

SCHEDULE OF WORK

NAME OF WORK:- C/O approach Road from Dwarka Dwar to NH-8 (Old Delhi Gurgaon Road) through cantonment Area SH: Annual, Running, Maintenance and Operation of street lights on main carriage way, Service road, underpass i/c Drainage pumps & D.G sets installed in the underpass)

S.No.	Description of Item	Qty	Rate	Unit	Amount
1.	Maintenance of street lighting as per inventory and terms and conditions attached.	1 Job for 12 Months		P/Month	
2.	Operation of pumps/D.G sets as per the inventory and terms and conditions attached.	1 Job for 12 Months		P/Month	
3.	Supplying and replacement of the following items				
i.	70 watt HPSV SON-T plus lamp	6 Nos		Each	
ii	150 watt HPSV SON-T plus lamp	130Nos		Each	
iii	250 watt HPSV SON-T plus lamp	75 Nos		Each	
iv	400 watt HPSV SON-T plus lamp	10 Nos		Each	

B(i)	70 watt copper wound choke/ballast suitable for HPSV luminaires	6 Nos	Each
ii	150 watt copper wound choke/ballast suitable for HPSV luminaires	60 Nos	Each
iii	250 watt copper wound choke/ballast suitable for HPSV luminaires	30 Nos	Each
iv	400 watt copper wound choke/ballast suitable for HPSV luminaires	6 Nos	Each
c.	Electronic ignitor suitable for 70/150/250/400 watt luminaries.	135 Nos	Each
4.	Supplying and replacement of existing damaged M.S. swaged tubular pole of 9 mtr height 410 SP-33 with MS plate of size 350x350x20mm concealed connector box with cover & locking arrangement inside the pole bracket arm of 1 mtr suitable for suspending/fixing 2nos luminaries on sides i/c dismantling of existing pole and foundation, recasting of foundation, painting, wiring of pole cable connections as per specifications etc. as reqd.	2 Nos	Each

5. Supplying and replacement of damaged street light fitting, suitable for following watts HPSV lamp complete with control gear, reflector, protection glass cover, alongwith HPSV lamps i/c earthing the body connections & testing etc. as reqd.

a	150 watt (SGP 325) Philips make	14 Nos	Each
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b.	250 watt (SGP-325) Philips make	6Nos	Each
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6. Supply of thef following size of PVC insulated & PVC sheathed XLPE aluminium conductor armoured power cable of 1.1 KV grade.

a	2x25 sqmm	700 Mtr	Mtr
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b.	2x35 sqmm	300 Mtr	Mtr
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c.	3.5X120 sqmm	200 Mtr	Mtr
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7. Laying of one number PVC insulated and PVC sheathed XLPE power cable of 1.1 KV grade of size not exceeding 25sqmm in the existing RCC/Hume/stoneware/metal/DWC pipe as reqd.

		700Mtr	Mtr
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|----|--|---------|------|
| 8. | Laying of one number PVC insulated and PVC sheathed XLPE power cable of 1.1KV grade of size exceeding 25s4mm but not exceeding 400 s4mm in the existing RCC/Hume/stoneware/metal DWC pipe as reqd. | 500 Mtr | Mtr |
| 9. | Supplying and making straight through joint with cast resin compound including ferrules and other jointing material for following size of PVC insulated and PVC sheathed XLPE aluminium conductor cable of 1.1 KV grade as reqd. | | |
| a | 2x25 s4mm | 15Nos | Each |
| b. | 2x35 s4mm | 10Nos | Each |
| c. | 3.5x120 s4mm | 10Nos | Each |


 Executive Engineer
 Elect. Division No. 25
 D. D. A.

INVENTORY (PUMP & DG SETS)

PART-A

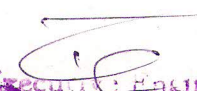
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|----|--------------------------|---------------------------|-------|
| i) | D.G set :- | | |
| a) | Capacity | i - 125 KVA | 1 No. |
| | | ii - 35 KVA | 1 No |
| b) | Control panel comprising | | |
| | of | - AMF panel | 1 No |
| | | - Manually operated panel | 1 No |

PART-B

- | | | |
|------|--|--------|
| i) | Submersible pumps :- | |
| a) | i) 9.50 KW submersible p/set | 4Nos |
| | ii) 16.00 KW submersible p/set | 2Nos |
| b) | Control panel comprising of | |
| i) | MCCB 250 amp | 1 No |
| ii) | 32 A switch disconnector fuse unit ,
single phase preventor, voltmeter ammeter
etc. | 4sets |
| iii) | 63 A switch disconnector fuse unit ,
single phase preventor, voltmeter, Ammeter
etc. | 2 sets |
| c) | Detail of valves:- | |
| i) | 100mm C.I. non-return valve | 4Nos |
| ii) | 100mm C.I. sluice valve | 4Nos |
| iii) | 150mm C.I. non return valve | 2Nos |
| iv | 150mm C.I. sluice valve | 2Nos |

PART-C (Internal Electrical Installation :-

- | | | |
|------|-----------------------------|------|
| i) | 1x4 watt tube light fitting | 8Nos |
| ii) | Exhaust fan 600mm size | 2Nos |
| iii) | Ceiling fan 1200mm size | 2Nos |


 Executive Engineer
 Elect. Division No. 1
 D. D. A

INVENTORY (STREET LIGHT)


S.No.	Location	9 mtr M.S tubular pole with single overhang	9 mtr MS tubular pole with double overhang	250 watt HPSV Luminaire	150 watt HPSV luminaire	400 watt HPSV luminaire for day light	70 watt HPSV luminaire for night light	150 watt post top luminaire with GI pole
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A) ROAD PORTION

1.	Main carriage way of road	-	124	249	-	-	-	-
2.	Service road and outside roatary	128	-	-	128	-	-	-
3.	Inside roatary	-	-	-	-	-	-	10Nos
4.	Underpass	-	-	-	-	46	26	-
5.	Above underpass	-	6nos	12	-	-	-	-

B. FLYOVER PORTION

1.	Main carriage way	-	74	-	148	-	-	-
2.	pumps	30	-	-	30	-	-	-
3.	Service road cantonment side	22	-	-	22	-	-	-
4.	Service road Dwarka Gate side	4	21	42	4	-	-	-
5.	under flyover from Mangla Park to Palam	-	-	-	186	-	-	-
		184	225	303	518	46	26	10


 Executive Engineer
 Elect. Division No. 5
 D. D. A.

ADDITIONAL CONDITIONS AND SPECIFICATIONS

1. The contractor must get acquainted with the proposed site for the work and study specifications & conditions carefully before tendering. The work shall be executed as per the directions of engineer-in-charge. If the site or part of it is not available for any reasons, the programme of execution shall be modified accordingly and the contractor shall have no claim for any extra compensation on this account.
2. The work as indicated in the schedule of work attached herewith including any modification/addition/alteration ordered subsequently shall be carried out as per the following specifications indicated in the order of their precedence.
 - i. Indian electricity rules 2005 as amended upto date.
 - ii Technical specifications attached herewith.
 - iii Relevant BIS codes as amended upto date.
 - iv CPWD specifications for electrical work(part-I Internal 2005 part-II External 1994 with correction slips upto the date of tender.
3. All the materials shall be got approved from the engineer-in-charge before installation at site.
4. The work comprises of maintenance of street lighting running & operation of p/sets, DG sets & general lighting as per the inventory attached.
5. Scope of work is as under
 - i To keep all street lighting points & all allied installations in working order.
 - ii To keep the street lighting functional during the timings fixed by the engineer-in-charge.
 - iii Street lighting should be switched ON/OFF at appropriate time fixed by the department.
6. 90% of the street lighting should remain in working order & functional throughout the period of contract failing which proportionate recovery shall be made from the contractor's bill
7. No street lighting points should remain out of order for morethan 3 days a recovery of Rs. 50/- per point per day shall be made from the contractor's bill.
8. For laying of cable in pucca portion & removing of ~~wk~~ existing damaged defective cable payment will be made as per item No. 7&8 of schedule of work & no extra payment shall be made on this account.

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9. Proper handing taking over of all the E&M installations shall be carried out by JE(E)/AE(E) Incharge of the work and the contractor in writing immediately after award of work and before start of work. The same shall be handed over to the department in proper working condition after of the contract.
- 10 The contractor shall depute the following staff under the contract.
 - a. Wireman Gr.I 2 Nos (One in Two shift)
 - b. Khallasi 4 Nos (Two in two shift)
 - c. Operator 3 Nos (One in each shift)
- 11 The duty timing of the staff can be changed as & when required by the Engineer-in-charge.
- 12 The contractor shall deploy trained & competent staff to the satisfaction of the engineer-in-charge incase of pumps/DG set they should have minimum two years experience.
- 13 The contractor shall supply the list of staff alongwith details i.e Name, Father's Name, Date of birth, Experience certificate to be engaged on the installation within 7 days of award of work Engineer-in-charge shall have the right to reject any staff deployed by the contractor.
- 14 The staff deployed by the contractor shall wear proper uniform and wear badges displaying their name and designation The staff shall also be given photo identity cards by the contractor displaying their Name, Father's Name, Address Date of birth, Name of agency with address and telephone No. site for which employed and period of validity. A copy of the identity cards shall be given to the engineer-in-charge within 15 days of award of work.
- 15 The contractor shall deploy staff throughout the period of contract i/c Saturday, Sunday, Gazetted holidays, and National holidays and shall maintain attendance register which shall be kept at the office of JE(E) concerned.
- 16 The contractor shall submit the log sheet as per the performa enclosed regarding the status of street lighting points & other allied installations of the procceding day daily to the engineer-in-charge the division office, duly signed by him or his authorised representative whose perticulars shall be furnished by the successful tenderer within 7 days of award of work.

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17. Following records are to be kept at site of work
 - a. printed log book for recording operation
 - b. Attendance register for staff deployed
 - c. Complaint/Inspection register

The contractor shall get the register authenticated from engineer-in-charge before use at site.
18. If any staff deployed by the contractor is found absent on a particular time and date an amount equal to minimum wages fixed by Delhi Administration from time to time shall be recovered from the contractor's bill.
19. Incase of any disobedience or misbehaviour by the operational staff of the contractor the engineer-in-charge may ask the contractor to dispense with the services of such staff with immediate effect. The contractor shall provide suitable substitute simultaneously.
20. The contractor shall take all safety measures at site during maintenance of the installations.
21. Any Injury/mishapening to the maintenance/operational staff during duty hours will solely be the liability of the contractor,
22. The contractor shall maintain the street lighting luminaries with wheel ladder motorized ladder only within the quoted rates.
23. Co-ordination and followup action with electric supply agency shall be done by the contractor incase of failure/fault in supply/fluctuation in voltage.
24. The contractor shall intimate the engineer-in-charge about the major breakdown or failure of electric supply fluctuation in voltage.
25. The following minor maintenance i/c preventive maintenance shall be carried out by the contractor. The details of work carried out shall be recorded in the register.
 - a. Supplying and replacement of kit kats and MCBs as & when required.
 - b. Supplying and replacement of thimbles & ferrules as & when required.
 - c. Supplying and replacement of copper wire of size 2.5sqmm as & when required.

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- d. Supplying and replacement of HRC fuses as & when required.
- e. Servicing & greasing of pumps/motors once in 3 months
- f. Replacement of rubber packing of valves and wornout nuts, bolts etc.
- g. Replacement of Fl. tubes incandescent lamps and starters.
- h. Adjustment alignment tightening of nuts, bolts as & when required.
- i. Replacement of burn out thimbles wire terminals etc.
- j Top up of battery water.
- k. Daily cleaning of equipments/pump house.

Notes:- The material required for carrying out above jobs shall be supplied by the contractor within quoted rates.

- 26 All electric connections shall be checked atleast once in a month and set right if required.
- 27 The contractor has to return the dismantled material to the department after replacing the defective items at site for which separate payment are being made by the department.
- 28 All allied accessories/installations shall be kept in working order and incase any damages/loss is done to the installations due to the negligence of staff deployed by the contractor during the contract period the contractor shall have to make good the damages loss at his own cost except the damages to the installations by accident. Incase the contractor fails to rectify the damages/loss within reasonable time the & same shall be got rectified replaced by the department at the risk and cost of the contractor.
- 29 The contractor shall keep all the necessary spares and T&P at site required for operation and maintenance to be carried out under his contract.
- 30 If at any stage, the timer switch provided in the feeder pillar does not function the contractor shall make immediate arrangement for ON/OFF operation normally till the timer switch is got repaired/replaced. Nothing extra shall be paid on account of arrangement for ON/OFF operation manually.
- 31 Items at Sl.no. 3(a) (3(b) & (c) & 4 to 9 shall be executed as and when required and these shall be executed in the presence of authorised representatives of the engineer-in-charge.

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- 32 The following makes of the material are acceptable
- a HPSV lamp Philips/Osram/Surya
 - b Ballast As per fitment of manufacturer's existing luminaire.
 - c. Ignitor As per fitment of manufacturers existing luminaire.
 - d. MCBs MDS/Standard/Action/L&T/Indokopp
 - e. Copper wire National/Ecko/H₂vells/Skytone
 - f. PVC insulated & PVC sheathed XLPE armoured cable Asian cable/Unistar/Ecko/Nicco/Skytone.
 - g. Swaged steel tubular pole Conforming to relevant IS
- 33 The contractor shall also be responsible for removal of unauthorised hoardings banners, if any on the poles during the contract period for which the engineer-in-charge authorised representative shall render their assistance if required.
- 34 The D.G set shall be operated incase of electricity failure or as & when desired by the engineer-in-charge. However POL shall be supplied by the department.
- 35 Testing of earth continuity and earth electrodes shall be carried ~~mk~~ out once in a year by the contractor in the presence of authorised representatives of the engineer-in-charge.
- 36 Watch and ward shall be the responsibility of the contractor. Any loss due to theft or pilferage etc. shall be borne by the contractor.
- 37 The rates quoted by the contractor shall be inclusive of all taxes duties & ~~govt~~ govt. levies etc.
- 38 The payment to the contractor shall be made bi-monthly or at other suitable intervals desired by the contractor but not less than one calender month.
- 39 The engineer-in-charge if so ~~desire~~ desire may extend the contract upto 2 months or terminate the contract at any time after giving 15 days notice for which no compensation shall be paid.
- 40 The height of M.S. box inside the pole shall be as per the existing pole. The pole should also match completely with the existing pole already provided at site, for which details can be had from the engineer-in-charge if so required by the contractor.

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- 41 Erection of poles-poles shall be installed on RCC foundation contractor shall give design of foundation which shall be approved by engineer-in-charge before construction of foundation. The foundation shall be suitable for pole for a wind pressure of 180 KM/hour minimum and to bear a load of 160 kg minimum.
- 42 The fitting/luminaries against item No. 5 of the schedule of work should be of the same make/model as already provided at site, for which details can be had from the engineer-in-charge if required by the contractor.

Execd. 
Elect. Division No. 1
D. D. A.