



# **Cantonment Board Clifton**

## **Tender Documents for Traffic Signal**

## **INDEX**

Tender Notice

Bid Form/BOQ

Instructions to the Bidders

Technical Specifications

Technical Bid Evaluation Criteria

General Conditions of the Contract Agreement

## CANTONMENT BOARD CLIFTON

### TENDER NOTICE

Cantonment Board Clifton being procuring entity invites sealed bids for the supply / fixing of various traffic signals on the basis of “**Single Stage Two Envelope Procedure**” under Rule 36(b) of PPRA Rules 2004, from the sole distributors / original manufacturers and are on Active Taxpayers List of the Federal Board of Revenue for the following Project.

S. No	Name of Work	Estimated Cost (In Million)	Bid Security / Earnest Money 2% of estimated (In Million)	Bidding Document fee	Date & time of submission of bids (technical & financial proposal)	Date & time of opening (technical proposal bids)	Project Time limit
1.	<b>Improvement / Rehabilitation of 8 Nos. traffic signals at Kh-e-Ittehad Phase-VI DHA</b>	56.00	1.12	Rs: 2,000/-	11/11/ 2020 11:00 AM	11/11/ 2020 11:30 AM	As per work order

### TERMS & CONDITIONS

1. Tender / Bidding documents containing Invitation to the bid/Tender Notice, Instructions to bidders, Form of Bid, Conditions of Contract Agreement, Tender Drawings & Specifications, Bill of Quantities and Bid evaluation criteria etc. can be obtained on any working day during office hours from the office of Cantonment Board Clifton (CBC) CC-38, Street 10, Kh-e-Rahat, Phase-VI, DHA Karachi on or before closing date of tender bid. Price of the bidding documents is Rs 2,000/- (non-refundable). Tender / bidding documents can also be downloaded from CBC website [www.cbc.gov.pk](http://www.cbc.gov.pk)
2. 2% (two percent) earnest money /bid security of quoted bid cost must be accompanied in the shape of Call deposit in the name **Cantonment Board Clifton**, from Scheduled banks in accordance with the Rule 25 of PPRA Rules,2004 and subsequent amendments (if any). An Affidavit to the affect stating that 2% bid security /earnest money has been placed in financial proposals /bids must be attached in the technical proposals. Any bid security not validated from bank can result into penal consequences.
3. The Submission of Bids by the contractors implies that they are fully conversant with the, scope of work and term and conditions laid down in the tender / bid’s documents.
4. The eligible contractors / firms are required to submit their Bids for work in separate sealed envelopes i.e. one envelope containing “**Technical Proposal**” of the contractors / firms, clearly marked as “**Technical Bid**” accompanied with respective bidding document fee, while the second envelope containing financial proposal / bid price, clearly marked as ‘**Financial Proposal**’. Both Technical and Financial proposals / bids

will be placed in single sealed envelope and addressed & send to Cantonment Board Clifton.

5. Technical proposal must be numbered & a table of contents inserted at beginning of the proposal showing the table of contents of the proposal according to the numbered pages. All pages of Bids shall be signed & stamped by the bidder and seal be affixed along with the signatures / initials/ Stamp.
6. Contractor / Bidder black listed by Cantonment Board Clifton or involved in litigation or found to be indulged in corrupt or fraudulent practices will be considered non responsive by Cantonment Board Clifton being procuring entity.
7. The "**Technical Proposals/ Bids**" of the firms/ contractors will be evaluated will be eligible in accordance with laid down evaluation criteria based on the following documents to be provided in the bidding documents meant for submission of Technical Proposal.
  - I. Detail of projects of similar nature related to the above mentioned work undertaken by the firm in the last 5 years (in hand/ completed) supported by documentary evidence such as work orders / completion reports in original or attested copies.
  - II. Financial status, Bank balance & certificate from the scheduled bank for the last 3 years.
  - III. The Income Tax Certificate from the concerned department. Showing Tax payment regarding works / projects executed during last 3 years.
  - IV. Details of technical staff for the proposed works, duly supported by attested credentials.
  - V. An affidavit that the firm is not in dispute / litigation / arbitration with any Govt. / semi Govt. Department on the left over/ incomplete projects.
  - VI. An affidavit is required to be provided with the technical bid regarding attachment of the bid security in the shape of Bank Guarantee or call deposit with the financial bid.
- VII. Incomplete Tender form will be Non responsive i.e. name of Firm, Quoted rates in words and in figures, signatures of the contractor and stamp of the firm.
8. Only upto two decimal digits (0.00) will be considered for evaluation of the quoted Rate. If any document submitted along with bid documents found false / bogus, the registration of the contractor / firm shall stand cancelled/ blacklisted in the light of enabling provisions of PPRA Rules 2004. Conditional / Incomplete bids shall not be acceptable.
9. The **Financial Bids / Proposals** of only technically responsive qualified bidders will be opened after evaluation of **Technical Bids** in the presence of bidders / their representatives (who may like to attend) in the office of the Cantonment Board Clifton on the date & time to be notified later on whereas the **Financial Bids** of technically non responsive bidders shall be returned unopened to the respective contactors.
10. The contractors / bidders, who quote their bids / rates more than 10% below the Engineers estimates, shall submit performance guarantee equal to 10% of the estimated cost under rule 39 of PPRA Rules 2004.
11. Any Item not reflected in the BOQ and required at site, shall be paid in accordance with prevailing market rates with the approval of the procuring entity / Competent Authority.

12. All the governments taxes (Federal, Provincial & any other) will be deducted as per prevailing government policy.
13. Incomplete/ disfiguring/ overwriting/ by hand/ delayed bids shall be declared non-responsive.
14. Any bid received in the contravention of enabling provisions of PPRA Rules, 2004 will be declared non responsive by the procuring entity. Cantonment Board Clifton being procuring entity reserves the right to accept or reject any tender / bid on technical / administrative grounds under Rule 33 (1) Rules, 2004.
15. Other terms & conditions pertaining to the works can be seen in the Office of the Cantonment Board Clifton at any working day during office hours.
16. As per PPRA Rule 33, the procuring agency may reject all bids or proposals at any time prior to the acceptance of a bid or proposal. The procuring agency shall upon request communicate to any supplier or contractor who submitted a bid or proposal, the grounds for its rejection of all bids or proposals, but is not required to justify those grounds.

# **SUPPLY, INSTALLATION AND COMMISSIONING OF TRAFFIC SIGNALS AT KHA-E-ITTEHAD**

## **1. Project Objective:**

Cantonment Board Clifton intends to Install, traffic signals for 08 crossing at Kha-e-Ittehad, Phase-VI, DHA.

Cantonment Board Clifton invites sealed bids from sole distributors/original manufacturer holding valid PEC registration Certificate in relevant PEC Category with minimum experience of 5 years in Urban Traffic Management Systems to be installed at various intersections of Cantonment Board Clifton.

### **2.1. MANDATE OF CONTRACT**

2.1.1. Traffic Survey at all Intersections before execution of work and submission of drawings showing geometry of the intersections and proposed work.

2.1.2. Supply, Installation and commissioning of traffic signals at 08 Nos. intersections complete in all respect.

2.1.3 Submission of Bill alongwith as built detail drawings of all intersections covering all components of projects / BOQ items.

### **2.2. GENERAL CONDITION**

- I. Detail of projects of similar nature related to the above mentioned work undertaken by the firm in the last 5 years (in hand/ completed) supported by documentary evidence such as work orders / completion reports in original or attested copies.
- II. Financial status, Bank balance & certificate from the scheduled bank for the last 3 years.
- III. The Income Tax Certificate from the concerned department. Showing Tax payment regarding works / projects executed during last 3 years.
- IV. Details of technical staff for the proposed works, duly supported by attested credentials.
- V. An affidavit that the firm is not in dispute / litigation / arbitration with any Govt. / semi Govt. Department on the left over/ incomplete projects.
- VI. An affidavit is required to be provided with the technical bid regarding attachment of the bid security in the shape of Bank Guarantee or call deposit with the financial bid.
- VII. Incomplete Tender form will be Non responsive i.e. name of Firm, Quoted rates in words and in figures, signatures of the contractor and stamp of the firm.

## **2.3. INSTRUCTIONS TO THE BIDDER**

For the bidding, you are required to quote bids through SINGLE STAGE-Two envelopes procedure as outlined in rule 36 (b) of the PPRA Rules, 2004

- 2.3.1. Part I "Technical Offer": It should exclusively give technical details and literatures / brochures of the offered products related to project, allied equipment; validity date; methodology and schedule of execution; It must not indicate price, costs etc. An Affidavit to the affect stating that 2% bid security /earnest money has been placed in financial proposals /bids must be attached in the technical proposals. Any bid security not validated from bank can result into penal consequences.
- 2.3.2. Part II "Financial Offer": It should indicate the commercial terms e.g. Financial Proposal as per BOQ. Both Technical & Financial Proposal packets should be placed in Single Sealed Envelope separately.
- 2.3.3. The bids must remain valid for, at least 120 days from the date of open of tenders.
- 2.3.4. The bids should hold good for any reduced or enhanced scope of work without notice.
- 2.3.5. Conditional offers or alternative offers are likely to be ignored.
- 2.3.6 The quantity of various items as mentioned in BOQ may varies (increase/decrease) and payment shall be made against work done accordingly. Rates of any items not covered in BOQ and are required to be executed at site shall be paid on prevailing market rates.

## **2.4. TENDER DOCUMENTS**

The tender document can be obtained on payment of non-refundable fee of Rs.2000 in favor of: CEO, Cantt. Board Clifton.

## **2.5. EARNEST MONEY**

Earnest money at the rate of 2% of the bid value, should accompany financial offer in the shape of Deposit at Call Receipt, from a scheduled Bank drawn in favor of CEO, CBC, Karachi.

Tenders received without Bid Money will be rejected.

Earnest money of the unsuccessful tenderers will be returned to unsuccessful bidders.

Earnest money of the successful tenderer will be retained until the contract is finalized as security deposit.

## **2.6. SUBMISSION OF TENDER**

- 2.6.1. Tenders will be opened at 1130 hours on 11-11-2020 and must drop in the tender box on or before that time. The tender received late will not be entertained. You may witness the opening of the tender if you so desire. If a representative is deputed, he should bring a letter of authority from you. No cutting / over writing will be entertained.

2.6.2. Only one tender should be included in one envelope. The outside of the envelope should be inscribed with Name of work and date of advertisement Tender to be opened on: 11-11-2020.

## **2.7. ADDRESS**

Office of Cantonment Board Clifton, 38 CC, Street 10, Phase 6 DHA, Karachi

## **2.8. ACCEPTANCE OF OFFERS**

As per PPRA Rule 33, the procuring agency may reject all bids or proposals at any time prior to the acceptance of a bid or proposal. The procuring agency shall upon request communicate to any supplier or contractor who submitted a bid or proposal, the grounds for its rejection of all bids or proposals, but is not required to justify those grounds.

## **2.9 COMMENCEMENT OF WORK**

The bidder shall start the work immediately after receipt of Work Order by Cantonment Board Clifton.

## **2.10. DEFECT LIABILITY PERIOD**

The contractor shall furnish written guarantee against performance of the each component such guarantee shall be for replacement / repair of a part or whole equipment, which may be found defective in material or workmanship. The guarantee shall cover a minimum period of three years from the date of commissioning.

## **2.11 BID VALIDITY**

120 days. No. cutting/over writing allowed.

## **2.12 AGREEMENT**

The bidder whose rates are accepted by the Cantonment Board shall have to execute an Agreement with Cantt Board Clifton at its own expense.



### **3. TECHNICAL SPECIFICATIONS FOR SUPPLY INSTALLATION AND COMMISSIONING OF TRAFFIC SIGNALS**

#### **3.1. Standards**

All work and materials must have CE mark/International Standard for the design of road traffic lights and equipments.

#### **3.2. Environment**

The supplier shall install outdoor equipment that shall operate satisfactorily on the conditions in the area during all seasons. For all equipment installed for use outdoors, suitable protection against water ingress due to heavy rain and flooding shall be provided.

#### **3.3. Intersections**

The drawings in appendix B shows the layout of each intersection, these are for guidance only and bidders are required to visit the site at Kha-e-Ittehad Intersections.

- a. Ittehad cross Jami 4 sides intersection
- b. Ittehad cross Bahria 3 sides intersection
- c. Ittehad cross Shahbaz 4 sides intersection
- d. Ittehad cross Hafiz 4 sides intersection
- e. Ittehad cross Shaheen 3 sides intersection
- f. Ittehad cross Shujaat 3 sides intersection
- g. Ittehad cross 26<sup>th</sup> Street 3 sides intersection
- h. Ittehad cross Saba Avenue 4 sides intersection

#### **3.4. Traffic Controller Specs**

For each of above intersections the supplier shall provide and install a new traffic controller that as minimum meet the requirements in this specification and appendixes  
The Traffic Controller must be:

- 3.4.1. Of a microprocessor based type where all parameters can be changed from a integrated front panel and from a windows based laptop, all parameters has to be stored in battery backed up RAM or in FLASH
- 3.4.2. Each group output must have a fuse build in on the PCB for each red, yellow and green output
- 3.4.3. Each group output must indicate the status of the group with LED's on the front of the PCB, one LED per output Red, Yellow and Green and 1 LED to show failure in the group
- 3.4.5. Be able to monitor all 3 colors in the group output's in a safe way i.e. current as well as voltage has to be measured for each color the controller must be able to set and send an alarm or go into failure mode if there are one or more missing light sources as well as go in failure mode if there are voltage measured on conflicting outputs

- 3.4.6. Be able run, measure and detect LED with power consumption from 6 W and up to 100 W Halogen lamps
- 3.4.7. Have the capability to run signal heads in safe operation in Dim mode by use of a dim transformer, by safe operation means that the controller can measure and monitor all outgoing currents and voltages in bright as well as in Dimmed mode.
- 3.4.8. Be able to run Signal Heads with 230 V or Low Voltage Signal Heads with 42 V
- 3.4.9 The police panel can switch signals on/off and to amber flash as well as full stage control.
- 3.4.10. Provide as minimum 32 plans that can be freely programmed and activated by following options:
  - 3.4.10.1. Traffic activated by the traffic flow measured by loop detectors or similar means (optional features)
  - 3.4.10.2. Controllers calendar clock with appropriate number of action points per day
- 3.4.11. Be able to work in the following modes/options:
  - 3.4.11.1. Local control, Fixed time (count down timer )
  - 3.4.11.2. Local control, Adaptive actuated by the traffic
  - 3.4.11.3. Coordinated control with other traffic controllers, in green waves by clock or
  - 3.4.11.4. by traffic actuated from a master controller
  - 3.4.11.5. Ethernet/Internet Connectivity option be available

### **3.5. Controller cabinet's**

- 3.5.1. The supplier shall supply and install new traffic signal controller cabinets for each intersection
- 3.5.2. The cabinet shall be of a sufficient size to house all the control equipment detectors, cable terminations and interface units
- 3.5.3. The contractor shall remove and dispose the old cabinet, taking care to make safe all electrical terminations and to fill any void
- 3.5.4. All controller bases shall be sealed to safeguard against the ingress of moisture or gas with a minimum of IP68 rating

- 3.5.5. The locks in the cabinets shall be in accordance with the requirements of the city
- 3.5.6. Controller documentation and site drawings shall be stored in a suitable pocket facility in each controller cabinet
- 3.5.7. Within the controller cabinet there shall be a power socket outlets protected by a residual current device for the maintenance staff
- 3.5.8. The controller cabinet shall comply with IP54, and IK07

### **3.6. Cable**

- 3.6.1. The supplier must only provide high quality cables
- 3.6.2. Multi-core cabling shall have a minimum of 1.5mm<sup>2</sup>, 4 cores available on all cable run. Low voltage (exceeding extra low voltage but not exceeding 1000v) and extra low voltage (not exceeding 50v) power supplies shall have separate multi-core cables and shall be run in separate ducts. Available duct space shall be fully utilized before using spare duct ways. Draw ropes shall be replaced following laying of cables in ducts. Traffic signal cables shall not share ducts with any other services
- 3.6.3. Cables, including loop feeder cables shall have their outer sheath colored orange. Additionally, cables shall be embossed with the legend "TRAFFIC SIGNALS" in 4mm high white characters. Two meters of slack cable shall be provided and shall be coiled in the pit located at the base of each traffic signal pole and at the controller
- 3.6.4. Cable runs shall be arranged so that one signal pole knockdown or one cable cut does not extinguish all the signals on any one approach. On completion of cable installation a drawstring shall be left in each duct
- 3.6.5. Cables shall not be bent to a radius of less than 12 times their diameter or less than the minimum bending radius recommended by their manufacturer, whichever is the greater
- 3.6.6. Cable identification shall be provided in all draw pits (chambers)

### **3.7. Commissioning and Testing**

- 3.7.1. Factory Acceptance Tests (FATs) shall be carried out on the signal controllers, detection systems, and monitoring systems at least one week prior to the date for installation on site. Testing shall take place in the Supplier's depot.
- 3.7.2. The Engineer intends to witness the FATs and will request specific testing as he deems appropriate. To ease the burden of testing, the Supplier shall arrange for the controller tests to take place in batches

### **3.8. Mast Arm pole (Hot Dip Galvanized)**

Providing and fixing of straight/single arm/double arm, cantilever pole of heavy standard gauge(hot dip galvanized) 20 feet clear height pole of 5 inch /3 inch dia Gi Pipe (IIL, Jamal, Bashir or equivalent) with base plate 400X400 x 18mm thick with 4 Nos. 3/8” thickness with pole cap .The drawings for poles shall be submitted by the contractor for approval.

### **3.9. Grounding**

All equipment (controller, battery backup and poles) likely to come into human contact. For the equipment and human security grounding shall be done up to the water level. The contractor shall test and prove that the resistance to earth does not exceed two (2.0) ohms.

## 4. Hi-Flux Traffic Signal Heads

### 4.1. Vehicular Signal Heads

Only world's recognized brand, internationally well reputed with huge references product will be considered. No mix match product with fake identities will be considered for evaluation.

All approaches to a junction shall be presented with vehicular signal heads positioned on Mast arm poles to increase visibility and on standard poles. Vehicular signal heads shall be 3 Aspect (Red, Amber, Green) 300mm diameter lens, housed in a suitable assembly (polycarbonate) with a rating of IP 65.

Vehicular signal heads shall be provided complete with all associated accessories such as fixing brackets, nuts, bolts, rubber seals etc. The Vehicle signal heads shall operate within the temperature and humidity ranges of -25C to 55C and 0% to 95% respectively.

The vehicular signal heads shall be of various configurations according to the traffic movements they are intended to control such as through, right-turn, left turn and U-turn movements. For controlling of right-turn and U-turn movements, the lens inside the signal heads shall have arrow and U-turn indications respectively in each aspect of the signal head.

The provided signal head shall be in compliance of below specs:

- LED signal heads shall have the following characteristics. Nominal Diameter 200mm to 300mm depends to application.
- UV (ultra Violet) stabilized 100% polycarbonate weather resistant housing I visor, door etc
- Colour stability but without coloured glass ; should be smoked or colourless , operating voltage 196V to 240V and power consumption 8 to 9 Watts for 200mm 10-15 Watts for 300 mm
- Signal module will be rated IP-65, Light Emitting Diode (Hi-Flux LED) Optical System with Red, Amber & Green Modules with Hi-Intensity LED Light Source distribution
- Luminous intensity for 300mm >700 cd
- Operating Voltage 196V to 240
- Visual Angle 30° Visual > or equal
- Distance to 500 m

- The electrical connections shall be of first quality bearing repetitive connections and dismantlement.
- The electrical wires shall be of first quality, flexible, and shall be specified for a temperature -40 degree centigrade up to 65 degree centigrade.
- Life span of LED Hi-Flux signal head would be  $\geq 80000$  Hours

#### 4.2. Hi-Flux Signal Heads

##### Compliance Sheet

The provided signal head shall be in compliance of below specs: LED signal heads shall have the following characteristics. Nominal Diameter 200mm to 300mm depends to application. Compliance with CE.

Description	Yes	No	Remarks
UV (ultra Violet) stabilized 100 % polycarbonate weather resistant housing I visor, door etc			
Colour stability but without coloured glass should be smoked or colourless			
Operating Voltage 196V to 240V and power signal module will be rated IP-65, light emitting diods (LED) central optical system with red, amber & green module with homogeneous light distribution: Luminous intensity for R 200 mm >700 cd: G 200 mm >650 cd Y 200 mm >600 cd Luminous intensity for 300 >700 cd			
Consumption 8 to 9 watts for 200 mm 10-15 watts for 300 mm			
Visual angle 30° Visual Distance: $\geq 500$ m			
The Electrical wires shall be of first quality, flexible and shall be specified for a temperature -40°C upto 65°C			

## 5. Power Back Up

### 5.1. Un-interrupted Power Supply (UPS)

The Contractor shall install and integrate an intelligent Uninterruptible Power Supply (UPS) to maintain power to all installations at the junctions including but not limited to traffic controller, its associated signal lights and detection system, communication system, CCTV system; in the event of mains power failure. The UPS shall be able to support the devices under normal operative conditions for a minimum of three hours.

### 5.2. PURE SINE WAVE UPS CUM SOLAR INVERTER (2KVA)

This shall a multi-function inverter/charger, combining functions of inverter, solar charger and battery charger to offer uninterruptible power support with portable size. Its comprehensive LCD display offers user-configurable and easy-accessible button operation such as battery charging current, AC/solar charger priority, and acceptable input voltage based on different applications.

Features/Specifications	Yes	No	Remarks
Pure Sine wave inverter			
Configurable AC/Solar input priority via LCD setting			
Compatible to mains voltage or generator power			
Auto restart while AC is recovering			
Cold start function			
Overload & Short circuit protection			
Efficiency greater than 90%			
Solar charge current should be minimum 60A			
AC charger minimum 20 A			
Operating Temperature minimum 0-55 degree			

### 5.3. Battery

VRLA deep cycle Gel battery 12V 200Ah, specifically designed for specified application having design life 10-12 years manufactured by world renowned manufacturer. Batteries should completely sealed construction which eliminates the need for watering.

It should have following basic features:

Specification	Yes	No	Remarks
Spill proof / leak proof			
Valve regulated Max internal pressure 2.5 psi			
Multi-position usage			
Analytical Grade electrolyte			
Multi-cell container			
ABS Case and cover			
Low self-discharge			
Design Life 12 Years			
ISO 9001, CE and EMC certificates			

### 6. Two Digits Red-Green Countdown Timer:

1. Application – junction traffic light signaling
2. Available in learning, adaptive or communicative version
3. Ability to be synchronized with any traffic signal controller
4. Wide operating voltage
5. Transparent polycarbonate optical lens – impact resistant
6. High intensity LED light source – low energy consumption
7. 5mm LED (DIP) by EPISTAR
8. Long life cycle – more than 80,000 working hours
9. Highly durable polycarbonate housing; UV-light resistance
10. Fixation system with aluminum mounting brackets
11. Compliance with CE, RoHS, EN12368, ISO9001



## 6.1 Technical Specifications:

Size	300 to 400 mm
Color	Red & Green
LED Qty	R/G: 128 Pcs
Light Intensity	R $\geq$ 10000cd/m <sup>2</sup> G $\geq$ 20000cd/m <sup>2</sup>
View Distance	$\geq$ 500m
Wave Length	R:625~630nm
IP Grade	IP65
Viewing angle	L/R-30° U/D-30°
Working Temp	-40°C~+80°C
Working Voltage	Dc 12V, DC24V; AC85V-265V, 50-60HZ
Housing Material	Polycarbonate-UV Resistant
Life Span	$\geq$ 80,000 hrs
Power Consumption	R $\leq$ 10W G $\leq$ 12W
Warranty	3 years

## BID FORM

### BOQ TRAFFIC SYSTEM AND ASSOCIATED ACCESSORIES

#### (08 INTERSECTIONS CLIFTON CANTT)

Rs. 2,000/- deposited vide Bank Challan No. \_\_\_\_\_ dated \_\_\_\_\_

The "Bid Form" is issued to M/S \_\_\_\_\_ for

Supply of \_\_\_\_\_.

**Cantonment Executive Officer**  
Cantonment Board Clifton

A Traffic Signal and Associated items						
S. No.	Description of items	Qty/	Qty/8	Unit	Quoted Rate (Rs)	Amount (Rs)
		Crossing	Crossing			
1	Excavation in soil and back filling	20	250	P.LM		
2	Metallic road cut 4" – 6" depth, providing/laying of PCV pipe (Polythlene) without joint 1 – ½" / 2" dia including road cutting and refilling 1:2:4 cement, crush, stone, sand as per site requirement	70	600	P.LM		
3	Termination of Complete Intersection	1	8	Each		
4	P&L of U-PVC pipe complete with all special like sockets, Tee, Elbow complete in all respect					
	a) 50 mm (2") dia 4.05 mm thick	110	1200	P.Mtr		
5	Providing / laying testing and commissioning of Multicore PVC insulated sheathed copper conductor cable (Newage, Pakistan Cable or equivalent)					
	a) Single core 2.5 mm <sup>2</sup>	200	2000	P.Mtr		
	b) 4 core 1.5 mm <sup>2</sup>	950	9500	P.Mtr		
	c) 2 core 2.5 mm <sup>2</sup>	40	400	P.Mtr		

6	Providing and fixing of Hi-Flux traffic signal heads with latest hipower LEDs as light Source in red,yellow and green lamp and 100 % Polycarbonate material, IP-65 light Emitting Diode (LED) Imported					
	a) 3-Aspect 200 mm	8	40	Each		
	b) 3-Aspect 300 mm	8	140	Each		
7	Two Digit LED light source hi intensity Red, Green Countdown timer Compliance with CE (Imported) Polycarbonate	8	50	Each		
8	Providing earth upto water level as per specification approved by the Engineer Incharge	1	8	Each		
9	Supply & Installation of Inteligent Urban Advance Traffic Signal Controller (Imported with Import documents) alongwith Controller Cabinet and its footing	1	8	Each		
10	Construction of 2'X2'X2' inner draw pits with PCC Covers	8	80	Each		
11	Providing and fixing of signal standard poles (hot dip galvanized)with 15 feet height Gi Pipe (IIL, Jamal, Bashir or equivalent) 4" dia complete with base plat 12 mm thick with 4 Nos. 3/8" thickness and stiffener as per drawing given and i/c paint	8	32	Each		
12	Providing and fixing of single arm cantilever pole (hot dip galvanized) 20 feet high pole of 5 inch /3 inch dia Gi Pipe (IIL, Jamal, Bashir or equivalent) with base plate 400X400 x 18mm thick with 4 Nos. 3/8" thickness with pole cap as per drawing given i/c	8	50	Each		

13	Providing and fixing of double arm cantilever pole (hot dip galvanized) 20 feet high pole of 5 inch /3 inch dia Gi Pipe (IIL, Jamal, Bashir or equivalent) with base plate 400X400 x 18mm thick with 4 Nos. 3/8" thickness with pole cap as per drawing given i/c	8	50	Each		
14	Foundation making for cantilever pole (hot dip galvanized) traffic pole including 1" dia 4 feet long J-Bolts nuts washers inclusive of sundry material like cement, sand, concrete with paint and labour charges	8	100	Each		
15	Foundation making for standard traffic pole (hot dip galvanized) including 3/4" dia 2.5 ft long J-Bolts nuts washers inclusive of sundry of sundry material like cement, sand, concrete (PCC) with paint & labour charges	8	32	Each		
<b>B)</b>	<b>Power Back up System</b>					
16	Supply, Installation pure sine wave hybrid power inverter having flexible configuration 24 Volts (2 KVA) with built in MPPT solar charge controller (60A) out door application	1	8	Each		
17	Supply & Installation of maintenance free (12V 200 Ah), Deep cycle Gel Battery	2	16	Each		
18	Supply & Installation of outdoor cabinet for inverters and underground battery arrangement (JOB)	1	8	Each		
	<b>Grand Total</b>					

## **GENERAL CONDITIONS OF CONTRACT AGREEMENT**

1. That the work shall be carried out strictly in accordance with the specifications laid down in MES Schedule, sanction estimates and plans/drawings in the most substantial and workman like manner. If through the use of material not in accordance with the MES specifications given apparent in the work at site the Executive Officer or Chief /Senior Cantt Engineer shall at any time at short notice to the contractor, demolish, remove or make good the defective work at the risk and cost of the contractor. And further that if after the certificate of completion has been given the contractor shall make good within six months of the completion of work the defective work or the CEO shall be at liberty to remove the defects at the risk and cost of the contractor. The amount so incurred on the work shall be recoverable from the security of the contractor held by the Board.
2. The work shall be completed within the period given in the work order. The work throughout the specified period shall be executed with due diligence during the currency of the contract. If the time is not extended by the Cantt Executive Officer then the contractor shall pay as compensation to the Board 2% of estimated cost for every day the work remains unfinished after specified date give in the work order. The time limit is the essence of the contract.
3. The Scope of work may increase or decrease from the tender amount as per Budget provisions or requirement of work during Financial Year.
4. That if the contractor desires are extension in the time limit for completion of the work on the grounds which are unavoidable and beyond the control of the contractor, he shall apply in writing to the Cantonment Executive Officer, before the date of expiry of the time limit of work, stating reasons, and the Cantonment Executive Officer, may extend the time, whose decision shall be final.
5. That if the contractor fails to execute and complete the work within the period allowed to him or within the extended period, the Board shall have the right to get the work executed from any other agency at the risk and cost of the contractor and recover the extra cost so incurred from the security or otherwise / no work shall be carried out on holidays except with prior permission in writing of the Cantt Executive Officer.
6. The Cantt Executive Officer shall have power to make any alteration or addition to the original specifications that may appear to him necessary or advisable during the progress of the work and the contractor shall be bound to carry out the same in accordance with the instructions which will be given to him in writing, by the Cantt Executive Officer. It shall be also lawful for the Cantt Executive Officer to get any of the constriction work executed departmentally where it seems necessary.
7. That the work shall be carried out in accordance with the estimates and plans. Any variation which becomes necessary either on account of plan or design of the work or for any other reason the Cantt Executive Officer shall be competent to order the execution of such variations and these shall be paid for at the approved rates.

8. The contractor shall not assign or sublet the contract without the prior permission, in writing, of the Board. If he does so, he shall be liable to lose the contract as well as security at the discretion of the Board and he shall pay the additional expenses incurred in getting the work completed.
9. That the contractor shall together with his tender application earnest money equal to 2% (two percent) of the total estimated cost of the work in the shape of pay-order or deposit call of an approved schedule bank of Pakistan in favour of Cantt Executive Officer. The deposit at call will be retained by Cantt Board and applied towards the damages suffered by Cantt Board if the contractor should default in commencing of the work under the contract within seven days from the date of execution of contract agreement.
10. Where it is discovered that any overpayment has been made to the contractor in respect of any work done by him or allowed to him under this contract, such overpayment shall be recovered by the Cantonment Executive Officer from the contractor by deduction from any bill of the contractor.
11. The contractor shall indemnify the Board, its officer and all servants against all claim, in respect of any injury or damage arising out of or in connection with the execution of this contract to any person or property.
12. At any time during the execution of the contract, if the work of the contractor is found unsatisfactory and not in accordance with the specifications, the Board shall be competent to get the defects removed through some other agency at the risk and cost of the contractor besides this the Board shall also be competent to get the unexecuted work done through other agency at the risk and cost of the contractor. Any extra expense that may be incurred under this clause, may be recovered from the contractor / from his security deposit or from any other sum that may then or at any time be due to the contractor / or from his property as arrears of land revenue.
13. If the contractor abandons the work or keep it suspended for a period exceeding fifteen days consecutively for the reasons which are not beyond his control, the Board shall have the right to determine the work after serving seven days' notice and get the remaining work completed / executed through any other agency at the risk and cost of the contractor.
14. The contractor shall be responsible for compensation to his workman under workmen's compensation Act.
15. The approved rates for the original works of roads, buildings, sewerage, water supply and electric etc. will remain valid till the completion of the respective works and the contractor shall not be entitled to claim any escalation for the subject work.
16. The security equal to 5% of the work done will be deducted from the final bill which will be kept for 12 month from the date of final payment or after audit of respective work which ever is later for meeting the expenditure in case any defect arises in the work and the contractor fails to rectify it.

17. In case of failure to execute the project as per approved specifications, the contractor will be liable for penalty of minimum 2% of the estimated cost of the project. Further a notice will be served to contractor giving suitable time to complete the project.
18. If the contractor fails to complete the work, as per estimates & specifications, within stipulated time or extended interval, the CEO shall serve 02x notices to the contractor for completion of the work. in case of persistent non-compliance, 3<sup>rd</sup> & final notice shall be served where-in the contractor shall also be given an opportunity to be heard in person as envisaged in Rule (19) of the PPRA Rules 2004, to know their point of view regarding failure to commence / complete the project. In case of unsatisfactory reply the case for black listing shall be referred to the Board.

**Executive Officer  
Cantonment Board Clifton**

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“I / we accepted the above mentioned conditions of tender and contract agreement and will abide by all for them in case my tender is accepted by Board”

Name of Contractor \_\_\_\_\_

**Signature of the Contractor.**