

Tele : 05942-220051

E-mail : ssghorakhal@sainikschoolsociety.in



SAINIK SCHOOL GHORAKHAL
DISTT- NAINITAL (UTTARAKHAND)

No: SSGK/IFFS/2022-23

Date _____

Cost of the form Rs. 500/- paid vide SSGK MR No. / DD No. _____ dated _____

Earnest Money Rs 15,000/- paid vide DD No. _____ dated _____

TENDER FORM FOR SUPPLY & FIXING OF FIRE FIGHTING SYSTEM
(Consisting of Courtyard Hydrant System/Wet riser system
with pump & its accessories)
(Any alteration / addition made in the tender form will make it null and void)

1. Sealed tenders are invited from agencies of good repute having sound financial background and experience, by **11:00 hrs on 14 Dec 2022**, for Supply & Fixing of Fire Fighting System (Consisting of Courtyard Hydrant System/Wet riser system with pump & its accessories).

2. Tender forms would be available from school office on payment of **Rs 500/-** (non-refundable) by **SBI DEMAND DRAFT** in favour of PRINCIPAL, SAINIK SCHOOL GHORAKHAL, payable at Bhowali, (**CODE NO. 1352**), up to **11:00 hrs on 14 Dec 2022**. Earnest money of **Rs 15,000/-** is to be paid by Demand Draft, (refundable) on finalisation of tender, in favour of Principal Sainik School Ghorakhal, as mentioned above, is to be submitted along with filled-in tender form. In case the tender form is downloaded from the Internet, received by post or by any other means, it shall accompany **two separate demand drafts** for **Rs 500/-** (non-refundable amount towards the cost of the form) and **Rs 15,000/-** (towards EMD). In case, cost of tender form, and /or EMD is not deposited, the tender will be summarily rejected and the draft accompanying the tender form shall be forfeited. **Tenders will be opened at 11:30 hrs on 14 Dec 2022** in presence of the bidders/authorised agents in the School premises. **Principal reserves the right to accept or reject any or all tenders at any time without assigning reasons there of.**

3. TERMS AND CONDITIONS

(a) The firm must enclose copy PAN/GST registration numbers/service registration as applicable and attach along with the tender for documentary proof. If the firm does not enclosed the copies of the documents alongwith the tender. The tender will be rejected at the time of opening of tender.

(b) The bidder is to note that once contract is finalised, after due negotiations of rates, has to deposit security amount of @ 5% of total cost in the form of DD, before the order is placed. In case the approved bidder fails to deposit security money by the due date, the EMD will stand forfeited and he has no further claim of the contract and forfeited amount.

(c) Incomplete, illegible and over written tenders are likely to be rejected by the board of officers. Also, it is not mandatory on the part of Principal, Sainik School Ghorakhal to award contract to the agency/firm quoting the lowest. The decision of the Principal is final in case of acceptance/ rejection of any tender depending on merit / quality and the factors in the interest of the school. Agency having full setup /experience in Installation of Fire Fighting System.

Contd.....2..

- (d) The Adm Officer, Sainik School may authorised such officer as he may wish to operate the contract on his behalf and the contractor and his agents will accept and carryout instruction given by the officer (or his representatives) in connection with the contract as if those are issued by the Adm Officer, Sainik School Ghorakhal.
- (e) The contractor shall neither claim nor be entitled to payment for any damage/ rejected accessories of the system.
- (f) In case of any dispute, the decision of the Principal, Sainik School Ghorakhal shall be final which will be disposed off with in the Nainital court jurisdiction only.
- (g) Notwithstanding any thing to the contrary herein contained, the contract may be terminated by the Adm Officer, Sainik School Ghorakhal after prior approval of the Principal, Sainik School Ghorakhal by giving the contractor a fortnight (14 days notice) in advance without assigning any reason and without the contractor's being entitled for any compensation on this account.
- (h) The contractors acknowledge that he has made himself fully acquainted with all the terms and conditions and circumstances under which the services required under this contract will have to be made or furnished and with all the terms, clauses, conditions, specification and other details of the contract and he shall not plead ignorance of any these as excuse in case of complaints against or rejection of services, tendered by him or with a view whether to asking for enhancement of any rates agreed to in the contract or to evading any of the obligation under the contract.
- (j) After the tendering procedure if any contractor would like to withdraw his tender, shown his inability to take up the contract after negotiation or in any reason not able to sign the agreement bond, the EMD deposited by the contractor will stand forfeited and he will have no further claim for the contract and forfeited amount.

SECTION I - INTRODUCTION

The ensuing Technical Specifications are for Fire Fighting System for the proposed Building - SAINIK SCHOOL GHORAKHAL PERMISSSES.

Fire Fighting

The Fire Fighting and Hose Reel System designed features a Fire pump complete Hose Reels at every floor level. The Hose Reels are to be located in Basement floor and all other floors (Ground plus floors) The system design has been carried out in accordance with relevant IS Codes and NBC Regulations.

General

Upon Completion of installation the Contractor shall test the system and hand over the same in operating condition to the Sainik School Ghorakhal. Necessary Operating instructions and Maintenance manuals together with as-built drawings, all in quadruplicate shall be submitted. The system shall be deemed to be taken over only upon submission of these documents and against the issuance of Completion Certificate from the Consultants.

Contd.....3..

Approvals

After completion of Installation, necessary submission drawings shall be prepared by the Contractor and submitted to the relevant Authorities. The scope of this tender includes the responsibility of obtaining the approval for the installation from the Fire Department and other relevant Departments and obtaining the required No Objection Certificate.

PART - A

TECHNICAL SECTION - GENERAL SPECIFICATIONS

1.0 General

Materials shall be of the best approved quality as per Makes / Brand of Materials, obtainable and unless otherwise specified they shall conform to the respective Indian Standard Specification.

1.1 Samples of all materials shall be got approved before placing order and the approved samples shall be deposited to Sainik School Ghorakhal. Installation should be done after getting approval from the Sainik School Ghorakhal for All the materials reaching site, by way of physical check by the School appointed engineer/representative and recording the same in MIRs (Material Inspection Reports).

1.2 In case of non-availability of materials in metric sizes, the nearest size in FPS units shall be provided with prior approval of the Sainik School Ghorakhal / Architects for which neither extra will be paid nor any rebate shall be recovered.

1.3 It shall be obligatory for the contractor to furnish certificate if demanded by the School / Architects, from manufacturer or the material supplier, that the work has been carried out by using their material and installed / fixed as per their recommendations.

2.0 Scope of Work

2.1 The General scope of work shall be to carry out the Fire Protection System installation, both External & Internal as set out in the ensuing specifications, Bill of Quantities and the drawings enclosed.

2.2 The Contractor shall furnish all labor, materials, tools and appliances necessary for carrying out the entire works as per the standards set out in Bureau of Indian Standards (BIS), British Standards and as per the ensuing specifications.

2.3 The Contractor shall fully co-ordinate with other trades of activities in the site and no hindrance shall be there to other contractors.

2.4 The Contractor shall repair all damages to the site premises as a result of the firefighting system installation works and remove all debris from site.

Contd....4...

- 2.5 The Contractor shall be responsible for the safety of all the fixtures and fitting fitted in site installations till the installation is taken over by the Client.
- 2.6 **Removal of Debris**
The Contractor shall remove all DEBRIS generated by him. The debris shall be taken out of site at the contractors own cost.
- 2.7 The Contractor shall be an experienced firefighting system installer and having good amount of experience in the field and good rapport with the local Fire department.

PART - B TECHNICAL SECTION

PIPING, VALVES & ACCESSORIES, WELDING, PAINTING, TESTING, COMMISSIONING & HANDING OVER.

SCOPE

The scope of this section comprises the supply and laying of pipes, pipe fittings and valves and testing of all water piping required for the complete installation as shown on the drawings. All piping inclusive of fittings and valves shall follow the applicable Indian Standards.

1. Hydrant and Sprinkler Piping

Material of construction of various pipes shall be as follows:

1.1 Buried Pipes:

Mild steel GI pipe as per IS:1239, Part-I heavy grade, class OR as specified in BOQ (for pipes of sizes 80NB 50NB & 40 NB and below) suitably lagged on the outside to prevent soil corrosion, as specified elsewhere.

1.2 Overground Pipes:

Mild steel black pipes as per IS:1239, Part-I heavy grade OR as specified in BOQ (for pipes for sizes 80 NB & 50NB and below)

1.3 Fitting:

All fittings to be used in connection with steel pipe lines shall be approved.

1.4 C.I. Non Return Valve:

All C.I Non return valve shall be "Swing / Ball type" Check Valves as per API 594. These check valves, without bypass shall be provided for the delivery lines of the pump sets and also for the interconnection of the fire hydrant and the sprinkler system.

Contd....5...

1.5 C.I. Foot Valve (Ball Type):

Cast Iron Body Ball Type Foot valve conforming to IS 4038 with a rating of PN 16 shall be used for the system. These valves are provided at suitable locations.

1.6 Butterfly Valve:

All isolation / shut-off valve shall be of Dear Operated Butterfly type wherever indicated in the Drawings. The Valves shall have cast iron body conforming to IS 210 GR FG 200 and suitable for ANSI 150 Grade flanges with PN16 pressure. The Valve stem shall be of Stainless Steel conforming to SS 410 / 316. The disk material shall be of Ductile Iron with Electroless Nickel Plating. The seat material shall be EPDM. All shut-off valves of 50 mm NB and above shall be Butterfly valves only.

1.7 Ball Valve:

All shut-off valves of size 40 mm NB and below shall be full bore type ball valves only conforming to BS 5351 and should be of 3 piece construction only. The body shall be of carbon steel as per ASIM A 216 - WCB. The end connectors shall also be of carbon steel as above. The ball and stem shall be stainless steel SS 304 /316. The Valve seat, body gasket and stem packing shall be PTFE. The make shall be as indicated elsewhere in this tender.

1.8 Flanges:

Flanges shall be of approved make. The supply of flanges shall also include supply of bolts and nuts and suitable asbestos / fiber rubber insertion gaskets (minimum 3 mm thick).

1.9 Strainers:

Strainers shall be of approved make, equal "Y" type or pot strainers, with Cast / MS fabricated bodies. Strainers shall have bronze screen with 3 mm perforations. Screen shall be removable and replaceable without disconnection of the main pipes. All strainers shall be provided with equal size isolation valves, so that the strainer may be cleaned without draining the system. All "Y" type strainers wherever specified shall be MS fabricated type only. 20-mm dia drain valves shall be fitted on to the blank-off flanges at strainer basket removal access port.

1.10 All pipe supports shall be mild steel, thoroughly cleaned and given one primary coat of red oxide paint before being installed.

1.11 Hose Reel:

Hose reel shall conform to IS : 884, heavy duty, 20 mm dia length shall be 30 meter long fitted with gun metal chromium plated nozzle, mild steel pressed reel drum which can swing up to 170 degree with wall brackets of cast iron finished with red and black enamel complete.

1.12 Pressure Gauge:

Pressure gauge shall be provided near all individual connections of the hydrant system with isolation valves and near each flow switch assembly of the sprinkler system. Pressure gauge shall be 50 mm dia gunmetal bourdon type with gunmetal isolation ball valve, tapping and connecting pipe and nipple. The gauge shall be installed at appropriate height for easy readability.

2. Piping Installation

2.1 Tender drawings indicate schematically the size and location of pipes. The Contractor, on the award of the work, shall prepare detailed working drawings, showing the cross-section, longitudinal sections, details of fittings, locations of isolating and control valves, drain and air valves, and all pipe supports. He must view the specific openings in buildings and other structures through which pipes are designed to pass.

2.2 Above Ground Piping:

All pipes inside and outside the building, laid above the ground shall be properly supported on, or suspended from, stands, clamps, hangers as specified and as required. The Contractor shall adequately design all the brackets, saddles, anchors, clamps and hangers, and be responsible for their selection and usage. Approved type of Anchor fasteners shall be used along with Standard pipe supports,

2.3 Vertical risers shall be parallel to walls and column lines and shall be straight and plumb. Risers passing from floor to floor shall be supported at each floor by clamps or collars attached to pipe and with a 15 mm thick rubber pad or any resilient material. The various pipes passing through the terrace floor, suitable flashing shall be provided to prevent water leakage.

2.4 All pipe work shall be carried out in an workmen like manner, causing minimum disturbance to the existing services, buildings, roads and structure. The entire piping work shall be organized, in consultation with other agencies work, so that laying of pipe supports, pipe and pressure testing for each area shall be carried out in one stretch.

2.5 Cut-outs in the floor slab for installing the various pipes are indicated in the drawings. Modification of these cutouts / additional cutouts if required shall be included in the offer.

2.6 The Contractor shall make sure that the clamps, brackets, clamps saddles and hangers provided for pipe supports are adequate. Piping layout shall take due care for expansion and contraction in pipes, and include expansion joints where required.

2.7 All pipes shall be accurately cut to the required sizes in accordance with

relevant ISI Codes and burrs removed before laying. Open ends of the piping shall be closed as the pipe is installed to avoid entrance of foreign matter. Where reducers are to be made in horizontal runs, eccentric reducers shall be used for the piping to drain freely. In other locations, concentric reducers may be used.

2.8 Fabrication & Erection:

The contractor shall fabricate all the pipe work strictly in accordance with the related approved drawings.

3. End Preparation

- (a) For steel pipes, end preparation for butt welding shall be done by machining.
- (b) Socket weld end preparation shall be sawing / machining.
- (c) For tees, laterals, miter bends, and other irregular details cutting templates shall be used for accurate cut.

4. Pipe Joints

4.1 In general, pipes having sizes over 25 mm shall be joined by butt welding. Pipes having 25 mm size or less shall be joined by socket welding/screwed connections. Galvanized pipes of all sizes shall have screwed joints. No welding shall be permitted on GI pipes. Screwed joints shall have tapered threads and shall be assured of leak tightness without using any sealing compound.

4.2 Flanged joints shall be used for connections to vessels, equipment, flanged valves and also on suitable straight lengths of pipe line of strategic points to facilitate erection and subsequent maintenance work.

5. Over ground Piping

5.1 Piping to be laid over ground shall be supported on pipe rack/supports. Rack/supports details shall have to be approved by Employer/Engineer.

5.2 Surface of over ground pipes shall be thoroughly cleaned of mill scale, rust etc. by wire brushing. Thereafter two (2) coats of red oxide primer shall be applied. Finally, two (2) coats of synthetic enamel paint of approved color shall be applied.

6. Buried Pipe Lines

6.1 Pipes to be buried underground shall be provided with protection against soil corrosion by coating and wrapping specified below.

6.2 Buried pipelines shall be laid with the top of pipe at minimum one meter below ground level or as specified in the layout.

6.3 At site, during erection, all coated and wrapped pipes shall be tested with an approved Holiday detector equipment with a positive signaling device to indicate any faulty hole breaks or conductive particle in the protective coating.

Contd....8..

7. General Instruction for Piping Design and Construction

7.1 While erecting field run pipes, the contractor shall check, the accessibility of valves, instrument tapping points, and maintain minimum headroom requirement and other necessary clearance from the adjoining work areas.

7.2 Modification of prefabricated pipes, if any, shall have to be carried out by the contractor at no extra charge to Sainik School Ghorakhal.

8. General Material Specification for Valves

<u>ITEM</u>	<u>NOM SIZE</u>	<u>DESCRIPTION</u>	<u>STANDARDS, MOC, TYPE, ETC.</u>	<u>REMARKS</u>
BALL VALVES	15-40	BODY BALL SCREWED ENDS CAP & STEM BALL GASKETS STEM GASKETTE STEM SEAL HANDLE NUT THREADING WORKING PRESSURE	HOT PRESSED BRASS Cu Zn 40 Pb2, NICKEL PLATED. BRASS Cu Zn 40 Pb2 & CHROMIUM PLATED. HOT PRESSED BRASS Cu Zn 40 Pb2, TURNED FROM BRASS BAR PTFE H-NBR 70 SH "O" RING. CAST ALUMINIUM STEEL FEMALE PARALLEL THREAD TO ISO 228/1' G. UP TO 25-mm – 30 BAR. UP TO 50-mm – 25 BAR.	USED FOR FIRE WATER LINES.
BUTTERFLY VALVES	50 & ABOVE	BODY DISC SEAT SHAFT BEARING HANDLE WORKING PRESSURE	CAST IRON AS PER IS 210 FG 220 SG IRON AS PER IS 1865 SG400, EPOXY COATED EPDM CARBON STEEL – EN8 NYLON / TEFLON. HAND LEVER FOR SIZES UP TO 200-mm GEAR OPERATED FOR SIZES 250-mm & ABOVE. 16 BAR FOR WATER.	USED FOR FIREWATER LINES.

<u>ITEM</u>	<u>NOM SIZE</u>	<u>DESCRIPTION</u>	<u>STANDARDS, MOC, TYPE, ETC.</u>	<u>REMARKS</u>
CHECK VALVES	SIZES	DISC STOP PIN HINGE PIN SPRING SEAT WORKING PRESSURE BODY	CAST IRON SS 304 SS 304 SS 304 EPDM. 16 BAR CAST IRON	USED FOR FIRE WATER LINES.
HEAVY DUTY BALL TYPE FOOT VALVES	ALL SIZES	STRAINER BALL SEAL RING BALL SEAT RING FASTENERS	CAST IRON NITRILE RUBBER NITRILE RUBBER BRONZE CARBON STEEL.	
FABRICATED "Y" TYPE STRAINERS	ALL SIZES	BODY STRAINER BASKET STRAINING AREA END CONNECTION WORKING PRESSURE	MS PIPES TO SUIT PARENT PIPE 3-MM THK. BRASS PLATE WITH 1-MMHOLES. TOTAL EFFECTIVE PERFORATION SHOULD BE ATLEAST 5 TIMES THE PIPE BORE AREA. FLANGED AS SPECIFIED ABOVE. 16 BAR	
FLANGES	ALL SIZES	BODY TYPE PR. RATING DIMENSIONS, PCD, NO. OF HOLES, ETC.,	MS PLAIN FACE PLATE FLANGES 1.6 N/MM ² (16 BAR) AS PER TABLE 20 OF IS 6392 - 1971	USED FOR FIRE WATER LINES.

Contd....10..

9. Pipe Supports

- 9.1** The materials used in construction of Clamps, supports and accessories shall be the most suitable for the service intended. Test certificate preferably from third party shall be furnished. One coat of red oxide zinc chromate primer and two coats of enamel paint of desired color shall be applied by contractor.
- 9.2** Lugs or other means of welded attachment of pipes shall be welded in the shop and shall be of the same material as the parent pipes.

10. Welding

- 10.1** Welding shall be done by qualified welders only. Necessary weld qualification certificates shall be furnished for each welder employed at site. Welders without qualification shall not be allowed to site. A welding procedure shall be prepared and qualified before any welding is done.

Welding Procedures IS: 823

Welding Electrodes IS: 814, but of approved makes only

Testing of Welders IS: 817

- 10.2** Before welding, the ends shall be cleaned by wire brushing, filing or machine grinding. Each weld-run shall be cleaned of slag before the next run is deposited. Care shall be taken to see that the longitudinal joints (ERWs) of the consecutive pipes are staggered (rotated) by at least 30° and should be kept in top (upper) third surface (120°) of the pipeline, to facilitate repair of the weld, if found leaking during pressure testing.
- 10.3** Welding at any joint shall be completed uninterrupted. If this cannot be followed for some reason, the weld shall be insulated for slow and uniform cooling.
- 10.4** Welding shall be done by manual oxyacetylene or manual shielded metal arc process. Automatic or semi-automatic welding processes may be done only with the specific approval of Sainik School Ghorakhal/Consultant.
- 10.5** As far as possible welding shall be carried out in flat position. If not possible, welding shall be done in a position as close to flat position as possible.
- 10.6** No backing ring shall be used for circumferential butt welds.
- 10.7** Welding carried out in ambient temperature of 5°C or below shall be heat-treated.
- 10.8** Tack welding for the alignment of pipe joints shall be done only by qualified welders. Since tack welds form part of final welding, they shall be executed carefully and shall be free from defects. Defective welds shall be removed prior to the welding of joints.

Contd....11..

10.9 Root run shall be made with respective electrodes/filler wires. The size of the electrodes shall not be greater than 3.25 mm (10 SWG) and should preferably be 2.3 mm (12 SWG). Welding shall be done with direct current values recommended by the electrode manufacturers.

11. Excavation and back filling

Excavation for UG Pipe line shall be done in all type of soil conditions to a minimum of 1 Mtr. below the ground level i.e., to the top of pipe elevation.

12. Measurements for Piping

Unless otherwise specified measurements for piping for the project shall be on the basis of Centre line measurements described herewith.

Piping shall be measured in units of length along the Centre line of installed pipes including all pipe fittings, flanges (with gaskets and nuts and bolts for jointing) unions, bends, elbows, tees, concentric and / or eccentric reducers, inspection pieces, expansion loops etc. The above accessories shall be measured as part of piping length along the Centre line of installed pipes and no special rates for these accessories shall be permitted.

The quoted unit rates for Centre line linear measurements of piping shall include all wastage allowance, pipe supports including hangers, MS Channel, wooden haunches, nuts and check nuts, vibration isolator suspension wherever specified or required, and any other item required to complete the piping installation as per the specification. None of these items will be separately measure NOR paid for.

However, all valves (gate / globe / check / balancing / butterfly / ball etc.,) strainers, orifice plates, thermometers, pressure gages shall be separately measured and paid as per their individual unit rates.

13. Testing, Commissioning & Handing over

13.1 Scope of Work

- (i) Work under this section shall be executed without any additional cost. The rates quoted in this tender shall be inclusive of the works given in this section.
- (ii) Contractor shall provide all tools, equipment, metering and testing devices required for the purpose.
- (iii) Onward of work, Contractor shall submit a detailed proposal giving methods of testing and gauging the performance of the equipment to be supplied and installed under this contract.
- (iv) All tests shall be made in the presence of the School representative /Engineering Consultants or his representative. At least five working days' notice in writing shall be given to the Inspecting parties before performing any test.

Contd....12.

- (v) Three copies of all test results shall be submitted to Sainik School Ghorakhal in A4 size sheet paper within one / two days after completion of the tests.

14. Final Acceptance Testing

Following the commissioning and inspection of the entire installation and prior to issue of the Completion Certificate, the Contractor shall carry out final acceptance tests in accordance with a program to be agreed with Sainik School Ghorakhal/Engineering Consultants. The test procedure shall be generally as under:

i. Starting up of the pressurization (Jockey) Pump

The pressure switch shall be set for the designed set pressures for the site for the *upper limit* and at 0.5 kg /cm² less for the *lower limit* (i.e) if the upper limit is set at 10.0 kg/cm², then the lower limit shall be set at 9.50 kg/cm². All subsequent pump-starts shall be set at steps of 0.75 kg/cm². The system drain shall be opened to cause a drop in the pressure. The Jockey Pump shall start as soon as the pressure gauge needle falls down to *lower limit*. The Jockey Pump shall also automatically stop when the system has been pressurized again upto the upper limit.

15. Check List for Commissioning

15.1 Fire Protection System

- a) Check all hydrant & other valves by opening and closing. Any valve found to be open shall be closed.
- b) Check all clamps, supports and hangers provided for the pipes.
- c) All the pump sets shall be run continuously for 30 minutes (with temporary piping back to tank from the nearest hydrant, using canvas hose pipes).
- d) Pressurize the fire hydrant system by running the jockey pump and after it attains the shutoff pressure of the pump,
- e) Open bypass valve and allow the pressure to drop in the system.
- f) Check that the jockey pump cuts-in and cuts-out at the preset pressure. If necessary, adjust the pressure switch for the jockey pump.
- g) Close by-pass valve.
- h) Open hydrant valve and allow the water to flow into the fire water tank in order to avoid wastage of water.
- i) The main fire pump shall cut-in at the preset pressure and shall not cut out automatically on reaching the normal line pressure.

- j) The main fire pump shall stop only by manual push button.
- k) However, the jockey pump shall cut-out as soon as the main pump starts.
- l) Operate pump continuously for 30 minutes with piping back to underground tanks from the hydrant nearest to plant room.
- m) Check each landing valve, male and female couplings and branch pipes, for compatibility with each other. Any fitting which is found to be incompatible and do not fit into the other properly shall be replaced by the Contractor.
- n) Each landing valve shall also be checked by opening and closing under pressure.
- o) Check air cushion tanks / air vessel for proper functioning.

16. PUMP SETS

16.1 Jockey Pump

- a) Pumps shall be horizontal centrifugal end suction top discharge type, having bronze impellers which are pinned for positive driving to stainless steel impeller shafts.
- b) For pump rating, total dynamic head and electrical characteristics, refer to "Particular specifications".
- c) Pump shall contain close grained cast iron diffusers and equipped with bronze casting rings. Sleeve-type base bearings shall be bronze.
- d) Pump base and motor adapter shall be cast iron, with complete mechanical shaft seals and standard TEFC / SPDP proof motors with drip canopies.

16.2 Control Panels

A combined control panel for automatic / manual operation of fire pump sets shall be provided. The functional requirement of control panel shall be as follows.

- a) When the water pressure in the system falls 0.35 kg / sqcm below normal system pressure, the jockey pump shall start automatically when set to auto status and shut down when the system pressure reaches set value. The pressure setting shall be adjustable.
- b) When the water pressure in the system falls below 1 kg/ sqcm below the normal system pressure (due to opening of hydrant / test valves etc.,) the main electric pump shall start automatically when set to auto status and shut down when system pressure reaches set value. The pressure setting shall be adjustable.

Type of joining :
IS Specification for fittings :
Type of coating for UG Pipes :

b) Butterfly, Check & Ball Valves

Make :
Material of body :
Material of stem :
Material of Disc / Ball :
Material of seat :
Conforming Specification / Codes :
Pressure Rating :

APPROVED MAKE OF ITEMS

MS Pipes : Jindal / Tata/appolo
Pipe Fittings : Bharat Forge / Tube Products / Sanjay Forge / B & M
Pipe Supports and Clamps : HiTech /
Butterfly Valves : Audco/kartar/casttle/zoloto
Swing / Ball type Check Valve : Kalpana / Kartar /Casstle
Ball Type Foot Valve : Kalpana / Kartar /Casstle
Fire Hose : ceasefire/Minimax/Palex
SS Branch Pipe with Nozzle : ceasefire/Minimax/Palex
Aid Fire hose reel (Drum) : ceasefire/Minimax/Palex
Fire Hydrant box / hose cabinet : M.S. powder Coated with 16swg
sheet as .Fire Brigade Inlets : ceasefire/Minimax/Palex
Alarm Check Valve : Tyco / Viking / HD
Sprinkler Heads : Tyco / Viking / HD
Sprinkler Flexible Drop : Easyflex / Flexdrop HD

Automatic Air Release	:	Giacomini / Equal
System Flow Switch	:	System Sensor / Tyco
Test & Drain Sight Glass	:	Sporlan / Teleflow / Flowtech Ball
Valves	:	RB / Zoloto / Leader
Y" Strainer	:	Kalpana / Kartar /Casstle
Paints	:	Asian / Nippon / Berger
Primer	:	Asian / Nippon / Berger
Fire/Sprinkler Main Pumps & Pumps	:	Kirloskar / Mather & Platt / KSB / Grundfos Jockey
Diesel Engine	:	Cummins / KOEL / Kirloskar
Motor Electrical	:	ABB / Siemens / Kirloskar
Couplings	:	Lovejoy
Anti-Vibration Mountings	:	Kanwal / Dunlop / Resistroflex
Pressure Switch	:	Danfoss / Indfoss / Potter
Pressure Gauges	:	H. Guru / Fiebig / Baumer
Needle Valves	:	Leader / SwagelockPipe
Protection Wrapping	:	IWL / Rustech
Welding Rods	:	Advani / Manglam
Anchor Fasteners	:	Hilti / Fisher
Fire stop Sealants	:	Hilti / 3M / Murugappa
Fire Door	:	Shakti Met-dor or Equal

NOTE:

All Equipment / Components used in execution of work shall be preferred make listed above subject to the approval of Sainik School Ghorakhal. The Principal/Adm Officer, Sainik School Ghorakhal reserve the right to choose any one of the make listed above. If any other makes are offered, the same shall be clearly indicated in offer and pre approval obtained.

PART - C
TECHNICAL BID

1. Detailed profile of the firm.
2. Permanent Account number (PAN/TAN).
3. Registration of GST No..
4. Last audited accounts showing annual turnover.
5. List of educational institutions/government/semi govt. organization where the services it has been made at least three years with their contract numbers.
6. Declaration letter stating that the firm has not been black listed by any department/agency etc either by the State or Central Government.
7. Dealership Certificate of mentioned company for Hose reel.
8. Local Service Centre (Nainital District) Affidavit.
9. Details of EMD Bank Draft.

Date:

Place:

Seal

(Authorized Signatory of the Firm)

PART- D
CHECK LIST

SI No	Bid Enclosures	Yes or No
	Bidder should positively write YES or NO	
1.	Whether Technical Bid (Envelope – A) and Commercial Bid (Envelope – B) prepared and stamped in all pages by the Authorized Signatory?	
2.	Whether EMD deposit is put in the Technical Bid (Envelope – A)?	
3.	Whether the Tender is submitted in two covers namely Technical Bid (Envelope – A) and Commercial Bid (Envelope – B)?	
4.	Whether two covers are put into an outer cover duly sealed with WAX?	
5.	Whether Technical Bid (Envelope – A) contains the following:-	
5.1	Bidder's cover letter in the Letter Head signed and stamped by the Authorized Signatory.	
5.2	Detailed profile of the firm.	
5.3	Copies of the Permanent Account Number (PAN/TAN).	
5.4	Copies of the Registration of GST number.	
5.5	Copy of the last audited report/document showing annual turnover.	
5.6	Certificate of recognition for satisfactory by the institutions/organizations of repute.	
5.7	Quality /brand mentioned in the bid.	
5.8	Copies of the completion certificate by competent authority/central/state govt or semi govt.	
5.9	Declaration that the firm has not black listed by department/agency etc either by the State or Central Government.	
5.10	Declaration of guarantee Period.	
6.	The Rate and Amount of each item along with the applicable taxes (Envelope – B) has been filled or not and the same is signed and stamped by the Authorized Signatory.	

PART - E
FINANCIAL BID

19. Bill of Quantities (BOQ)

SUMMARY OF BOQ		
Sl. No.	Particular	Total Amount
(a)	SUPPLY & FIXING OF FIRE FIGHTING SYSTEM (Consisting of Courtyard Hydrant System/Wet riser system with pump & its accessories)	
(b)	Pump & Pump Accessories	
	Total Cost of Bidding	
	Any Other	
	GST	
	Gross Amount	

<u>SUPPLY & FIXING OF FIRE FIGHTING SYSTEM</u> <u>(Consisting of Courtyard Hydrant System/Wet riser system with pump & its accessories)</u>						
<u>SER NO.</u>	<u>DETAILS</u>	<u>UNIT</u>	<u>QTY</u>	<u>MAKE</u>	<u>RATES</u>	<u>TOTAL AMOUNT</u>
A.	<u>COURTYARD HYDRANT SYSTEM/WET RISER SYSTEM</u>					
1.	Providing, installing and testing & commissioning MS / GI Pipe of Medium "B " class of following sizes conforming to IS 1239 & IS 3589 with one coat of primer & two coats of fire red enamel paint, etc. as per specifications. along with necessary fittings eg. welding,Bend,Flanges,Nipple etc,pipes to be duly tested to 1.5 times of working pressure Exacavation of earthand RCC root and barried the pipe as require and back filling of barried pipe including transportation upto worksite,cutting the pipe required length edge prepration welding fixing erection	Job	01			

	of pipe ,in an approved manner as per given enr in charge					
(a)	80 NB	mtrs	200	Jindal/ Appolo/ Tata		
(b)	50 NB	mtrs	400	Jindal/ Appolo/ Tata		
2.	Providing, Fixing, Testing & commissioning of first and fire hose reel wall mounting swinging type complete with drum, bracket top valve and 20 mm bore dia mtr long high pressure hose reel tubing as per IS:444 with gun metal shut off nozzle 5mm orifice including the cost of sockets, nipples, elbows, 25mm globe valve, 25 mm dia pipe connection from riser to hose reel. The hose reel shall strictly confirm to IS:884-1985.	Nos	14	Minimax/ Palex/ Cease Fire		
3.	Brass Ball Valve 25 mm	Nos	16	Kartar/ Castle/ Kalpana/ Zoloto		
	Total					
B.	PUMP & PUMP ACCESSORIES					
1.	Supply , erection , testing & commissioning of electrical motor driven jockey pump of Horizontal, high pressure Single stage, Single outlet centrifugal end suction back pull out type with gland packing, CI casing, Shaft / Sleeve : C-40 / AISI 410 H, Bronze Impeller and capable to deliver 180 LPM at 56 mtrs head. The pump shall be coupled to TEFC motor of suitable 7.5HP (Foundation details to provide by Vendor as recommended by manufacturer) and foundation bolts etc. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head.	Nos	1	Kirloskar/ Mather & Platt/KSB/ Grundfos Jockey		
2.	Supply installation testing and commissioning of sectionalized cubicle type floor mounted front operated dust and vermin proof power cum control panel made out of not less than 1.6mm MS sheet with enamelled finish i/c. one coat of primer of approved shade and colour i/c. providing suitable	Nos	01	Fabricated with LNT fittings		

	number of switchgears, busbars, auxiliary switches, audio alarm hooters, visual indications, relays, contactors, timers of suitable capacity for automatic operation of pumps i/c. connections along with provision to link with IBMS and all connected accessories. Panel should be powder coated, Indicating lamps should be of LED type as per the Single line diagram.					
3.	Supplying, installing, testing and commissioning of C.I. check valves (PN16) as per IS:5312 stds., swing check type with required flanges, nuts, bolts and gaskets etc. complete. 80 MM Size	Nos	02	Kartar/ Castle/ Kalpana/ Zoloto		
4.	Supply and installation, testing and commissioning of CI Butterfly valves (heavy) tested to 175 psi hydraulic pressure with necessary , companion flanges, bolts, nuts, gasket packing and any other spares, including indicator for open and shut position as per fire practice etc complete. 80 MM Size	Nos	02	Kartar/ Castle/ Kalpana/ Zoloto		
5.	Supply, installation, testing & commissioning stainless steel pressure gauge dial size 100mm, range 12 kg/sqcm complete with isolation valve, with siphons as required. Glyserin filled gauges	Nos	01	H Guru		
6.	Supply, installation, testing & commissioning of pressure switch 100 IPS , range 12 kg/sqcm complete with isolation valve, with siphons as required.	Nos	01	Danffos		
	Total					

The above mentioned details, terms and conditions have been read and understood by me/us and I / We express my /our acceptance towards the same.

Signature of the Bidder-

Name : _____

Address _____

Enclosed Demand Draft for

(a) Rs. 500/- towards cost, and/or

**(b) for Rs. 15,000/- as EMD alongwith
this Tender form
(Tick / strike out as applicable)**

Tel : _____

(Tick / Strike out as applicable)

E-mail (if any) : _____

Name of Account Holder _____

Branch of Bank & Place _____

A/c Number: _____

IFSC CODE No _____

MICR NO. _____

Enclosed cancel cheque / photo copy of Pass book

**ADM OFFICER
SAINIK SCHOOL GHORAKHAL**

Note: All pages are to be signed before dropping in Tender Box.