper riveting with 80mm fish plate and brazing
- Galvanized : Lap welding with 50mm minimum lap Steel: Overlay: not less than 50 mm in all cases

Strip earthing leads shall be of copper/GI and as per specifications. The buried strip earthing lead shall be in trench not less than 0.5 m deep. If conditions necessitates use of more than one earthing lead, they shall be laid as widely distributed as possible, preferably in a single straight trench or in a number of trenches radiating from one point. In the case of plate earth electrode, the earthing lead shall be securely bolted to the plate with two bolts, nuts, check nuts and washers as required by IS 3043:1987. All materials used for connecting the earth lead with electrode shall be GI in case of GI Pipe and GI plate earth electrodes or tinned brass in case of Copper plate electrode.

Connection of Earthing Conductors.

Main earthing conductors shall be taken from the earth connections at the substation to the earth bar at the main switch boards in the TN-S configuration and the earth bar may also be directly earthed as in Indian TN-S.

Sub-mains earthing conductors shall run from the earth bar at the main switch board to the sub distribution boards and to the final distribution boards. Loop earthing conductors shall run from the final distribution boards and shall be connected to any point on the main/sub-main earthing conductor, or its distribution board.

Metal conduits, cable sheathing and armouring shall be earthed at the ends adjacent to switch boards at which they originate, or otherwise at the commencement of the run by an earth bonding conductor in effective electrical contact with cable sheathing, switches, accessories,

lighting fitting etc. shall be effectively connected to the Loop Earthing Conductors. A metallic conduit shall not be considered as the only protective earth conductor.

Point wiring for lights, fans, ceiling fans, exhaust fans, 5 A & 15A sockets and the like and sub-main wiring, shall all have an earth continuity conductor (ECC) with the same cross section and type of wires used, the minimum in this case being 2.5 sqmm copper.

Prohibited Connections.

Neutral conductor, sprinkler pipes, or pipes conveying gas, water, or inflammable liquid, structural steel work, metallic enclosures, metallic conduits and lighting protection system conductors shall not be used as a means of earthing an installation or even as a link in an earthing system. However, these are to be effectively earth boded.

Resistance to Earth.

No earth electrode shall have a greater ohmic resistance than 3 ohms as measured by an approved earth testing apparatus. In rocky soil the resistance may be up to 5 ohms. The electrical resistance measured between earth connection at the main switchboard and any other point on the completed installation shall be low enough to permit the passage of current necessary to operate fuses or circuit breakers. The number of earth stations should be increased to effectively achieve the tripping of the over current devices.

The clean earth shall be provided for communication system as per the values prescribed by the relevant standards

Equipment earthing

All apparatus and equipment transmitting or utilising power shall be earthed as per drawings. The earth continuity conductor may be drawn inside the conduit in which case, it should be insulated. Metallic conduit shall not be accepted as an earth continuity conductor. A separate insulated/bare earth continuity conductor of size related to phase conductor shall be provided. Non-metallic conduit shall have an insulated earth continuity conductor of the same size as above. All metal junction and switch boxes shall have an inside earth stud to which the earth conductor shall be connected. The earth conductor shall be distinctly coloured (green) for easy identification. Armoured cables shall be earthed by 2 bonding earth connections to the armouring at both the ends and the size of connection being as above. In multiple cables entering a panel/DB, the cable joints shall be bonded together using a bonding wire selected on the basis of the largest size of cable in the group. In the case of unarmoured cable, an earth continuity conductor shall either be run outside along the cable. 3-Ph. power panels and distribution boards shall have 2 distinct earth connections of the size correlated to the incoming cable size. In case of 1-Ph. DB's a single earth connection is adequate. Similarly for 3- Ph and 1-Ph. isolating switches there shall be 2 and 1 earth connections respectively, sizes being correlated to the incoming cable.

3-Ph. motors and other 3-Ph. apparatus shall have 2 distinct earth connections of size equal to incoming feeder size. For 1-Ph motor and 1-Ph apparatus, the single earth connections shall be provided of the above size.

Artificial treatment of soil

If the earth resistance is too high and the multiple electrode earthing does not give adequate low resistance to earth as specified in clause then the soil resistivity immediately surrounding the earth electrodes shall be reduced by adding sodium chloride, calcium chloride, sodium carbonate, salt and soft coke or charcoal in suitable proportions.

Testing

The following earth resistance values shall be measured with an approved earth megger and recorded. Each earthing station Earthing system as a whole Earth continuity

Tests on Completion

Tests on Completion procedure shall be applied to the equipment, switch gear comprising illumination including both external and internal electrification and power cables after they are installed at the specified location, and adjusted and tested by the Contractor. Test on completion shall be conducted at two levels; test on completion for a portion of works, and test on completion for the Works. The test on completion for a portion of works shall be conducted for a group of equipment at a site that functions as a subsystem and achieves part of the system functions. The unit of test shall be as specified hereunder.

The test on completion for the Works shall be conducted for the whole of the illumination system including the supporting switch gear. Overall system functions as illumination system shall be tested.

The Contractor shall keep a clear record of all tests conducted. The record shall include time, place, equipment, procedure, functions, persons attending, and faults or problems encountered. The test results, even if they are not satisfactory, shall be documented and submitted to the Employer's Representative for review.

If permanent electric supply is available the Employer will provide electricity free of charge to the Contractor for the purpose of conducting test on completion if permanent electrical supply is available. Otherwise, the Contractor shall arrange electricity, water and gas necessary for the test on completion.

The Contractor shall prepare or arrange the test apparatus and equipment, temporary connection, testing software, test data, test vehicle, tools and other items necessary for conducting test. The

cost of such items shall be included in the cost of test in the Pricing Document and no separate payment shall be made.

Plant and Equipment

In all cases where traffic is permitted to use the whole or a portion of the existing road before the work is completed, all plant items and similar obstructions shall be removed from the road at night, if at all possible. Otherwise, they shall be delineated at night if they stay within 2 meters of the edge of the roadway by two red lights suspended vertically from the point of obstruction nearest to the roadway. The lights may be omitted in cases where there is permanent obstruction, such as trees less than 2 meters from the edge of roadway and the plant or equipment are not closer to the road than the permanent obstruction.

During the day, a red flag shall project beyond the extremity of all plant items (other than vehicles) adjacent to the traffic lane

Vehicles

Vehicles that are used to carry out operations on the roadway and that are required to travel slowly or to stop frequently shall be made as conspicuous as possible. This shall be achieved by painting them in a distinctive colour or painting the rear portion with diagonal stripes of a contrasting colour or providing flashing lights on the top of the vehicle. They shall also have a plate on the rear side with the words "Slow Moving"

Safety Plan

The Contractor shall prepare and submit a safety plan before the start of installation work at site for approval of the Employer's Representative. The safety plan shall describe the precautions and measures to be followed by all members of the Contractor including the staff of subcontractors to prevent accident during the work. It shall also contain the emergency response measures in case of accident.

The Tenderer shall describe safety plan that the Tenderer intends to adopt for the works at site in his Technical Proposal.

Operator's Manual

The Contractor shall prepare and submit operator's manual to be used by the operators belonging to traffic monitoring and control division during their daily operation. The manual

shall explain the procedure to log-on and log-off for duty operator console and other procedures necessary for daily operation. In addition, the manual shall describe the operating procedure of the Roadside Equipment. The description shall be plain and concise in a step-by-step manner using illustrations and photos as much as possible. The details of the internal mechanism are not required in the manual. The manual shall also describe the action to be taken by operator in exceptional cases. The description shall be limited to the operation of the Equipment and system operation and the actions related to those events occurring on the road are not required.

Likewise, the manual shall describe the actions to be taken when any of the components comprising illumination becomes defective or malfunctions. Detail manual and outline manual shall be provided.

Workmanship

All equipment and components shall be new and shall be designed and manufactured in the soundest manner, using materials most suited to the particular services. All materials shall comply with the latest relevant authorized standards for testing materials unless otherwise specified or permitted by the Employer's Representative. For the design of all equipment, it shall be considered to enable to make ease of their maintenance work.

All workmanship shall be of the highest class throughout to ensure smooth and vibration free operation under all possible operating conditions, and the design, dimensions and materials of all parts shall be such that the stresses to which they may be subjected shall not render them liable to distortion, undue wear, or damage under the most severe conditions encountered in service.

All parts shall conform to the dimensions shown on the Employer's Requirements –

Drawings and shall be built in accordance with approved drawings. All joints, datum surfaces, and mating components shall be machined and all castings shall be spot faced for nuts. All machined finishes shall be shown on the approved drawings. All screws, bolts, studs & nuts and threads for pipe shall conform to the latest standards of the International Organization for Standardization covering these components and shall either all conform to the standards for metric sizes.

Nameplate

All equipment supplied under the Contract shall have a nameplate. The nameplate shall indicate as a minimum, manufacturer's name, model, type or make, serial number, manufactured month and year. In addition, other information such as input voltage, current, frequency, and complying standards may be described. Information on the nameplate shall be printed or inscribed in indelible manner.

The nameplate shall be firmly attached to the cabinet at the suitable position by screw, rivet or adhesive and shall not be easily removed.

Wind

All outdoor equipment and their support, individually and fully assembled and installed as a whole, shall withstand an instantaneous wind velocity of at least 45 m/sec.

Cable Identification

Cable and wire ends shall be prepared using only approved means which avoid damage to conductors and shall be clearly and indelibly marked in accordance with relevant diagrams for wiring up and circuit checking. Each cable shall have an indelible label securely fixed near each end, giving its reference number in the cable 'As-Built' schedules.

Throughout the installation the arrangement of wire and terminal identities shall be consistently followed and shall be as agreed with the Employer's Representative.

Any phase wires in power circuits used for distribution other than 240/415V shall have the phase voltage clearly marked at each end of the conductor.

SECTION -6

List of approved makes of Electrical materials to be used for the work providing LED Street Lighting on ORR Hyderabad.

S.No.	Materials	Make
1	Octagonal Poles	Bajaj / Valmont / TRANSRAIL.
2	LED street Lights	a).LUMINAIRE MAKE : Tested and certified by CPRI/NABL with authorized certificates in electrical & photometric parameters as per LM-79. b) LED MAKE : PHILIPS LUMILEDS / CREE / NICHIA / OSRAM / SAMSUNG.
3	MCBS/Isolators	L&T / Schreder / Siemens.
4	MCB Distribution boards	L&T / Schreder / Siemens.
5	LT UG aluminum cables	Torrent / Universal / CCI / Unicab/polycab/KEI/havels./Gloster Cable
6	Connectors	Elmex/ Connect well/ Raychem/ Andrew Yule
7	PVC FRLS / HFFR insulated flexible Copper cable	Finolex / RR kabel/ Gloster Cable
8	GI pipes/ GI wire / GI flat	TATA/JINDAL with ISI marked
9	HDPE pipes	Sudhakar,Dura Line (Dura guard) or its equivalent make
10	Powe contactors	L&T make ML type contactors only

SECTION-7

BILL OF QUANTITIES

PREAMBLE

1. The Bill of Quantities shall be read in conjunction with the instructions to Tenderers, General and Special conditions of Contract Technical Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional and are given to provide common basis for tendering. *The quantities here given are those upon which the lumpsum tender cost of the work is based but they are subject to alterations, omissions, deductions or additions as provided for in the conditions of this contract and do not necessarily show the actual quantities of work to be done.* The basis of payment will be actual quantities of work ordered and carried out as measured by the Contractor and verified by the Engineer and valued at the estimate rate plus or minus tender percentage quoted in the Bill of Quantities where applicable, and otherwise at such rates and prices as the Engineer-in-Charge may fix within the terms of Contract.
3. The estimate rates in the Bill of Quantities shall, except in so far as it is otherwise provided under the Contract include cost of all constructional material, labour, machinery, transportation, erection, maintenance, profit, taxes and duties together with all general risks, liabilities and obligations set out or implied in the Contract.
4. The plans enclosed with the tender are liable to be altered during execution of work as per necessity of site conditions. The Tender percentage quoted by the Tenderer shall hold good for execution of work even with altered plans.
5. The whole cost of complying with the provisions of the Contract shall be included in the estimated rates for items provided in the Bill of Quantities and where no items are provided in the Bill of Quantities, their cost shall be deemed to be distributed among the estimate rates entered for the related items of work.
6. General directions and descriptions of work and materials are not necessarily repeated nor summarised in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering estimate rate against each item in the Bill of Quantities.
7. The method of measurements of completed work for payment shall be in accordance with the relevant B.I.S. Codes & A. P. S. Specifications.
8. All items of work are to be executed as per the drawings / specifications supplied with the contract documents. If there is any contradiction between the drawings and the text of the specifications, the later shall prevail.
9. The Tenderer should inspect and select the quarries of his choice before he quotes the tender percentage in the Schedule of Bill of Quantities and satisfy himself about the availability of required quantum of materials.
10. Diversion drains should be excavated before completion of the embankments and the useful soils should be used in the nearby embankments.

11. The actual mix proportion by weight to be adopted during execution will be got designed in the laboratories to suit the grade of concrete and mortar to be used. It will be the responsibility of the contractor to manufacture concrete and mortar of required strength.
12. The quantum of measurement for all items of earthwork involving conveyance manually or by machinery shall be as assessed by level measurement. The measurements for the embankment will be for the consolidated banks only.
13. Wherever bailing out of water is involved either for excavate ion or for foundations or for constructions, the percentage quoted shall take into account the de-watering charges necessary. No separate payment will be made for de-watering.
14. Wherever embankment work is involved, useful soils approved by the Engineer-in-Charge from the cutting reaches and diversion drains shall be taken and used for forming nearby embankments soils used for constructions will be at free of cost.
15. The quoted tender percentage shall also include the work of any kind necessary for the due and satisfactory construction, completion and maintenance of the works according to the drawings and these specifications and further drawings and orders that may be issued by the Engineer-in-Charge from time to time. The quoted tender percentage shall include compliance by the Contractor with all the general conditions of contract, whether specifically mentioned or not in the various clauses of these specifications, all materials, machinery, plant, equipment, tools, fuel, water, strutting, timbering, transport, offices, stores, workshop staff, labour and the provision of proper and sufficient protective works, diversions, temporary fencing and lighting. It shall also include safety of workers, first aid equipment suitable accommodation for the staff and workmen, with adequate sanitary arrangements, the effecting and maintenance of all insurance, the payment of all wages, salaries, fees, royalties / Taxes, duties or other charges arising out of the execution of works and the regular clearance of rubbish, reinstatement and clearing-up of the site as may be required on completion of works safety of the public and protection of the works and adjoining land. The work of Building in quality control / assurance shall be deemed to be covered in the quoted percentage.
16. The Contractor shall ensure that, the quoted tender percentage shall cover all stages of work such as setting out, selection of materials, selection of construction methods, selection of equipment and plant, deployment of personnel and supervisory staff, quality control testing etc. The work quality assurance shall be deemed to be covered in the tender percentage.
17. a) The special attention of the Tenderer is drawn to the conditions in the tender notices wherein reference has been made to the Telangana state Standard Specifications [APSS] and the Standard preliminary specifications containing therein. These preliminary specifications shall apply to the agreement to be entered into between the contractor and the Government of Telangana and shall form an in-separable condition of the contract along with the estimate. All these documents taken together shall be deemed to form one contract and shall be complimentary to another.

b) The Tenderer shall examine, closely the T.S.S.S. / MORT&H and also the standard preliminary specifications contained therein and sign the Chief General Manager's office copy of the TSSS / MORT&H and its addenda volume in token of such study before submitting his overall tender percentage which shall be for finished work in-situ. He shall also carefully study the drawings and additional specifications and all the documents, which form part of the agreement to be entered into by the successful Tenderer. The TSSS / MORT&H and other documents connected with contract such as estimate plans, specifications, can be seen on all working days in the office of the Chief General Manager, HGCL.

18. The Tenderers attention is directed to requirements for materials under the clause ‘materials and workmanship’ in the preliminary specifications of APSS. Materials conforming to the Bureau of Indian Standards specifications, TSSS etc., shall be used on the work and the Tenderers shall quote his overall tender percentage accordingly.
19. The Tenderer has to do his own testing of materials and satisfy himself that they conform to the specifications of respective I.S.I. Codes before tendering.
20. The contractor shall himself procure the required construction materials of approved quality including the earth for formation of embankment and water from quarries / sources of his choice. All such quarries / sources of materials required for the work shall be got approved by the Engineer-in-Charge in writing well before their use of the work.
21. The contractor shall himself procure the steel, cement, Bitumen, Blasting materials, sand, metal, soils, etc., and such other materials required for the work well in advance. The contractor has to bear the cost of materials for conveyance. The department will not take any responsibility for fluctuations in market in cost of the materials, transportation and for loss of materials etc.
22. Inspection of site and quarries by the Tenderer: Every Tenderer is expected before quoting his overall tender percentage, to inspect the site of proposed work. He should also inspect the quarries and satisfy himself about the quality, and availability of materials. The best class of materials to be obtained from quarries, or other sources shall be used on the work. In every case the materials must comply with the relevant standard specifications. Samples of materials as called for in the standard specifications or in this tender notice, or as required by the

Executive Engineer, in any case, shall be submitted for the Executive Engineer’s approval before the supply to site of work is begun.

23. The Tenderer’s particular attention is drawn to the sections and clauses in the T.S. standard specification dealing with
 - a) Test, inspection and rejection of defective materials and work.
 - b) Carriage
 - c) Construction plant
 - d) Water and lighting
 - e) Cleaning up during the progress and for delivery.
 - f) Accidents
 - g) Delays
 - h) Particulars of payments.

The contractor should closely peruse all the specification clauses, which govern the overall tender percentage he is tendering.

24. The defect liability period of contract in terms of GO Ms.No.8, T,R&B Dept., dt:8.1.2003 is twenty four months.
25. The estimate rates for items shown in the Schedule “A” include all construction materials. No escalation in rates will be paid unless specified in the tender document. The Tenderer has to quote an overall tender percentage considering all the aspects of the tender to complete the finished item of work as per the TSSS / MORT&H / B.I.S. specifications, the special specifications appended, Drawings etc.

26. If there is any contradiction between TSSS / MORT&H and B.I.S. specifications, listed and detailed technical specifications, the latter shall prevail.
27. In case of a job for which specifications are not available with the Schedule or in APSS / MORT&H or B.I.S. code and are required to be prescribed, such work shall be carried out in accordance with the written instructions of the Engineer-in-charge.
28. The contractor should use the excavated useful soils and stone for construction purpose. Soils used for construction either for homogeneous section in hearting or in casing zone based on the suitability will be at free of cost and the cost of stone used for construction purpose will be recovered from the contractor's bill.

The contractor should quote his tender percentage keeping in view of the above aspects.

29. Additions and alternations by the Tenderer in the Schedule of quantities will disqualify the tender.
30. In the case of discrepancies between the written description of the item in the Schedule "A" and the detailed description in the specification of the same item, the latter shall be adopted.
31. The Unit rates noted below are those governing payment of extras or deductions for omissions according to the conditions or the contract as set-forth in the preliminary

Specifications of the T.S. standard specifications and other conditions of specification of this contract.

32. It is to be expressly understood that the measured work is to be taken according to the actual quantities when in place and finished according to the drawings or as may be ordered from time to time by the Deputy General Manager and the cost calculated by measurement or weight at their respective rates without any additional charge for any necessary or contingent works connected works connected herewith. The Percentage Excess or less on ECV quoted are for works in situ and complete in every respect.
33. For all items of work in excess of the quantities indicated the rates payable for such excess quantities will be tendered rates i.e., estimate rates plus or minus tender percentage.
34. For all items of work, intermediate payment will be made provisionally as per relevant clause. Full-accepted agreement rates will be paid only after all the items of works are completed.
35. The contractor is bound to execute all supplemental works that are found essential incidental and inevitable during execution of main work.
36. **The contractor has to arrange to &pro flight tickets and accommodation with lodging, boarding & local travelling for inspection of material for all materials at manufacture /procurement place for three persons from HGCL including consultant from his residence/requested place to inspection places for each inspection .**
37. Bill of Quantities called Schedule "Part-A & Part -B " and the bid offer accompanies the tender document as Volume-II. The Bill of Quantities contains not only the quantities but also the rates worked out by the Department and the amount for each item and total value of the estimated contract.

38. The tenderer should workout his own rates keeping in view the work, site conditions and quote his overall tender percentage with which he intends to execute the work.
39. The payment of rates for supplement items of work will be regulated as under.

A) Extra Items:

- a. Extra items of work shall not vitiate the contract. The contractor shall be bound to execute extra items of work as directed by the Engineer - in – Charge. The rates for extra items shall be worked out by the Deputy General Managers per the conditions of the Contract and the same are binding on the Contractor.
- b. The contractor shall before the 15th day of each month, submit in writing to the Deputy General Manager a statement of extra items if any that they have executed during the preceding month failing which the contractor shall not be entitled to claim any.

B) Entrustment of additional items:

- i. Where ever additional items not contingent on the main work and outside the scope of original agreement are to be entrusted to the original contractor dispensing with bids and if the value of such items exceeds the limits up to which the officer is empowered to entrust works initially to contractor without calling for tenders, approval of **next higher authority** shall be obtained. Entrustment of such items on nomination shall be at rates not exceeding the estimated rates.
- ii. Entrustment of the additional items contingent on the main work will be authorised by the officers up to the monetary limits up to which they themselves are competent to accept items in the original agreement so long as the total amounts up to which they are competent to accept in an original agreement rates for such items shall be worked out in accordance with the procedure (I) For all items of work in excess of the quantities shown in the Bill of Quantities of the Tenders, the rate payable for such items shall be estimate rates for the items (+) or (-) over all tender percentage accepted by the competent authority.
- iii. Entrustment of either the additional or supplemental items shall be subject to the provisions of the agreement entered into by a Competent Authority after the tender is accepted. The Chief General Manager being the higher authority who entered into the agreement approves the rate for the items / variation in quantity in the current agreement. The items shall not be ordered by an officer on his own responsibility if the revised estimate or deviation statement providing for the same requires the sanction of higher authority.

Note: It may be noted that the term Estimate Rate used above means the rate in the sanctioned estimate with which the tenders are accepted, or if no such rates is available in the estimate, the rate derived will be with reference to the Standard Schedule of Rates adopted in the sanctioned estimate with which tenders are accepted.

STATEMENT - I

Work Programme of Achieving the Mile stones:

Mile stone No.	Period from the date of signing agreement	Minimum percentage of work to be completed (Cumulative)
Milestone-1	End of 2 months	SITC of LED street lighting to service road from Nanakramguda to TSPA junction inner side of ORR – 8.5Km.
Milestone-2	End of 3 months	SITC of LED street lighting to service road from Narsingi to Kollur junction both sides of ORR -27.0Km

BILL OF QUANTITIES

[Part-I]

Name of work Given in the Estimate: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur

S.No	Approximate Quantity In figures/ words	Description of work	Specification No. / APSS / BIS / MORT&H	Unit In figures / words	Estimate Rate In figures / words	Amount in Rs.
		Schedule - A Enclosed				

BILL OF QUANTITIES

Part-II

i) **The rates mentioned in Schedule “A” are inclusive of the following including seigniorage charges etc and also Contractors over heads, profit and other provisions i.e., overhead and contract profit at 13.615%. The overhead charges includes**

- Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.
- Office furniture, equipment and communications
- Expenditure on Corporate office of contractor
- site supervision
- Documentation and “as built” drawings
- Mobilisation/ de-mobilisation of resources
- Labour camps with minimum amenities and transportation to work sites.
- Light vehicles for site supervision including administrative and managerial requirements.
- Laboratory equipment and quality control including field and laboratory testing.
- T & P and survey instruments and setting outworks, including verification of line, dimensions, trial pits and bore holes, where required.
- Watch and ward
- Traffic management and providing hydra with bucket during core cutting on bridge side wall at the height of 15mts on ground level.
- Expenditure on safeguarding environment
- Sundries
- Financing Expenditure
- Sales/ Turn overtax
- Work Insurance/ compensation

ii) The Reimbursable amounts are as follows
GST will be paid as per the rules in vogue

PRICE BID

[to be placed in the COVER -'B']

Name of work Given in the Estimate: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.

Certificate ESTIMATED CONTRACT VALUE (IN FIGURES&WORDS) : **Rs.9,45,67,819/-**

(Rupees Nine Crores Forty Five Lakhs Sixty Seven Thousand Eight Hundred and Nineteen only)

I Sri / Smt./M/s. do hereby express my willingness to execute the aforesaid work as per the conditions, standards, specifications, rules, regulations, etc., stipulated in the tender documents.

a) at an overall tender percentage of (in figures).....
.....(in words) **excess / less** over estimated value.

OR

b) at estimate value.

SIGNATURE, NAME OF THE TENDERER / AUTHORISED SIGNATORY.

SECTION-8
FORMATS OF SECURITIES

FORM OF SOLVENCY CERTIFICATES BY MANDAL REVENUE OFFICER

I, _____ Mandal Revenue Officer, of _____ do hereby certify, on being satisfied by the Examination of Revenue and other records and local enquiries that _____ [here the name and address of the contractor should be mentioned] is solvent to the extent of Rs. _____ [Rupees _____

_____].

Date :

Place: MANDAL REVENUE OFFICER

SEAL OF THE OFFICE

FORM OF SOLVENCY CERTIFICATE BY BANKS

I, _____ Managing Director / Manager / General Manager / Agent of _____ Bank Limited do hereby certify that a _____ [here the Names and addresses of the contractor] to be solvent to the extent of Rs. _____ [Rupees _____] as disclosed by the information and record which are available with the aforesaid bank.

For the _____ Bank

Date:

Place:

Signature of Bank Manager
[Authorised to Sign]

FORM OF BID SECURITY (BANK GUARANTEE)

WHEREAS, _____ (*Name of Bidder*) (hereinafter called “the bidder”) has submitted his bid dated _____ (date) for the construction of _____ [name of contract] (hereinafter called “the Bid”).

KNOW ALL MEN by these presents that We, _____ [Name of Bank] of _____ [Name of Country] having our registered office at _____ (hereinafter called “the Bank”) are bound unto _____ [Name of Employer] (hereinafter called “the Employer”) in the sum of _____)¹ for which payment will and _____

truly to be made to the said Employer the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 2014.

THE CONDITIONS of this obligation are:

6. If the Bidder withdraws his Bid during the period of bid validity specified in the Form of Bid; or
7. If the Bidder does not accept the correction of arithmetical errors of his Bid Price in accordance with the Instructions to Bidder; or
8. If the Bidder having been notified of the acceptance of his Bid by the Employer during the period of bid validity,
 - a. fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

- b. fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders,

we undertake to pay the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 148 (one hundred and forty eight) days after the deadline for submission of bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

Notwithstanding anything contained herein before, our liability _____ under this guarantee is restricted to Rs. _____ (Rs. _____) and the guarantee shall remain valid till _____ . Unless a claim or a demand in writing is made upon us on or before _____ all our liability under this guarantee shall cease.

DATE _____

SIGNATURE OF THE BANK _____

SEAL OF THE BANK _____

SIGNATURE OF THE WITNESS _____

Name and Address of the Witness _____

¹Amount of Bid Security in figures and words in accordance with Sub Clause 17.1 of Instructions to Bidders (Section I Volume I).

Form of Agreement

THIS AGREEMENT made the *[insert day]* day of *[insert month]* , *[insert year]* , between

[insert name of the Employer] (hereinafter “the Employer”), of the one part, and *[insert name of the Contractor]* (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known as *[name of the Contract]* should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

- 1 In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
- 2 The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
- 3 the Letter of Acceptance;
- 4 the Letter of Technical Bid ;
- 5 the Letter of Price Bid
- 6 the addenda Nos *[insert addenda numbers, if any]* (if any);
- 7 the Particular Conditions ;
- 8 the General Conditions;
- 9 the Specification
- 10 the Drawings;
- 11 the completed Schedules; and

12 the Acknowledgement of Compliance with Guidelines for Procurement under Japanese ODA Loans.

For the purpose of interpretation, the priority of the listed documents shall be in accordance with the above listed order.

13 In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

14 The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the laws of the borrowing country]* on the day, month and year specified above.

Signed by _____
for and on behalf of the Employer
in the presence of
Witness, Name, Signature, Address, Date

Signed by _____
for and on behalf the Contractor
in the presence of
Witness, Name, Signature,
Address, Date

Form of Performance
Security

Option 1: (Demand Guarantee)

[Insert Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of the Employer]* **Date:** *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of the contract and brief description of the Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for its demand or the sum specified therein.

This guarantee shall expire, no later than the *[insert the day]* day of *[insert month]*, *[insert year]* ², and any demand for payment under it must be received by us at this office indicated above on or before that date.

1 The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

2 Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9.

The Employer should note that in the event of an extension of this date for completion of the Contract,

CF-8 Section IX. Annex to the Particular Conditions - Contract Forms

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

SCHEDULE 'A' [Part-I]

Schedule of Rates and Approximate Quantities

- A) The quantities here given are those upon which the lump sum tender cost of work is based but they are subject to alteration, omissions, deductions, or additions as provided for in the conditions of this contract and do not necessarily show the actual quantities of work to be done. The total contract value and unit rates noted below are those governing payment of extras or deductions for omissions according to the conditions to the contract as set-forth in the preliminary specifications of the TSstandard specifications and other conditions of specification of this contract.
- B) It is to be expressly understood that the measured work is to be taken net (not withstanding any custom or practice to the contrary) according to the actual quantities when in place and finished according to the drawings or as may be ordered from time to time by the Deputy General Manager and the cost calculated by measurement or weight, at their respective rates without any additional charge for any necessary or contingent works connected therewith. The total contract value is for works in situ and complete in every respect.
- C) Additions and alterations in the schedule of quantities will disqualify the tender.
- D) In case of discrepancies between the written description of the item in the Schedule 'A' and the detailed description in the specification of the same item, the latter shall be adopted.

S. No	Approximate Quantity In figures	Description of work	TSSS No	Rate Figures	Units of calculation .	Amount in figures
		Separately enclosed				

Schedule - C

A - SPECIAL SPECIFICATIONS [S.S.]

SCOPE OF WORK

The information and data furnished herein relevant to the work and site conditions are general. It shall be the responsibility of the contractor to fully acquaint himself with the nature and location works, quarries, local conditions and other aspects which are relevant to the work.

- A) Location of the work: Design, Supply, Installation, Testing, Commissioning of LED street lighting to service roads inner side of Outer Ring Road (ORR) from Nanakramguda to TSPA and on both sides of ORR from Narsingi to Kollur.
- B) SSR (Year, and extra allowance considered).
SSR 2022-23
- C) Any other information available with the department relevant to the work (land acquisition, funds): Available.

Note: The information furnished is the best available. However the department does not guarantee the correctness of interpretations, deductions of conclusions which are given as supplementary information. The information has been produced as found communicated ascertained or otherwise learned by the department.

**Chief General Manager,
HGCL, Nanakramguda,
Hyderabad**

SECTION-9

DRAWINGS

1.0 DRAWINGS:

- 1.1 The plans enclosed with the tender are liable to be altered during execution of work as per necessity of site conditions. The premium/less quoted by the contractor for various items shall hold good for execution of work even with altered plans.

- 1.2 One set of drawings, on the basis of which actual execution of the work is to proceed shall be furnished free of cost to the contractor by the Chief General Manager / Deputy General Manager progressively according to the work program submitted by the contractor and accepted by the Chief General Manager / Executive Engineer. Drawings for any particular activity shall be issued to the contractor at least 30 days in advance of the scheduled date of the start of the activity. However, no extra claims by the contractor toward any delay in issue of drawing or issue of any revision / change to the drawings issued earlier shall be admissible. The Chief General Manager shall intimate the contractor 7 days in advance regarding any delay to issue of drawings, for any particular stage of works. If work gets affected due to delay to issue of drawings, for any particular stage of work the contractor shall be granted extension of time in terms of condition 14.7 of tender notice.
- 1.3 Signed drawings above shall not be deemed to be an order for work unless they entered in the agreement or schedule of drawings under proper alterations of the contractor and Deputy General Manager or unless they have been sent of the contractor by the Deputy General Manager with a covering letter confirming that the drawing in and authority for work in contract.

1.0 DISCREPANCIES:

- 2.1 In case of discrepancies between documents the following order of procedure shall apply:-
 - 2.1.1 Between the written description of written dimensions in the drawings and the corresponding one in the specifications, the latter shall apply.
 - 2.1.2 Figured dimensions shall supersede scaled dimensions. The drawings on a larger scale shall take precedence over those on a smaller scale.
 - 2.1.3 Drawings issued as construction drawings from time to time shall supersede tender drawings and also the correspondence drawings previously issued.

Note: The contractor should not execute any component of work without obtaining the working drawings. Any work done without drawings shall be at the contractor's responsibility only. Acceptance for such work will be at the discretion of the Executive Engineer.

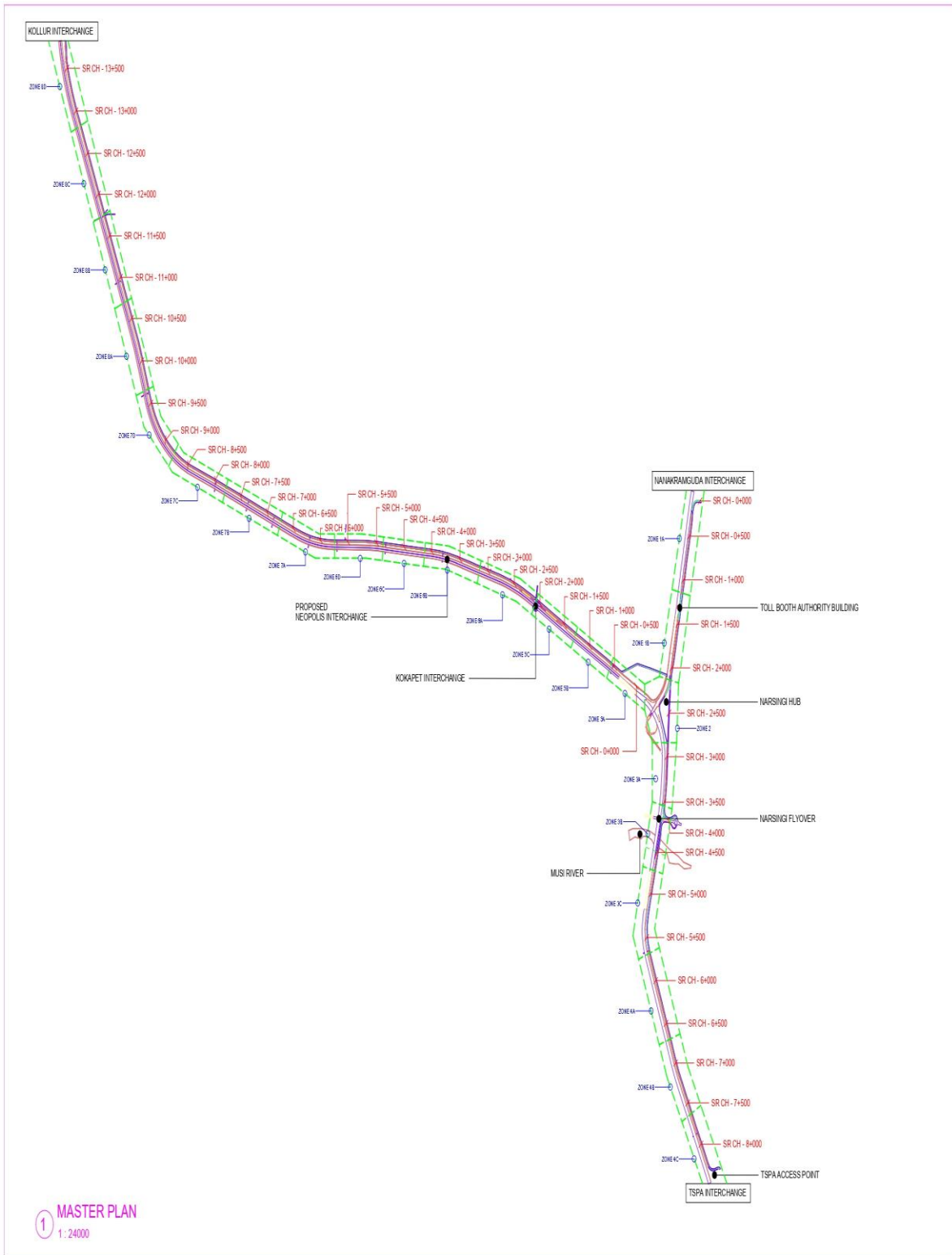
2.0 SECRECY CLAUSE:

The drawings and specifications made available to the tenderer shall exclusively be used on the work and they are retained from passing on each plan to any un-authorized hand either in parts or in full under the provisions of Section-3 and 5 of the official secrets Act 1923. Any violation in this regard will entail suitable action under appropriate clause or official secret Act 1923.

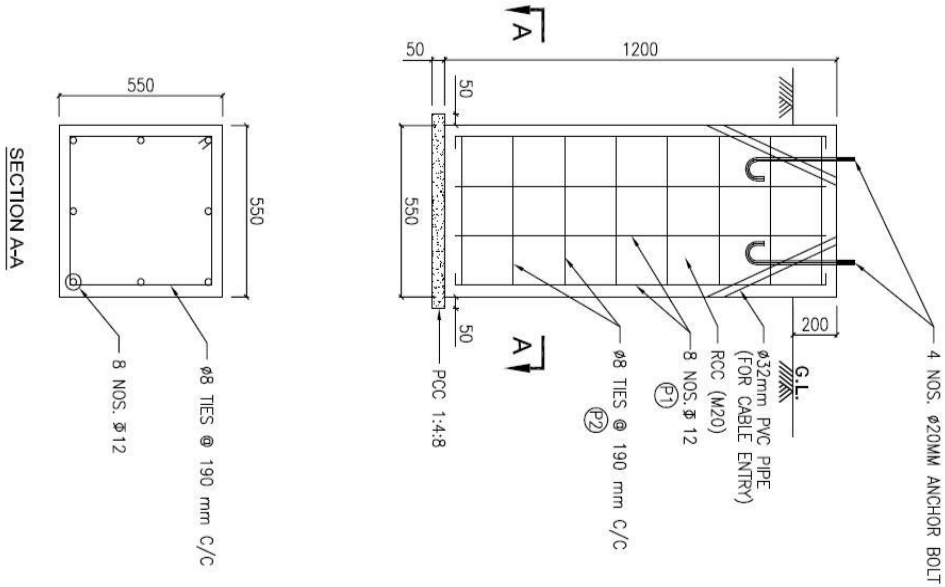
Index:

SINo	Description	Nos
1	Proposed location map	1
2	GA Drawing for 9.0Mtr Octagonal pole with DA Bracket	1
3	Foundation details for 9.0m Octagonal pole	1
4	Foundation details for 6.0m Octagonal pole	1
	Total	4

Site Location Map



6.0Mtr Pole Foundation Drawing



BAR BENDING DETAILS

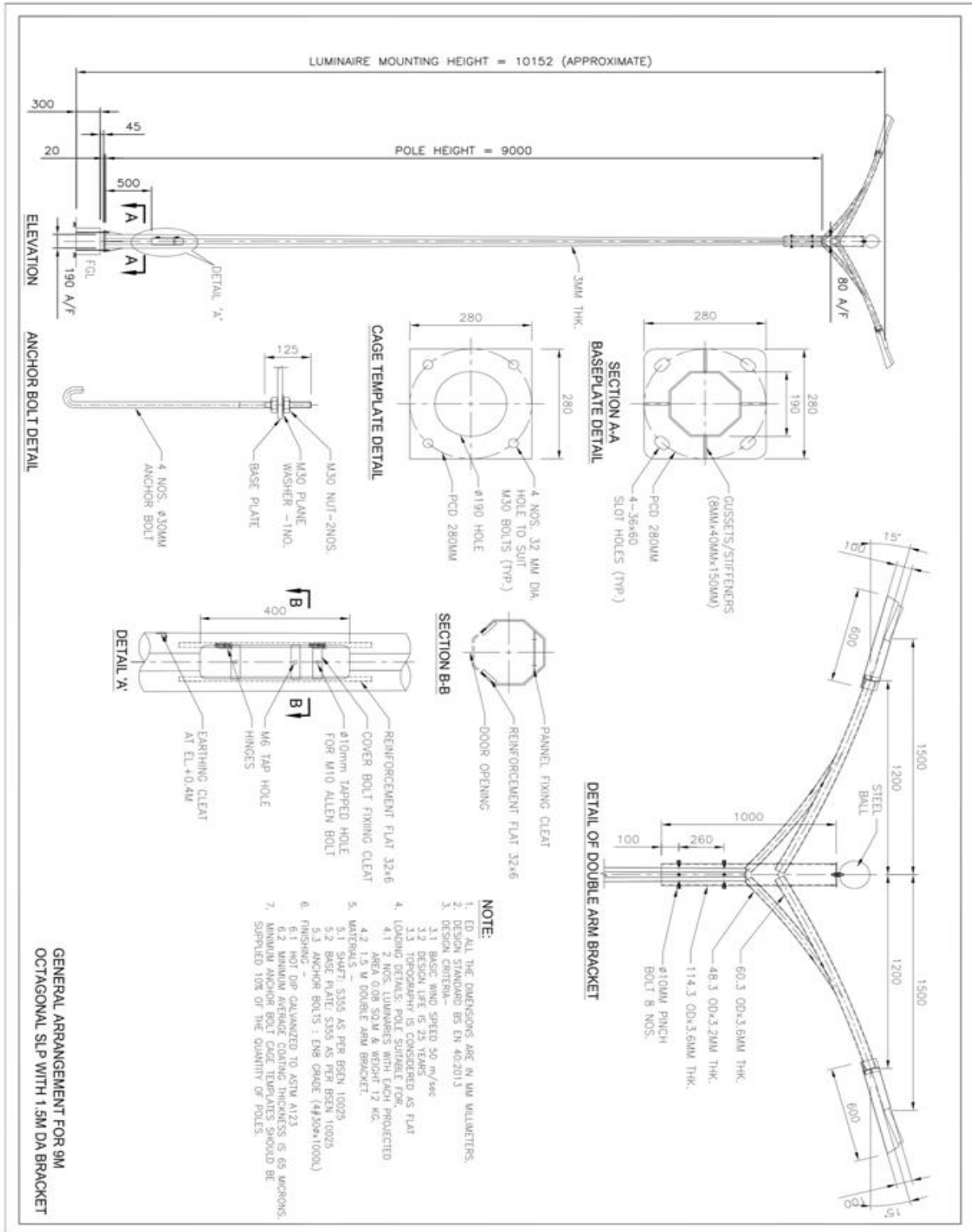
MARK	SHAPE & SIZE	DIA	UNIT WT. (KG/M)	LENGTH (MM)	QTY	WEIGHT (KG)
P1		12 ϕ	0.890	1210	8	8.60
P2		8 ϕ	0.395	1936	8	6.12
TOTAL WEIGHT					8	14.72

CONC. VOL (M ³)	RCC	PCC
	0.363	0.021

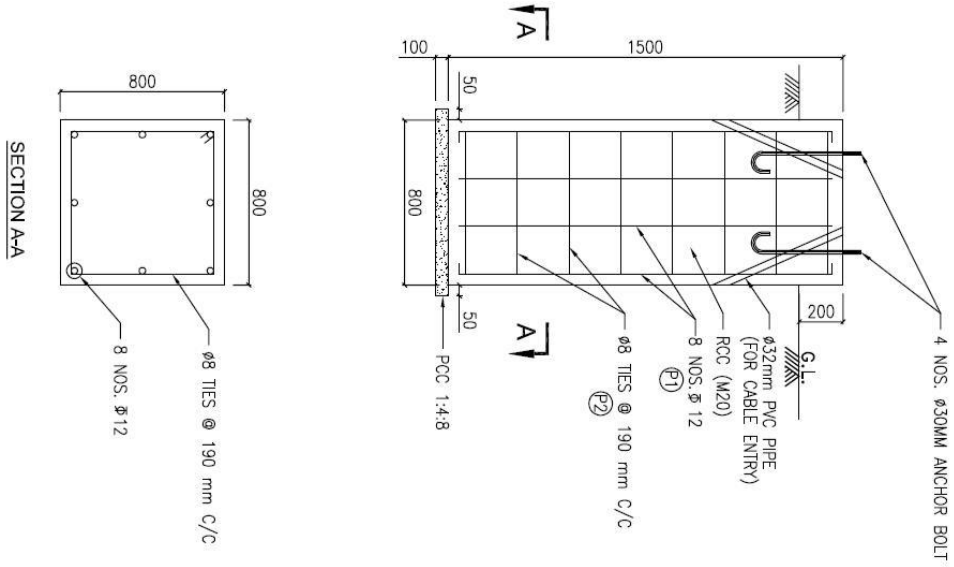
NOTES:

- ALL DIMENSIONS ARE IN 'MM' UNLESS OTHERWISE SPECIFIED.
- MATERIAL AND CONSTRUCTION TO BE IN ACCORDANCE WITH IS: 456.
- THE CONCRETE GRADE FOR FOUNDATION AND OTHER WORKS SHALL BE OF MIX W20 U.N.O.
- IT IS ASSUMED THAT SOIL TYPE IS NORMAL HARD DRY SOIL.
 - THE SOIL BEARING CAPACITY IS 16.0 T/m² AT 1.0M BELOW G.L.
 - ANGLE OF REPOSE 30 DEG
 - DENSITY OF SOIL 1.60 T/m³
- REINFORCEMENT SHALL BE OF GRADE F415 COMPLYING WITH IS:1786-1985.
- CLEAR COVER TO MAIN REINFORCEMENT AT END OF MAIN BARS COLUMN : 40MM
- DEVELOPMENT LENGTH FOR TENSION LDT =50 TIMES THE DIA OF BAR.
- FOR ANY OTHER DETAILS CLAUSES OF IS-456, SP-34 AND SP-23 SHALL BE REFERRED.
- IT IS ASSUMED THAT WATER TABLE IS NOT FOUND. IF FOUND PLEASE APPROACH VALMONT FOR REVISED DESIGN DRAWING.

General Arrangement Drawing for 9.0 Mtr Pole with DA bracket



9.0Mtr Pole Foundation Drawing



BAR BENDING DETAILS

MARK	SHAPE & SIZE	DIA	UNIT WT. (KG/M)	LENGTH (MM)	QTY	WEIGHT (KG)
P1		12Ø	0.890	1510	8	10.74
P2		Ø12	0.395	2936	9	10.44
TOTAL WEIGHT						21.18
CONC. VOL (M ³)			RCC	0.960		
			PCC	0.081		

NOTES:

1. ALL DIMENSIONS ARE IN 'MM' UNLESS OTHERWISE SPECIFIED.
2. MATERIAL AND CONSTRUCTION TO BE IN ACCORDANCE WITH IS- 456.
3. THE CONCRETE GRADE FOR FOUNDATION AND OTHER WORKS SHALL BE OF MIX M20 U.N.O.
4. IT IS ASSUMED THAT SOIL TYPE IS NORMAL HARD DRY SOIL.
 - 4.1 THE SOIL BEARING CAPACITY IS 15.0 T/m² AT 1.3M BELOW G.L.
 - 4.2 ANGLE OF REPOSE 30 DEG.
 - 4.3 DENSITY OF SOIL: 1.60 T/m³.
5. REINFORCEMENT SHALL BE OF GRADE F415.
6. CLEAR COVER TO MAIN REINFORCEMENT AT END OF MAIN BARS COLUMN : 40MM
7. DEVELOPMENT LENGTH FOR TENSION LDT =50 TIMES THE DIA OF BAR.
8. FOR ANY OTHER DETAILS CLAUSES OF IS-456, SP-34 AND SP-23 SHALL BE REFERRED.
9. IT IS ASSUMED THAT WATER TABLE IS NOT FOUND. IF FOUND PLEASE APPROACH VALMONT FOR REVISED DESIGN DRAWING.