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**GOVERNMENT OF ODISHA**  
**OFFICE OF THE EXECUTIVE ENGINEER,**  
**PANIKOILI (R&B) DIVISION.**

**Panikoili (R&B)-Quotation No.02/2017-18**

1. Sealed quotations are invited from competent and experienced contractors with sound technical and financial capabilities for supply, erection, testing & commissioning of **fire protection system for MCH MCH Building at Jajpur** under Panikoili (R&B)Division, Odisha for below mentioned scope of works with following terms & conditions.
2. The Quotation Call Notice will be available in Odisha Government website <http://www.odisha.gov.in> with effect from **10.00hours of 10.07.2017 to 17.00 hours of 20.07..2017.**
3. The Quotation will be received from **10.00hours of 10.07.2017 to 17.00 hours of 20.07.2017** and to be opened at **11.00 hours of 21.07.2017** in the office of Executive Engineer, Panikoili (R&B) Division, Panikoili in the presence of the Quotationer or their authorised agents. If the office happens to be closed on the date of receipt/ opening of the Quotation as specified, the quotations will be received/opened on the next working day at the same time and venue.
4. The quotations must be delivered in the Box having Identification No. Panikoili (R&B)-Quotation No.02/2017-18 kept in the O/O the Executive Engineer, Panikoili (R&B) Division, Panikoili before **17.00 hours of 20.07.2017**
5. The Quotation must be accompanied with earnest money deposit of 1% of the quoted amount in shape of NSC/POTD/Post Office Saving Bank A/C /KVP/ Fixed Deposit Receipt of any Schedule Bank duly pledged in favour of Executive Engineer, Panikoili (R&B) Division, Panikoili, Odisha failing which the quotation will be rejected.
6. **The Quotation must be accompanied Work Experience certificate as mentioned below in para-8.of Part-I(Technial bid) failing which the quotation will be rejected.**
7. The Successful Quotationer will furnish **Performance security of 5% of the quoted amount** in shape of NSC/POTD/Post Office Saving Bank A/C /KVP/ Fixed Deposit Receipt of any Schedule Bank duly pledged in favour of Executive Engineer, Panikoili (R&B) Division, Panikoili, Odisha before signing of agreement failing which the quotation will be rejected and the Earnest money deposited will be forfeited .
8. The Quotationers are required to furnish the attested photocopy of **Requisite Certificate of Experience Certificate, PAN,GST Registration and other connected documents** in support of any further claims along with the duly filled and signed price documents attached here with.
9. Statutory Deductions of taxes as per prevailing Government Orders in force like Income Tax, any other Central/State Government taxes etc. along **with 5% security deposit** will be made at source from the bills.
10. **Tender to be submitted in one sealed cover, containing Technical bid Bid & Priced Bid, in two separate sealed envelopes. The overall sealed cover and the separate covers inside for Technical bid and Priced Bid should be clearly super scribed to identify them easily.**
11. **The price bid of only the Successful(Those will satisfy the all terms & conditions of notice & of Technical bid) quotationers will be open for price evaluation. The date of opening of price will be intimated to successful bidders by official means.**
12. An agreement with the following terms &condition will be drawn with the Successful lowest vender within 3(Three)days of acceptance of quotation.
13. The Quotationers should signed each documents submitted with their quotation, failing which the quotation will be rejected.
- 14.

Signature of Bidder

14. The terms and condition as mentioned in the (Un-Price bid/Technical bid will also be applicable for qualification of bidder.

The authority reserves the right to accept or cancel any or all the quotations.

Sd/-  
(Er T.P.Mishra)  
Executive Engineer,  
Panikoili (R&B) Division

**Memo No. 2792 (WE) /Dated. 6.7.2017**

Copy submitted to the Deputy Secretary to Govt., Department of Information and Technology, Orissa, Bhubaneswar with a request to display the Quotation Call Notice in the Web Site of Govt. of Orissa till 17.00 Hours of 20.07.2017. The CD containing the above Quotation Call Notice is enclosed herewith for the purpose.

**Enclosure- C.D- 1(one) number**

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division.

**Memo No. 2793 /Dated. 6.7.2017**

Copy submitted to the Director, Printing, Stationary and Publication of Oisha, Madhupatana, Cuttack-10 for information and necessary action. He is requested to arrange for publication of the Quotation Call Notice in next issue of Odisha Gazettee.

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division.

**Memo No. 2794 <sup>(6)</sup>/Dated. 6.7.2017**

Copy submitted to the Engineer-in-Chief cum Secretary to Government of Odisha ,Works Department, Bhubaneswar /Chief Engineer, World Bank Projects, Odisha, Bhubaneswar / Chief Engineer (DPI&Roads), Odisha, Bhubaneswar / Chief Engineer (Buildings), Odisha, Bhubaneswar / Superintending Engineer, Cuttack (R&B) Circle, Cuttack for kind information and necessary action.

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division.

**Memo No. 2795 <sup>(3)</sup>/Dated. 6.7.2017**

Copy submitted to the Collector, Jajpur/Superintendent of Police, Jajpur, Panikoili, /Project Director, DRDA, Jajpur for favour of kind Information and wide circulation.

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division.

**Memo No. 2796 <sup>(7)</sup>/Dated. 6.7.2017**

Copy forwarded to the Executive Engineer, Cuttack (R&B)Division, Cuttack / Dhenkanal (R&B) Division, Dhenkanal/ Charbatia (R&B) Division, Choudwar, Cuttack / Angul (R&B) Division, Angul / Kendrapara (R&B) Division, Kendrapara / Jagatsinghpur (R&B) Division, Jagatsinghpur for information and wide circulation.

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division.

**Memo No. 2797<sup>(4)</sup>/Dated. 6.7.2017**

Copy forwarded to the Assistant Executive Engineer, Panikoili (R&B) Sub-Division, Panikoili / Assistant Executive Engineer, Jajpur (R&B) Sub-Division, Jajpur / Deputy Executive Engineer, Chandikhol (R&B) Sub-Division, Gopalpur / Deputy Executive Engineer Binjharpur (R&B) Sub-Division, Binjharpur/Assistant Executive Engineer G.E(R&B)Sub-Division, Jajpur for information and necessary action.

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division.

**Memo No. 2798<sup>(4)</sup>/Dated. 6.7.2017**

Copy to Notice Board / Senior Divisional Accounts Officer Head Clerk /Cashier /Tender file for information and record.

Sd/-  
Executive Engineer,  
Panikoili (R&B) Division

# PART - I

## (Technical Bid)

### 1.SCOPE OF WORK

Supply and design data assistance, fabrication, erection, painting, testing and commissioning of the Fire Hydrant & Sprinkler System with mechanical and electrical equipment, instrumentation, pipes, valves, fittings, supports, cables etc complete in all respects, and preparation & submission of as-built ,with detection & portable fire extinguisher .

Drawings/calculations/other documents to concerned authorities & obtaining interim & final Approval/Sanction/NOC (No Objection Certificates) from ODISHA Fire Services, during and after execution of work as required, as per tender documents

### 2.Full Scheme (For general information of the Bidder)

- a. Wet Riser System with Landing Valves, Hose Cabinets containing fire hose and branch pipe, First aid type Hose Reels at each floor of the building.
- b. Automatic Addressable Fire Detection and Alarm System with Smoke Detectors, Heat Detectors, Manual Call point & Audio Visual Strobe.
- c. Provision of Portable Fire Extinguishers of Co2, Water Co2, ABC, Clean Agent at each floor of the Building & , Pump house area.
- d. Yard Hydrant with fire post, hose cabinet and fire inlet service.
- e. Automatic Sprinkler system in each floor with 2 separate risers exclusively for Sprinklers with alarm valve & Water Flow detector.

### 3.SITE VISIT

The vendor has to visit the site and understand the details of the scope of work, site condition, existing set-up, and hook-ups to be done at site before making the bid. Non-familiarization of site condition shall not be considered for late execution of the work nor for cost –overrun for the specified contract.

### 4.COMPLETION PERIOD

Time is essence of the contract. Time schedule for the total work is **4(Four) MONTHS** from the date of Letter of placement of Work Order.

### 5.TENDER DOCUMENTS

Tender Documents comprise two parts viz.

#### **I.Technical Documents**

##### **a)EMD**

**b) Certificate of Experience Certificate, PAN,GST Registration and other connected documents.**

**c) Work Experience certificate**

**II.Price Bid** .(Price should be inclusive of cost & carriage of of materials with all labour and machinery cost for erection/construction of structures. )

**6.LANGUAGE:** All documents relating to the bid shall be in English/Hindi language only.

### 7.VALIDITY OF OFFER

Tenderers shall keep their offer valid for a period of **90 days** from the date of opening of unpriced bid.

Signature of Bidder

## 8. Similar Nature of work

The bidder should have satisfactorily executed two/three similar works each costing 12 lakhs or more aggregating to 33% value of his quoted amount or more or executed one similar work costing 33% value of his quoted amount or more in any one financial year during current / last five years. Experience detailing completed similar nature of works during current / last five years, with certificates from the concerned officer not below the rank of Executive Engineer or Equivalent needs to be furnished by the bidder, in the format of Schedule.1, below or any other format having following informations. Failing which his/her offer will be liable for rejection.

### SCHEDULE-1 LIST OF PROJECTS WHERE IDENTICAL / SIMILAR TYPE OF WORK EXECUTED

Name of Employer	Name of location and name of work	Contract price in Indian Rupees	Brief description of work works	Date of work order/date of commencement	Date of completion of the work as per work order	Actual date of completion of the work	Remarks of authority
1	2	3	4	5	6	7	8

## 9. TAXES & DUTIES

**GST as applicable may be quoted extra.**

## 10. Defects liability period:

**Twelve months from the date of completion.**

## 11. LATE BIDS

All tenders received after the date and time of closing (i.e. Due Date & Time) will not be considered. Authority will not be responsible for loss/damage of tender documents or delayed indelivery for any reason whatsoever.

Signature of Bidder

## **CONDITIONS PERTAINING TO EXECUTION OF CONTRACT AFTER AWARD OF TENDER**

### **WORK PERMIT**

The contractor has to obtain necessary work permit from the Owner before starting the work, working on any holidays or on Sundays.

### **WORK IN MONSOON**

The completion period is including the monsoon( if it comes within the completion period). The Contractor must maintain a minimum labour force as may be required for the Work and plan and execute the construction and erection according to the prescribed schedule. No extra payment will be considered for such work in monsoon. During monsoon and other period, it shall be the responsibility of the Contractor to keep the construction work site free from water at his own cost.

### **CONSTRUCTION WATER**

Proper quality of construction water and water required for flushing and hydro-testing of Hydrant System shall be arranged by the contractor without any extra cost. Quality of water to be used shall be as per IS 456 latest edition. All temporary arrangements for distribution of construction water shall be arranged by the Contractor and the same shall be removed forthwith after completion of the work or if there is any hindrance caused to the other works, the Contractor will re-route or remove the temporary lines at his own cost in a manner so as to continue his (Contractor's) work in an uninterrupted manner.

### **CONSTRUCTION POWER**

Construction power along with power required for Contractor's stores, go down, area lighting etc. shall be arranged by the Contractor without any extra cost.

The temporary line will be removed forthwith after the completion of the work or if there is any hindrance caused to the other works due to the alignment of these lines, the Contractor will re-route or remove the temporary lines at his own cost.

### **GUARANTEES & WARRANTIES**

Contractor shall guarantee Owner against any and all defects in design, workmanship, materials and performance of the system for a period of twelve (12) months from the date of commissioning of system. Should any defect develop during the guarantee period, it shall be remedied promptly free of charge by the contractor and all expenses for transportation of goods necessitated for such repairs or replacement shall be borne by the contractor.

### **TERMS OF PAYMENT**

- (i) Payment will be released on completion of all work for each floor.
- (ii) 10% of bill will be withheld from each bill and will be released after final successful commissioning and running of system.
- (III) Bill in duplicate may be submitted to A.E concern on completion of work for each floor.

**Income tax:** Will be deducted from bill as per the prevailing income tax laws.

**GST-** As applicable will be deducted from the bill.

## **TECHNICAL SPECIFICATION FOR FIRE FIGHTING SYSTEM**

### **TECHNICAL PROJECT CONSULTANT: GPR POWER SOLUTIONS (P) LTD**

#### **OFFICE:**

Plot No.76, VGN Mahalakshmi Nagar, Extension 5, 2nd Main Road, Chennai

Tel: +91-44-26800010/26800210/26800085.

Fax: +91-44-26800085. Mobile: 9042863560

E-mail: gprgroupmktg@gmail.com

Web site: gprpower.com

<b>C O N T E N T S</b>	
<b>No.</b>	<b>DESCRIPTION</b>
1	GENERAL INFORMATION
2	CERTIFICATE OF WORK
3	TECHNICAL PARAMETERS
4	SPECIFICATION (TECHNOLOGICAL)
5	SPECIFICATION (ELECTRICAL)
5	LIST OF APPROVED MANUFACTURER'S
6	DRAWINGS AND DATA TO BE SUBMITTED ALONG WITH BID

#### **1.GENERAL**

This Specification covers the Fire Fighting Systems required for MCH BULDING JAJPUR

All work under this contract shall be carried out in accordance with the Technical Specifications and the latest revision of the NBC, Indian Standards, Codes, Indian Electricity rules and also Regulations and norms of ODISHA fire services.

#### **2.CERTIFICATE OF WORK**

Supply and design data assistance, fabrication, erection, painting, testing and commissioning of the Fire Hydrant & Sprinkler System with mechanical and electrical equipment, instrumentation, pipes, valves, fittings, supports, cables etc complete in all respects, and preparation & submission of as-built drawings/calculations/other documents to concerned authorities & obtaining interim & final Approval/Sanction/NOC (No Objection Certificates) from Odisha Fire Services, during and after execution of work as required, as per tender documents, Rules and codes in 1.3.0 above

Signature of Bidder

### 3. TECHNICAL PARAMETERS

#### Brief Description of Fire Hydrant System & Sprinkler System

##### I. Full Scheme (For general information of the Bidder)

1. One no. Fire Hydrant Pump (electric motor driven) here after called the 'Booster Pump' shall be installed in terrace at elevation approx. 3m below the bottom of the existing water tank, [that will be modified by BOI to have Fire-water-compartment at bottom], pumping water from the Overhead Fire water compartment of said tank. The common outlets of fire pump delivery system shall cater to the following:

- i) Internal fire hydrants in each floor and on roof.
- ii) External Fire Hydrants.
- iii) First Aid Hose Reels in each floor.
- IV) Sprinkler system in each floor
- v) yard hydrant system ring line

At the top of wet

gauge etc shall be down comer, an Air Vessel assembly with Air Relief Valve, a Drain valve, Pressure system. provided to take care of pressure surges and also for letting out entrapped air in the

##### II. Operation

Fire Hydrant System & Sprinkler System

Fire hydrant piping including ring main, up to hydrant valve/landing valves shall be kept pressurized by the booster pump which shall start automatically on receiving the impulse from the pressure switch in case of any pressure drop in the header. It shall stop at a preset pressure as soon as pressure builds up in the header, in auto-option, to be made available, in the M.C.C for the same.

For smaller fires, first aid hose reel would be used; while hydrant valve would be used for bigger fires.

In the event of fire outbreak, opening of hydrant valve/hose reel will result in fall of pressure in the header and the booster pump shall come into operation automatically through the impulse from the pressure switch, which will also stop the booster pump automatically. The above auto start and stop is not desirable at night time, so pump shall be operable independent of pressure switch, manually, in manual – option to be provided in the M.C.C for the pump.

See Spec. (Electrical) where the control of booster pump has been explained more specifically

#### 4. SPECIFICATION (TECHNOLOGICAL)

##### I. Pumps

Electrical Motor-driven booster pump: End suction type, horizontally mounted centrifugal pump (as per IS 1520), TAC approved, capable to deliver 54 cum/hour (900 lpm) of clear water at minimum 56 M TDH, coupled to a suitable electric motor mounted on a common base frame and antivibration pads coupling, coupling guard and fixing bolts etc. Electrical motor shall be of continuous rating type and its rating shall be equivalent to the maximum horse power required.

##### II. C I Sluice Valve

C I components of the sluice valve shall be of Grey cast iron conforming to IS 210. The valves shall be flanged having solid wedge gate valve, inside screw, hand wheel with open-close indications etc all conforming to IS 780 but of nominal pressure rating of PN 1.6 as per TAC norms. The valves shall be supplied with a pair of matching flanges, nuts, bolts, washers, rubber insertion etc.

The quoted price of the valves shall also include cost of arrangement for securing the valves in 'open' or 'closed' positions by padlock/riveted strap, where required per TAC norms.



### III. CI – Non return valve

C I swing check type Non return valve, ball type seating, flanged type.

### IV. GI 'C' Class Pipe and Fittings

All GI 'C' Class Pipes shall be as per IS 1239 (heavy/medium quality as mentioned in the schedule of items upto 150 mm N B, as per IS 3589 (minimum 6 mm thick) above 150 mm N B, and the fittings shall be of all welded construction, butt weld type flanges shall conform to IS 6392 and gaskets of synthetic moulded rubber approved by Fire Standard.

Pipes under existing garden areas shall be laid underground at a depth of 1 mtr (approx) and laying shall be as per layout drawing, excavation, back filling of earth, cutting holes in existing structure where necessary, providing puddle collars/pipes as required & making good the damages including making the concerned portion of the structure water tight.

Erection of over ground piping shall be complete with necessary pipe supports hangers with MS angles/plate/nut bolts/clamps etc with fabrication as required including providing MS puddle pipes/collars as required for punctures through walls/slabs etc.

Erection of pipe lines shall also include chipping of wall; making holes inside RCC or brick walls, slabs and necessary civil works for restoration of the surface after completion of erection. The quoted tender rate shall include all the above works, as well as the cost of route markers for underground pipe lines as per specifications, to be approved by BOI.

#### a) Pressure Gauges

Pressure gauges with siphon, controlling cocks etc shall be of approved make having pressure range, bourdon material and dial size as specified in schedule of items.

#### b) Pressure Switches

Pressure switches with accessories shall be of approved make and design.

### V. Landing Valves (Hydrant Valve)

Gun metal landing valve (internal/external Fire-Hydrants) with oblique type single outlet as per schedule of quantities complete with hose coupling adaptor of 63 mm size, instantaneous spring lock arrangement and blank cap with chain conforming to IS 5290. External Fire-Hydrants to be provided with stand posts as specified in schedule of quantities. Orifice plates may be provided where inlet pressure is required to be reduced as per WBFS requirement.

### VI. Branch Pipe

Gun metal, short type, instantaneous pattern branch pipe to suit fire hose delivery coupling of 63 mm size complete with G M nozzle of 20 mm nominal size conforming to IS 903.

### VI. Hose with Coupling

63 mm nominal internal dia hose, rubber lined woven-jacketted coupling with Type-II (Reinforced Rubber lined type) of IS 636, fire fighting delivery hose 15/7.5 M long each, fitted with gun metal coupling of 63 mm size with multi serrated tail and double instantaneous spring lock arrangement comprising of male half at one end and female half at other end complete with rubber cup washer and conforming to IS 903.

### VIII. Hose Reel

Swinging hose reel conforming to IS 884 & comprising of 3 ply rubber hose of length specified in schedule of items, 20 mm (3/4") nominal bore (25 kg/cm<sup>2</sup>/350 psi bursting pressure), mild steel pressed reel with 170 degree swinging, nozzle of G M chromium plated, with non-jamming controlling handle which shall stay at the 'ON' 'OFF' position as set, wall brackets with 'U' shaped reel carrier made of CI complete with 25mm NB G M valve at the inlet, and orifice plate (if necessary for reducing pressure).

## **IX. Fire-Brigade Connections**

Fire-Brigade connections (inlets) to hydrant Ring main shall be with one number of 63 mm instantaneous inlets for each connection as per TAC norms. Other aspects of the connection shall be as per IS 904.

## **X. Painting**

All external steel surface shall be thoroughly cleaned to remove rust, scale etc before applying the primer.

- a) All underground piping shall be provided protective wrappings as per TAC norms.
- b) All over ground piping/hose boxes/landing valves/hose reel, M S frames etc shall be painted with two (2) coats of RED LEAD primer or equivalent followed by two coats of Post Office Red coloured Synthetic enamel finish paint.
- c) All other equipment shall be given a red oxide/zinc chromate primer and two (2) coats of synthetic enamel.

## **5.SPECIFICATION (ELECTRICALS)**

### **I.Controls**

- i) Electric Motor driven fire pump shall start automatically through preset pressure switch to be located on the fire ring main at the lowest point at basement set for a maximum of 7 kgs/cm<sup>2</sup>.
- ii) Stopping of fire pump shall be manual as well as automatic, as described in 1.3.3.
- iii) Audio visual alarm shall be on when fire pumps starts/stops.
- iv) Power supply 'ON' indication shall be provided in the Fire Pump Control Panel.

### **II.Motor Starter for booster pump**

This shall be standard make, of sheet steel of thickness not less than 2 mm, totally enclosed, self supporting, dust and vermin proof cubicle type construction with degree of protection IP 54. This will be located in the cable room in Ground floor, with a remote on/off switch-station, of standard make, near the booster pump, at the terrace.

Booster pump motor shall have star/delta or DOL starting as per TAC requirement. The motor control circuit shall be provided with test facilities so that it is possible to test the control circuit with the main motor circuit disconnected. Control voltage shall be 240 V, A C single phase.

Start/stop push button, auto/manual selector switch and on/off indication shall be provided.

### **III. Cables**

All power cables shall be multi core, 1100 V grade, PVC insulated, PVC sheathed, aluminium conductor cables manufactured and tested as per IS 1554 and ISI marked. All control cables shall be multi core, 1100 V grade, PVC insulated and overall PVC sheathed with copper conductor manufactured and tested as per relevant IS and ISI marked. Armoured power and control cables shall be only considered.

### **IV. Installation accessories and earthing materials**

One lot of installation accessories and earthing material shall be installed for equipment and cables and earthing of equipment.

## 6. LIST OF APPROVED MANUFACTURERS

The contractor shall use materials in their works subject to inspection prior to dispatch, by Owner or his authorized representative of any materials, as deemed necessary in accordance with the following list. All materials not otherwise specified shall be in accordance with the latest Indian Standard Specification, where such exists and prior approval of Owner/Architect. The contractor shall be bound to offer sample of materials, which are claimed to be conforming to IS Specifications, for testing at an approved Test Laboratory.

Contractor shall purchase all materials from the makers or their authorized stockiest only. Necessary documentary evidences must be produced to the Owner or their authorized representative on demand. Contractor shall be bound to supply items of any make of the items as per the choice of the Owner without any extra price.

Sr. No.	Materials	Name of Brands
1	Electrical Motor Driven Fire Pump	
	Pump	Mather & Platt/GRONDFOS/CRI
	Motor	Kirloskar (KEC)/NGEF/CROMPTON.
2	Antivibratory Pads	Approved quality and make.
3	CI Valves	Audco/Upadhyay/Kirloskar.
4	G M Valves	Leader/Kitz/Zoloto
5	Hydrant valves, Fire Brigade connections, GM branch pipes, couplings etc	Guards /ever safe or any good brand with ISI Certification
6	Fire Hoses	'GUARDS' or other approved make with ISI mark
7	Hose Cabinet	Good quality fabricated as per specification (sample cabinet to be Approved).
8	First Aid rubber hose (for swinging hose reel)	GUARDS Approved quality and make.
9	Power/Control Cables	CCI/Polycab/Havell's/Gloster
10	Push buttons	L & T/Siemens/Schneider.
11	Pressure Gauge	H Guru/Fiebig.
12	Pressure Switches	Indfoss.
13	Auto Transfer Switch	Havell's/GE/Emerson.
14	Indicators Lamps	Essen/L & T/Siemens.
15	Ammeters and Voltmeters	Automatic Electric/IMP/Rishabh.
16	Star Delta/DOL Starter	L& T/Siemens/Schneider/ABB.
17	Contactors (Main and Auxiliary)	L& T/Siemens/Schneider/ABB.
18	a) Bimetal O/L Relay with single phasing preventor, combined unit	L & T/Siemens/Schneider/ABB.
	b) Single phasing preventor (Negative sequence current sensing type)	L & T/Schneider/ABB/Siemens.
19	650/1100V grade PVC insulated copper wires and flexible cables	Finolex/Havell's/Polycab.
20	Voltmeter, Ammeter Selector Switch	Kaycee.
21	Steel Conduits (conforming to IS in all respects)	
	a) Galvanised	BEC/NIC/AKG.
	b) Black Enamelled	BEC/NIC/AKG.
22	MCCB and Accessories	L&T (D-Sine)/Schneider (Compact NSX)/ ABB

Signature of Bidder

		(T-Max)/Siemens (3 VL).
23	C T	Kappa/Matrix/Gupta
24	MCB DB, MCB	ABB/Schneider/Siemens
25	Piano Switch/Sockets	Anchor/SSK.

All the materials shall be ISI marked wherever available from the list of manufacturer given above, wherever the ISI marked materials are not available, the materials shall be from the best quality available in the market, subject to submission of satisfactory test report with prior approval from the Owner/Consultant.

## 7. DRAWINGS AND DATA SHEETS TO BE SUBMITTED BY THE BIDDER

I.Flow diagram showing the complete fire protection scheme with associated controls for the following:

- 1) Hydrant system both internal and external
- 2) Sprinkler system with sprinkler alarm

II.Data Sheets for the following:

- 3) Fire water boosted pump
- 4) Valves and Strainers
- 5) Hydrant Valves (External) and Landing Valve (Internal Hydrant Valve)
- 6) Fire Hose for internal and external hydrants
- 7) Fire Hose Reel drum of swinging type.
- 8) Branch pipes and Nozzles
- 9) Hose Box/ Cabinet (Internal/ External)
- 10) Sprinkler Alarm and Sprinklers

Signature of Bidder

### PRODUCT SPECIFICATION & MAKE

The following table shows the specification of some prominent items required for the entire project in minimum along with their makes those are normally approved by the concerned authorities and used by us.

Sl. No.	NAME OF PRODUCT WITH REQUIRED FEATURES	Make generally approved
1	<p><b>Diesel Pump</b></p> <p>Features: Diesel Engine driven common stand by pump, horizontal centrifugal end suction back-pull out type with gland packing and capable to deliver 2280LPM at 70MWC. The pump shall coupled to suitable HP of Diesel engine radiator water cooled type with speed of 1800 RPM and complete set shall be mounted on common base frame. Batteries &amp; battery leads with stand, fuel tank (for 6 Hrs. operation) with stand &amp; gauge glass. Fuel piping with valves.</p>	KSB/Kirloskar/ Mather & Platt
2	<p><b>Electric Main Pump</b></p> <p>Features: Electrical motor driven main pump of horizontal centrifugal end suction back- pull out type with gland packing and capable to deliver 2280 LPM at 70MWC. The pump shall be coupled to TEFC motor of suitable HP with speed of 2900 RPM.</p>	KSB/Kirloskar/ Mather & Platt
3	<p><b>Jockey Pump</b></p> <p>Features: Electrical motor driven jockey pump of horizontal centrifugal end suction back- pull out type with gland packing and capable to deliver 180LPM at 70MWC. The pump shall be coupled to TEFC motor of suitable HP with speed of 2900 RPM and complete set shall mounted on common base frame.</p>	KSB/Kirloskar/ Mather & Platt
4	<p><b>Pump Controller</b></p> <p>Features: The motor control centre shall be fabricated out of 14gauge CRCA sheet steel in form in 3b formation with reinforcement of suitable size angle iron, channel 'T' sections iron and /or flats wherever necessary. Cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved shade of powder coated paint. 2 nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall also be provided in case of large panels. Approval shall be taken for each panel before fabrication. Cadmium plated hardware shall be used in fabrication of panels. Quoted rates shall inclusive of cables control wiring and trays (in accordance to specification) with earthing from panel to each motor /equipment. Panel shall have suitable interlocking for pump operation through pressure switches.</p> <p>1. MCC for firefighting equipments</p> <p>Incoming</p> <ol style="list-style-type: none"> <li>a. 2Nos 630 amps 4 pole mechanical interlocked incoming MCCB complete with the following. <ol style="list-style-type: none"> <li>i. 0-500 volts 96 x 96mm square ammeter with 630/5 amps 15VA CL:1 CT's and selector switch</li> <li>ii. 0-630 amps 96x96 mm square ammeter with 630/5 amps SP MCB 6Sets</li> </ol> </li> <li>b. Aluminum bus bar sleeves type , rated at 800 amps for three phase &amp; neutral phase bus bar shall have maximum current density of 1 amps per sq. cm. and the neutral bus bar of not less than 50% capacity.</li> </ol> <p>Outgoing:</p> <ol style="list-style-type: none"> <li>a. 2nos 250 amps TPN MCCB outgoing feeder with 60 KW DOL starters out going feeders to Hydrant/ Sprinkler pump motor. The compartment shall contain CT operated ammeter of 0-250 amps range with selector switch auto / manual selector switch and indicating lamp with MCBs for</li> </ol>	Siemens /L&T

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	<p>ON/OFF TRIP status of motor.</p> <p>b. 2 Nos. 63 amps TPN MCCB, 7.5 KW Direct online starters with single phase preventer and outgoing feeder to jockey pump motor. The compartment shall contain CT operated ammeter of 0-63 amps and indicating lamps with MCBs for ON/ OFF TRIP status of pump motors</p> <p>c. Providing and fixing 1 no. auto start panel activated with pressure switch for diesel engine complete with all accessories, batteries , battery charger of suitable rating, MCB timers, push buttons, microprocessor based alarm annunciator, wiring and cabling including connection to diesel engine complete as required ready for working.</p> <p>d. Necessary cable alleys space for spare switches, internal wiring and copper earthing of all equipment shall be included. All switch gears/ control gears shall be motor duty</p> <p>Note: All MCCB's to be suitable for motor duty and shall be of 25KA breaking capacity. Provision shall be made for providing potential free contacts to all pumps starters for connection to building automation system.</p>	
05	<p><b>HYDRANT VALVE</b> 63mm dia <b>SINGLE OUTLET</b> Landing valve Oblique type in <b>S.S. ISI Marked</b> bearing <b>IS: 5290</b> with blank cap and chain tested to hydrostatic test pressure of <b>21/kgcm<sup>2</sup></b> and complete in all respect</p>	GUARDS /
06	<p><b>Hose cabinet</b> Features: The hose cabinet having size: 20" X 24" X 10" shall be fabricated out of 20 SWG MS sheet. Two sides and back of the hose cabinet shall be made from sheet by pressing,. The top shall have pressed edge slightly projecting to outside to prevent water from entering the cabinet. The cabinet shall be fitted with two doors having glass panel. The doors shall be provided with a knob and lock with key. Suitable hooks etc. shall be provided in the cabinet to hold the hose and branch pipe etc. The thickness of the glass shall not be less than 3mm. Suitable wall mounted bracket shall be provided with the cabinet.</p>	GUARDS/
07	<p><b>Non-return valve:-</b> Cast Iron Double Flange swing type <b>Non - Return Valve</b> as per IS : 5312 / 2004 ISI Mark.</p>	ISI
08	<p><b>GATE VALVE:</b> Cast Iron Double Flange Gate Valve as per IS : 14846 : 2000 (. With Cast Iron Hand Wheel Operated. With ISI Mark</p>	ISI
09	<p><b>CP HOSE</b> 63mm <b>Controlled Percolating (CP)</b> Fire hose pipe rein forced rubber lined <b>ISI</b> marked bearing <b>IS:636 TYPE "A"</b></p>	GUARDS
10	<p><b>BRANCH PIPE SS METAL</b> 63mm dia <b>Branch Pipe</b> with nozzle <b>ISI Marked (IS : 903) in S.S.</b></p>	GUARDS
11	<p><b>MALE FEMALE COUPLING</b> 63 mm dia male / female instantaneous coupling isi marked as per <b>(IS 903)</b></p>	GUARDS
12	<p><b>AIR RELESE VLAVE</b> Gun Metal As Per isi</p>	ZOLOTO/DRP
13	<p><b>Ball valve</b> Gun metal as per isi</p>	ZOLOTO/DRP
14	<p><b>Fire service inlet-</b> 4 way fire service inlet</p>	GUARDS

15	<b>Alarm Valve</b> Features: <b>UL” Listed</b> 150 mm dia installation <b>Alarm Valve</b> with <b>Gong Bell</b> and complete accessories	GUARDS
16	<b>Swinging Hose-reel Drum with hose</b> Features: 20 mm Swinging type 180° full wall mounted Powder coated <b>Hose Reel Drum ISI marked</b> bearing <b>IS : 884</b> Tested to Hydrostatic pressure of <b>21/ Kg cm<sup>2</sup></b> make with 20 mm dia <b>Type-II Thermoplastic Hose Pipe ISI Marked</b> bearing <b>IS : 12585</b> in <b>30mtrs length</b> make	GUARDS
17	<b>Sprinkler</b> Features: 68Deg/79Deg Standard Response Standard Coverage CHR Finish Pendant/Upright Type, UL Listed Fire-Sprinkler	UL LISTED
18	<b>BUTTERFLY VALVE :</b> <b>CIButterfly Valve</b> , D.I. Disc, Hand Lever Operated, Slim Line as per IS:13095, ISI Marked,	ZOLOTO/DRP/ISI MARKED
19	<b>AIR RELESE VALVE :</b> Gun metal as per ISI	ZOLOTO/ISI MARKED
20	<b>DIGITALLY ADDRESSABLE FIRE PANEL :-</b> SITC of UL Listed and FM approved 4 Loop Analog addressable Fire Alarm system , having the total panel capacity of 504 devices. The panel shall be able to give location of all fire and More Fire /fault and Isolation conditions of addressable units via the address codes.The panel shall have the capacity of storing upto 2000 events.Further, the panel must be able to automatically switch ON /OFF respective control module when ever any alarm is triggered. The panel should have inbuilt common Alarm, Fault and monitored sounder output. The panel shall have a 2”x4-3/4” Size VGA monochromoe LCD display and having maximum 320 (8 x 40) Characters in the display with 24 Zones LED indicators. The panel shall have a built in power SITC of 170 Watts and battery charger. Battery charger shall be able to charge the system batteries of up to 33AH capacity. The Panel shall have the capacity of connecting additional 15 panels or Network terminals using network card, with redundancy in the network. The panel shall have the capacity of connecting maximum 8 Remote terminals or 8 remote displays using RS 485 Card.	(Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)
21	<b>DIGITALLY ADDRESSABLE FIRE PANEL :-</b> SITC of UL Listed and FM approved 4 Loop Analog addressable Fire Alarm system , having the total panel capacity of 252 devices. The panel shall be able to give location of all fire and More Fire /fault and Isolation conditions of addressable units via the address codes.The panel shall have the capacity of storing upto 2000 events.Further, the panel must be able to automatically switch ON /OFF respective control module when ever any alarm is triggered. The panel should have inbuilt common Alarm, Fault and monitored sounder output. The panel shall have a 2”x4-3/4” Size VGA monochromoe LCD display and having maximum 320 (8 x 40) Characters in the display with 24 Zones LED indicators. The panel shall have a built in power SITC of 170 Watts and battery charger. Battery charger shall be able to charge the system batteries of up to 33AH capacity. The Panel shall have the capacity of connecting additional 15 panels or Network terminals using network card, with redundancy in the network. The panel shall have the capacity of connecting maximum 8 Remote terminals or 8 remote displays using RS 485 Card.	(Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)

22	<p><b>Digitally Addressable Smoke Detector</b></p> <p>SITC of UL listed and FM approved Intelligent Addressable Smoke cum Heat (Multicriteria) detector with Fire Print Technology having responsiveness of photoelectric, thermal, ionization technology and false alarm resistance along with standard base. The detector shall have facility to mount in different comprehensive environment like Hostile environment, Parking Garage, HVAC Ducts, Precious storage, Transformer rooms, Ware house, Dormitory and normal working environments</p>	(Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)
23	<p><b>Manual call Point</b></p> <p>SITC of Reetable type Manual Call Point along with necessary accessories.</p>	(Approved Make: <b>Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)</b>
24	<p><b>Hotter</b></p> <p><b>SITC of UL listed Conventional Sounder 8 different tone settings with range of 81 dbA to 92 dbA.</b></p>	(Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)
25	<p><b>OUT PUT MODULE FOR AHU TAPPING</b></p> <p>SITC of UL listed and FM approved Intelligent addressable Output module having facility to activate sounders, AHU Trippings etc.</p>	(Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)
26	<p><b>RESPONSE INDICATOR</b></p> <p>SITC of Reponses Indicator along with Necessary accessories.</p>	(Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)
27	<p><b>Connecting wire</b></p> <p>Features Shall be of 1.5sq. mm PVC insulated multistand copper wire. Shall run in pair with different color codes</p>	Finolex/Anchor /V Guard/RR KEBEL
28	<p><b>PVC Conduit</b></p> <p>Features: 19 mm dia. PVC pipe of 1.5 mm tick.</p>	As approved by Engineer-in-charge.
29	<p><b>Carbon dioxide type portable fire extinguisher</b></p> <p><b>CO2 TYPE FIRE EXTINGUISHER</b></p> <ul style="list-style-type: none"> <li>➤ of capacity 4.5 kg filled with co2 gas</li> <li>➤ as per is 15222 with control discharge mechanism</li> <li>➤ fitted with bend and horn</li> <li>➤ class b fire rating 8b confirms to is 15683 ,</li> <li>➤ bearing isi mark ,</li> </ul>	KANEX/ MINIMAX

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	<ul style="list-style-type: none"> <li>➤ co2 cylinder as per is 7285</li> <li>➤ peso approved</li> </ul>	
30	<p><b>ABC type stored pressure portable fire extinguisher</b></p> <ul style="list-style-type: none"> <li>➤ ABC Type Fire Extinguisher Cap.</li> <li>➤ 6 kg Filled with Kidde make UL Certified Mono Ammonium Phosphate Powder 90%,</li> <li>➤ Stored Pressure Type,UGTS Pressure Gauge,</li> <li>➤ Discharge Time 24 Sec,Controllable discharge mechanism,</li> <li>➤ Jet Range 5 Meters, Average Discharge is 90%,</li> <li>➤ applicable on Class A,B &amp; C and electrically started Fire,</li> <li>➤ A Rating- 3A, B Rating 21B,</li> <li>➤ Can Construction : Deep drawn &amp; CO2 Mig welded,</li> <li>➤ CE Marked Valve with inbuilt NRV &amp; Safety Release Provision, EPDM Rubber Hose with both end Aluminum clamped,</li> <li>➤ Plastic base provided,</li> <li>➤ Internal Coating - Epoxy Powder coating,</li> <li>➤ External Coating - Pure Polyester Powder coating (UV Resistant), Brass forged valves with safety Pin is of SS material,</li> <li>➤ Welding Procedure approved by TPI with 6 G certification,</li> <li>➤ Sheet metal thickness : 1.8 mm,</li> <li>➤ Helium Leak Detection Tested,</li> <li>➤ ISI Approved IS 15683:2006 and CE Certified</li> </ul>	KANEX/ MINIMAX
31	<p><b>ABC type stored pressure portable fire extinguisher</b></p> <ul style="list-style-type: none"> <li>➤ ABC Type Fire Extinguisher Cap.</li> <li>➤ 4 kg Filled with Kidde make UL Certified Mono Ammonium Phosphate Powder 90%,</li> <li>➤ Stored Pressure Type,UGTS Pressure Gauge,</li> <li>➤ Discharge Time 18 Sec,Controllable discharge mechanism,</li> <li>➤ Jet Range 3 Meters, Average Discharge is 90%,</li> <li>➤ applicable on Class A,B &amp; C and electrically started Fire,</li> <li>➤ A Rating- 3A, B Rating 21B,</li> <li>➤ Can Construction : Deep drawn &amp; CO2 Mig welded,</li> <li>➤ CE Marked Valve with inbuilt NRV &amp; Safety Release Provision, EPDM Rubber Hose with both end Aluminum clamped,</li> <li>➤ Plastic base provided,</li> <li>➤ Internal Coating - Epoxy Powder coating,</li> <li>➤ External Coating - Pure Polyester Powder coating (UV Resistant),</li> <li>➤ Brass forged valves with safety Pin is of SS material,</li> <li>➤ Welding Procedure approved by TPI with 6 G certification,</li> <li>➤ Sheet metal thickness : 1.8 mm,</li> <li>➤ Helium Leak Detection Tested,</li> <li>➤ ISI Approved IS 15683:2006</li> <li>➤ CE Certified</li> </ul>	KANEX/ MINIMAX
32	<p><b>CLEAN AGENT</b></p> <ul style="list-style-type: none"> <li>➤ (HFC236FA BASE ) CLEAN AGENT fire extinguisher of capacity</li> <li>➤ 2 kg complete with brass forged squeeze grip type valve</li> <li>➤ Filled with UL listed hfc236 fa clean agent gas</li> <li>➤ environmental friendly A rating 1a and B rating 13 b</li> </ul>	KANEX/ MINIMAX
33	<p>PIPE ; MS BLACK "MEDIUM GRADE HYDRANT PIPE AS PER IS 1239</p>	JINDAL/ NIZON/TATA

## PART-II (PRICE BID)

### CONTENTS:

- 1 Price Bid-SPRINKLER SYSTEM
- 2 Price Bid- PUMP SECTION PIPE WEARING WORK
- 3 Price Bid- WET RISER SYSTEM
4. Price Bid- YARD HYDRANT SYSTEM
- 5 Price Bid – PORTABLE FIRE EXTINGUISHER
- 6 Price Bid – DETECTION SYSTEM
- 7 Price Bid – PUMP SECTION ELECTRICAL WEARING
- 8 Price Bid – FIRE PUMP

### ABSTRACT OF PRICE BID (to be filled in by the tenderer)

Sl.No	Description	Supply with Erection (In Rs.)	GST (In Rs)
1.	SPRINKLER SYSTEM		
2.	PUMP SECTION PIPE WEARING WORK		
3	WET RISER SYSTEM		
4	YARD HYDRANT SYSTEM		
5.	PORTABLE FIRE EXTINGUISHER		
6.	DETECTION SYSTEM		
7.	PUMP SECTION ELECTRICAL WEARING		
8.	FIRE PUMP		
	Total:-		

Total Amount in words- I)Supply with Erection- Rupees

II) GST - Rupees

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BOQ OF SPRINKLER SYSTEM							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	Ms black "medium grade hydrant pipe as per is 1239 including wet riser pipe fitting (viz elbow ,tees,flanges,reducer,clamp,ms supports dash fastener etc including necessary cutting of pipe and grinding /surface preparation work and welding work and painting the pipe with red colour synthetic enamel paint over one coat of red oxide primer application and also inclusive of plain/lavelledadge pipe fitting ie elbow ,equal/unequal tees etc all complete (make /TATA ,/BANSAL/JINDAL )						
(i)	80 mm Ms black "medium grade pipe as per is	580	Running mtr				
(ii)	50 mm Ms black "medium grade pipe as per is	800	Running mtr				
(III)	32 mm Ms black "medium grade pipe as per is	180	Running mtr				
(iV)	25 mm Ms black "medium grade pipe as per is	280	Running mtr				
02	Fire-Sprinkler <b>68 Deg Pendent quick response "UL Listed".</b>	378	Nos				
03	<b>UL" Listed</b> 150 mm dia installation <b>Alarm Valve</b> with <b>Gong Bell</b> and complete accessories	01	Nos				
04	Rose ceiling flange with accessories (15 mm )	378	Nos				
05	<b>80 mm (3")CIButterfly Valve</b> , D.I. Disc, Hand Lever Operated, Slim Line as per IS:13095, ISI Marked,	01	Nos				
06	<b>FLEXI DROPAGE FOR SPRINKLER</b>	378	Nos				
07	<b>LABOUR AND BREKAGE CARGE FOR FALSE CEILLING</b>	6	Each floor				
	<b>TOTAL</b>						

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BOQ FOR PUMP SECTION PIPE WEARING WORK (Page-1)							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	Ms black "medium grade hydrant pipe as per is 1239 including wet riser pipe fitting (viz elbow ,tees,flanges,reducer,clamp,ms supports dash fastneretc including necessary cutting of pipe and grinding /surface preparation work and welding work and painting the pipe with red color synthetic enamel paint over one coat of red oxide primer application and also inclusive of plain/lavelled edge pipe fitting ie elbow ,equal/unequal tees etc all complete (make /TATA ,/BANSAL/JINDAL )						
(i)	150 mm Ms black "medium grade pipe as per is 1239	18	Running mtr				
(II)	100 MM Ms black "medium grade pipe as per is 1239	12	Running mtr				
(iii)	80 mm Ms black "medium grade pipe as per is 1239	12	Running mtr				
(iV)	50 mm Ms black "medium grade pipe as per is 1239	12	Running mtr				
02	Cast Iron Double Flange swing type <b>Non – Return Valve</b> as per IS : 5312 / 2004 Part – I, FG NO. 1, PN – 1.6. Body Seat Ring of L.T. Bronze IS : 318 LTB - 2. Neoprene Rubber Seated Door for 100% Leak Proof. Flange Drilled as per IS : 1538, Table – 6. With ISI Mark.						
(i)	150 mm (NRV)	02	Nos				
(III)	80 MM (NRV)	01	Nos				
(IV)	50 MM (NRV)	01	Nos				
03	150 mm Cast Iron Double Flange <b>Gate Valve</b> as per IS : 14846 : 2000 (PD) PN – 1.6, Non – Rising Spindle of AISI : 410. Internal Working Parts of L.T. Bronze IS : 318 LTB - 2. Flange Drilled as per IS : 1538. Table – 6. With Cast Iron Hand Wheel Operated. With ISI Mark.						
(I)	150 MM	02	Nos				
(II)	80 MM	01	Nos				
(III)	50 MM	01	Nos				

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<b>BOQ FOR PUMP SECTION PIPE WEARING WORK (Page-2)</b>							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
04	C.I. Flange End Lift type <b>Foot Valve</b> as per IS: 4038 with C.I. Strainer. The Cast components of C.I. to IS-210 FG-200. Flange dimension as per IS: 1538						
(I)	150 MM	02	Nos				
(II)	80 MM	01	Nos				
05	<b>PRESURE SWITCH</b>	04	Nos				
06	<b>PRESURE GAUGE</b>	03	Nos				
07	15 mm GUN METAL <b>BALL VALVE</b>	07	Nos				
	<b>TOTAL</b>						

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BOQ FOR WET RISER SYSTEM ( Page-1)							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	Ms black "medium grade hydrant pipe as per is 1239 including wet riser pipe fitting (viz elbow ,tees,flanges,reducer,clamp,ms supports dash fastener etc including necessary cutting of pipe and grinding /surface preparation work and welding work and painting the pipe with red colour synthetic enamel paint over one coat of red oxide primer application and also inclusive of plain/levelledadage pipe fitting ie elbow ,equal/unequal tees etc all complete (make /TATA ,/BANSAL/JINDAL/NIZON )						
(i)	150 mm Ms black "medium grade hydrant pipe as per is 1239	54	Running mtr				
(ii)	80 mm Ms black "medium grade hydrant pipe as per is 1239	12	Running mtr				
02	150 mm Cast Iron Double Flange swing type <b>Non - Return Valve</b> as per IS : 5312 / 2004 Part - I, FG NO. 1, PN - 1.6. Body Seat Ring of L.T. Bronze IS : 318 LTB - 2. Neoprene Rubber Seated Door for 100% Leak Proof. Flange Drilled as per IS : 1538, Table - 6. With ISI Mark.	02	Nos				
03	150 mm Cast Iron Double Flange <b>Gate Valve</b> as per IS : 14846 : 2000 (PD) PN - 1.6, Non - Rising Spindle of AISI : 410. Internal Working Parts of L.T. Bronze IS : 318 LTB - 2. Flange Drilled as per IS : 1538. Table - 6. With Cast Iron Hand Wheel Operated. With ISI Mark.	02	Nos				
04	63mm dia <b>SINGLE OUTLET</b> Landing valve Oblique type in <b>S.S. ISI Marked</b> bearing <b>IS: 5290</b> with blank cap and chain tested to hydrostatic test pressure of <b>21/kgcm<sup>2</sup></b> and complete in all respect	12	Nos				
05	63mm <b>Controlled Percolating (CP)</b> Fire hose pipe <b>ISI</b> marked bearing <b>IS:8423</b> . in <b>15 meter length</b> make with 63mm dia <b>Male / Female</b> instantaneous coupling <b>ISI Marked (IS : 903)</b> in <b>S.S.</b> make with Winded with <b>GI</b> wire with ribbiting on both sides.	24	Nos				

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BOQ FOR WET RISER SYSTEM ( Page-2)							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
06	63mm dia <b>Branch Pipe</b> with nozzle <b>ISI Marked (IS : 903) in S.S.</b>	12	Nos				
07	20 mm Swinging type 180° full wall mounted Powder coated <b>Hose Reel Drum ISI marked</b> bearing <b>IS : 884</b> Tested to Hydrostatic pressure of <b>21/ Kg cm<sup>2</sup></b> make with 20 mm dia <b>Type-I Thermoplastic Hose Pipe ISI Marked</b> bearing <b>IS : 12585</b> in <b>30mtrs length</b> make with 20 mm dia <b>Triple action PVC</b> shut of nozzle made out of high grade <b>plastic.</b>	12	Nos				
08	Hose Box ( <b>Double Door</b> ) Suitable to accommodate to 2 No. Hose 15Mtr. lengths & 1 No. Branch Pipe ( <b>30"x24"x10"</b> )	12	Nos				
09	<b>Four Way</b> fire brigade inlet connection (63 mm)	01	Nos				
10	Air release valve <b>25 mm dia</b> in <b>S.S.</b>	02	Nos				
11	25mm dia gunmetal <b>BALL VALVE</b>	12	Nos				
	<b>TOTAL</b>						

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BOQ FOR YARD HYDRANT SYSTEM ( Page-1)							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	Ms black "medium grade hydrant pipe as per is 1239 including wet riser pipe fitting (viz elbow ,tees,flanges,reducer,clamp,ms supports dash fastneretc including necessary cutting of pipe and grinding /surface preparation work and welding work and painting the pipe with red color synthetic enamel paint over one coat of red oxide primer application and also inclusive of plain/lavelled edge pipe fitting ie elbow ,equal/unequal tees etc all complete (make /TATA ,/BANSAL/JINDAL/NIZON )						
(i)	150 mm Ms black "medium grade hydrant pipe as per is 1239	174	Running mtr				
(ii)	80 mm Ms black "medium grade hydrant pipe as per is 1239	24	Running mtr				
02	150 mm Cast Iron Double Flange swing type <b>Non - Return Valve</b> as per IS : 5312 / 2004 Part - I, FG NO. 1, PN - 1.6. Body Seat Ring of L.T. Bronze IS : 318 LTB - 2. Neoprene Rubber Seated Door for 100% Leak Proof. Flange Drilled as per IS : 1538, Table - 6. With ISI Mark.	01	Nos				
03	150 mm Cast Iron Double Flange <b>Gate Valve</b> as per IS : 14846 : 2000 (PD) PN - 1.6, Non - Rising Spindle of AISI : 410. Internal Working Parts of L.T. Bronze IS : 318 LTB - 2. Flange Drilled as per IS : 1538. Table - 6. With Cast Iron Hand Wheel Operated. With ISI Mark.	02	Nos				
04	63mm dia <b>SINGLE OUTLET Landing valve</b> Oblique type in <b>S.S. ISI Marked bearing IS: 5290</b> with blank cap and chain tested to hydrostatic test pressure of <b>21/kgcm<sup>2</sup></b> and complete in all respect	05	Nos				

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<b>BOQ FOR YARD HYDRANT SYSTEM ( Page-2)</b>							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
05	63mm <b>Controlled Percolating (CP)</b> Fire hose pipe <b>ISI</b> marked bearing <b>IS:8423</b> . in <b>30 meter length</b> make with 63mm dia <b>Male /Female</b> instantaneous coupling <b>ISI Marked (IS : 903)</b> in <b>S.S.</b> make with Winded with <b>GI</b> wire with ribbiting on both sides.	10	Nos				
06	63mm dia <b>Branch Pipe</b> with nozzle <b>ISI Marked (IS : 903)</b> in <b>S.S.</b>	05	Nos				
07	<b>150 mm (6")CI Butterfly Valve</b> , D.I. Disc, Hand Lever Operated, Slim Line as per IS:13095, ISI Marked,	01	Nos				
08	Hose Box ( <b>Double Door</b> ) Suitable to accommodate to 2 No. Hose 15Mtr. lengths & 1 No. Branch Pipe ( <b>30"x24"x10"</b> )	05	Nos				
	<b>TOTAL</b>						

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BOQ FOR PORTABLE FIRE EXTINGUISHER							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	6 kg fire extinguisher mono ammonium phosphate powder 90% stored pressure type pressure gauge ,controllable discharge mechanism with nozzle CLASS A ,B,C, AND ELECTRICAL STARTED (Composition - POWDER (MAP & Capacity-6 KG ))	50	Nos				
02	4 kg fire extinguisher mono ammonium phosphate powder 50% stored pressure type pressure gauge ,controllable discharge mechanism with nozzle CLASS A,B,C & ELECTRICAL STARTED ( Composition- POWDER (MAP ) & Capacity- 4 KG )	20	Nos				
03	Co2 type extinguisher of capacity 4.5 kg filed with co2 gas as per is 15222 with control discharge mechanism fitted with bend and horn applicable on class b fire rating 21 b conforms to is 15683 ,isi marked co2 cylinder as per is 7285 with peso approved ( Composition- Co2 & Capacity- 4.5 kg )	70	Nos				
04	CLEAN AGENT (HFC236FA BASE ) CLEAN AGENT fire extinguisher of capacity 4 kg compleate with brass forged sqzee grip type valve Filled with UL listed hfc236 fa clean agent gas environmental friendly ( Composition- CLEAN AGENT & Capacity- 4 kg)	15	Nos				
	<b>TOTAL</b>						

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BOQ FOR DETECTION SYSTEM Page-1							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	<p>SITC of UL Listed and FM approved 4 Loop Analog addressable Fire Alarm system , having the total panel capacity of 504 devices. The panel shall be able to give location of all fire and More Fire /fault and Isolation conditions of addressable units via the address codes.The panel shall have the capacity of storing upto 2000 events.Further, the panel must be able to automatically switch ON /OFF respective control module when ever any alarm is triggered. The panel should have inbuilt common Alarm, Fault and monitored sounder output. The panel shall have a 2"x4-3/4" Size VGA monochromoe LCD display and having maximum 320 (8 x 40) Characters in the display with 24 Zones LED indicators. The panel shall have a built in power SITC of 170 Watts and battery charger. Battery charger shall be able to charge the system batteries of up to 33AH capacity. The Panel shall have the capacity of connecting additional 15 panels or Network terminals using network card, with redundancy in the network. The panel shall have the capacity of connecting maximum 8 Remote terminals or 8 remote displays using RS 485 Card. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)</p>	01	Nos				

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BOQ FOR DETECTION SYSTEM Page-2							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
02	<p>SITC of UL Listed and FM approved 4 Loop Analog addressable Fire Alarm system , having the total panel capacity of 252 devices. The panel shall be able to give location of all fire and More Fire /fault and Isolation conditions of addressable units via the address codes.The panel shall have the capacity of storing upto 2000 events.Further, the panel must be able to automatically switch ON /OFF respective control module when ever any alarm is triggered. The panel should have inbuilt common Alarm, Fault and monitored sounder output. The panel shall have a 2"x4-3/4" Size VGA monochromoe LCD display and having maximum 320 (8 x 40) Characters in the display with 24 Zones LED indicators. The panel shall have a built in power SITC of 170 Watts and battery charger. Battery charger shall be able to charge the system batteries of up to 33AH capacity. The Panel shall have the capacity of connecting additional 15 panels or Network terminals using network card, with redundancy in the network. The panel shall have the capacity of connecting maximum 8 Remote terminals or 8 remote displays using RS 485 Card. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)</p>	01	Nos				

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BOQ FOR DETECTION SYSTEM Page-3							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
3	MULTICRITERIA DETECTOR SITC of UL listed and FM approved Intelligent Addressable Smoke cum Heat (Multicriteria) detector with Fire Print Technology having responsiveness of photoelectric, thermal, ionization technology and false alarm resistance along with standard base. The detector shall have facility to mount in different comprehensive environment like Hostile environment, Parking Garage,HVAC Ducts, Precious storage,Transformer rooms, Ware house, Dormitory and normal working environments. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)	480	Nos				
4	(MCP) SITC of Reetable type Manual Call Point along with necessary accessories. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)	24	Nos				
5	(RESPONSE INDICATOR) SITC of Reponse Indicator along with Necessary accessories. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)	200	Nos				
6	AHU TAPING MODULE SITC of UL listed and FM approved Intelligent addressable Output module having facility to activate sounders,AHU Trippings etc. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)	24	Nos				

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BOQ FOR DETECTION SYSTEM Page-4							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
<b>7</b>	<b>HOTTER</b> SITC of UL listed Conventional Sounder 8 different tone settings with range of 81 dbA to 92 dbA. (Approved Make: Cerberus-UL by Siemens, Synteso, Synova, Cerberus-EN)	24	Nos				
<b>8</b>	Wiring cable 2 * 1.5 mm2 pvc insulated single core copper cable with PVC pipe as per is 694/1990	4800	Running mtr				
	<b>TOTAL</b>						

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BOQ FOR PUMP SECTION ELECTRICAL WEARING							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	Fully automatic fire panel to control the pump section With inbuilt starter ,digital display ,separate terminal for stand by pump ,automatic operation of main and jockey pump	01	Nos				
02	Cable for wearing (1100 v ) with conduct and casing capping						
(i)	2 core * 2.5 sq mm	35	Running mtr				
(ii)	12 core * 2.5 sq mm	35	Running mtr				
(iii)	3 core * 50 sq mm	40	Running mtr				
(iv)	3 core * 95 sq mm	40	Running mtr				
03	Earthing strip						
(i)	35 mm *6 mm	500	Running mtr				
	<b>TOTAL</b>						

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BOQ FOR FIRE PUMP							
Sl.no	Description of Items	Qty	Unit	Rate without GST	Amount without GST(In Rs)	GST in %	GST Amount (In Rs)
01	75 hp ,55 KW electrical driven 3 phase motor pump,with 125 mm suction and 80 mm delivery. Dischage of 2280 lpm ,with speed of 2900 rpm,With Complete Set Of Fitting . (ABB/KSB/CROMPTON)	01	Nos				
02	DISEL DRIVEN PUMP . Dischage of 2280 lpm ,with speed of 2900 rpm,With Complete Set Of Fitting . (ABB/KSB/CROMPTON)	01	Nos				
03	15 hp ,11KW electrical driven 3 phase motor pump,with 50 mm suction and 32mm delivery. Dischage of 2280 lpm ,with speed of 2900 rpm,With Complete Set Of Fitting(ABB/KSB/CROMPTON)	01	Nos				
	<b>TOTAL</b>						

Approved for 32(Thirty Two )Pages

Sd/-

Executive Engineer,  
Panikoili(R&B)Division.

Signature of Bidder