SHREE SAIBABA SANSTHAN TRUST, SHIRDI
SHREE SAIBABA HOSPITAL

TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA HOSPITAL, SHIRDI (SSST) - 423109 TQ. RAHATA, DIST. AHILYANAGAR.

SHREE SAIBABA HOSPITAL, SHIRDI (SSHS).
Tal. - Rahata, Dist. - Ahilyanagar, Maharashtra – 423109.

Tel: + 91-02423- 258981,
E-mail: fire.safety@sai.org.in, Website: www.sai.org.in
E-Tender Website: www.mahatenders.gov.in.

E-TENDER DOCUMENT

(PERCENTAGE RATE E-TENDER)

TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR

CONTRACT DOCUMENT, BILL OF QUANTITIES, DRAWING & SPECIFICATIONS

TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR.

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TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR.

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SHREE SAIBABA SHREE SAIBABA HOSPITAL SHIRDI (SSST) TRUST, SHIRDI
SHREE SAIBABA HOSPITAL
Tal. - Rahata, Dist.- Ahilyanagar, MH - 423109.
Tel + 91-02423- 258981. E-mail: fire.safety@sai.org.in, Website: www.sai.org.in.

NOTICE INVITING E-TENDERS
FOR INSTALLATION OF FIRE FIGHTING SYSTEM

Percentage rate e-tenders are invited from reputed and experienced contractors fulfilling the prescribed minimum qualifying criteria for the following work at Shirdi.

1)	Name of Work:	Tender for supply, installation, testing and commissioning of firefighting system such as fire hydrant system, sprinkler system and addressable fire detection & alarm system at Shree Saibaba Shree Saibaba Hospital, Shirdi (SSST), Tal. Rahata, Dist. Ahilyanagar.		
2)	Estimated Cost	Rs. **1,64,27,105.00**/- (Rupees One Crore Sixty-Four Lakh Twenty-Seven Thousand One Hundred Five Only) Inclusive of GST.		
3)	Earnest Money Deposit (EMD)	**Rs. 2,00,000/- (Rupees Two Lakhs Only) by online through www.mahatenders.gov.in. EMD Exemption Certificate will not be accepted vide GR No. CAT/ 06/2014/LTN 242/Bldg-2, dt. 24/2/2016**		
4)	Tender document along with the terms & conditions will be available at on the website	www.mahatenders.gov.in.		
5)	Contractor Registration	Contractor have Registered with Directorate of Maharashtra Fire Services		
6)	Tender Document download/ Sale Start date	28.10.2025	Up to	11:00 AM
7	Last date of Online Submission	24.11.2025	Up to	17:00 PM
9	Last date of Physically Submission of Original D.D. for Additional Performance security deposit and Attested Copies of uploaded Documents at Chief Executive Officer, **Shree Saibaba Sansthan Trust, Shirdi, Tal. Rahata, Dist. Ahilyanagar MH-423109**		Up to	
9	Cost of Blank Tender Document	Rs. 15,000/- Rupees Fifteen Thousand Only (Non-Refundable) by online through **www.mahatenders.gov.in**		
10	Period of Completion of work	18 (Eighteen) Months (including monsoon)		
11	Type of Tender	**Percentage Rate E-Tender**		

ELIGIBILITY CRITERIA:

1. Contractor have Registered with Directorate of Maharashtra Fire Services.
2. GST Registration Certificate.
3. PAN No. is mandatory.
4. The Bidder should have experience of similar type and nature of work in a functional building of a similar nature.
5. Joint Venture / Consortium are permitted.
6. Site visit report is a mandatory document for submission.

NOTES:

1. The applicant should also produce original documents for verification if called for. Failure to attach necessary documents with application will render applicant ineligible for opening of financial bid without any intimation, and in accordance with the bidding document, irrespective of their status/ranking in tender, the bid will be rejected and SSST may consider to debar the Bidder from participating against its future tenders.
2. Conditional Bids shall be summarily rejected.
3. The offer shall remain valid for a period of one hundred twenty (120) days from the last date of submission of Bid.
4. Bid document price money of Rs. 15,000/- Rupees Fifteen Thousand Only (non-refundable) will be accepted by online through **www.mahatenders.gov.in**. only
5. Tender forms containing scope of work, detailed drawings, specifications of work, materials, conditions of contract and special conditions of contract are available on www.mahatenders.gov.in from **Dt-** _____ from 11:00 AM onwards.
6. The last date for online submission (uploading) of tender with all necessary attested relevant documents is Dt. _____ up to 05:00 PM. SSST reserves the right to extend the last date for submitting the bids, which will be informed to all the bidders.
7. The Last date of Physically Submission of Original D.D. for Additional Security Deposit and Attested Copies of all uploaded Documents at the office of the Chief Executive Officer**,** Shree Saibaba Hospital Shirdi (SSST), Tal. Rahata, Dist. Ahilyanagar (MS) 423109 will be _____.
8. SSST reserves the right to reject any or all the tenders without assigning any reason thereof. SSST also reserves the right to accept any tender and not only the lowest tender without giving any reason.
9. For any quarries regarding tender or tender system, contact The Chief Fire Officer SSST – 02423-258981. Queries e-mail : fire.safety@sai.org.in. Monday -Saturday 10.00-17.00 hrs only.

Chief Executive Officer,
Shree Saibaba Sansthan Trust, Shirdi

-End-

QUALIFYING REQUIREMENT FOR BIDDER

The following copies of original / attested documents should be scanned & uploaded online.

1. Tender document fee. 15,000/- Rupees Ten Thousand Only (non-refundable) paid by online through **www.mahatenders.gov.in**. only,

2. EMD of Rs. 2,00,000/- (Rupees Two Lakh Only) by online through **www.mahatenders.gov.in**. only.

3. The bidder should have Valid License of Govt. of Maharashtra for Fire prevention and life safety measures From Directorate of Maharashtra Fire Services in appropriate categories. The attested copy of Licenses should be attached.

4. The bidder should have satisfactorily completed of one similar type and nature of work such as Hydrant system, Sprinkler System, Detection and Fire Alarm System at minimum 50% amount of Estimated Cost in last Three years i.e. 2022-23, 2023-24, 2024-25 along with work completion certificates. (Completion Certificate issued by the Govt. / Semi Govt. Department /Public – Semi Public of Reputed Privet Sector by owner / Architect.)
5. The bidder should have minimum average Annual Turnover of Rs. 2,00,00,000 /- (Rupees Two Crore Only) in Three Years i.e. 2022-23, 2023-24, 2024-25. A certificate showing the details of Financial Credentials, with Profits (Annually) & duly certified by a certified C. A. and UDIN No to be submitted . If required we may ask for the detailed Balance Sheet if required by the participating firm.
6. The bidder should submit list of works & its magnitude executed in last three years along with work completion certificates.
7. The bidder should submit undertaking that he is not barred / not blacklisted by any Client including State/Central Govt. Department/PSU's.
8. The bidder should submit his Arbitration / litigation record. If the bidder has no such record, he should submit an undertaking accordingly.
9. The Bidder should submit list of Technical Staff, & List of Machinery / Tools and Plant available with him for execution of work.
10. The bidder should submit GST Registration Certificate, EPF Registration, Pan Card Etc.
11. The bidder should submit Bio-Data / Details of Firm on letterhead as per format attached.
12. Joint Venture / Consortium are permitted. If the applicant is joint venture for the work, please give information in Form – VI, on page No. 19, and submit all require document.

13. The bidder should submit Details of firm: Proprietorship / Partnership / Company/Joint Venture etc. Attach copy of Registration of Firm, Partnership Deed, if Company then

attach Certificate of Incorporation, Memorandum of Association, Article of Association, GPA and other details.

14. Shree Saibaba Sansthan Trust, Shirdi reserves the right to disqualify any or all bidders without assigning any reasons therefor.

15. If Bidder fails to submit original documents with the same content as in the copies submitted in the un-priced bid folder (through e-bidding portal) and in accordance with the bidding document, irrespective of their status/ranking in tender, the bid will be rejected and SSST may consider to debar the Bidder from participating against its future tenders.

16. **Additional Performance Security Deposit:**

a. If the tenderer has quoted the offer below the estimated cost put to tender, then the contractor shall have to submit Additional Security Deposit (Performance Security) in the form of Demand Draft drawn on Nationalized / Scheduled Bank in favour of the **Shree Saibaba Sansthan Trust, Shirdi.**

b. **Details of Amount of Additional Performance security deposit (Demand Draft) shall be as below: -**

1. If the offer is up to 10 % below the estimated cost put to tender, then the amount of Demand Draft shall be 1 % of the estimated cost.

2. **Performance Security Deposit:** If the offer quoted is more than 10 % below the estimated cost put to tender, then the amount of Demand draft shall be 1 % plus the percentage by which tender offer is more than 10 % below the estimated cost (For example: - If the quoted offer is 14 % below then the amount of Demand draft shall be 1 % plus 4 % (14 % -10 % = 4%) total 5 % of the estimated cost put to tender). **[Ref G.R No. BDG 2016/Case No.2/Bldg-2 dt.12.02.2016].**

Chief Executive Officer,
Shree Saibaba Sansthan Trust, Shirdi.

-End-

CHECKLIST

CHECKLIST OF DOCUMENTS MANDATORY TO BE SCANNED & UPLOADED THROUGH E- TENDER WITH PAGE NUMBERS

Sr. No.	DOCUMENT NAME	CHECK BOX (Yes / No)	PAGE NO (From – to)
1	EMD & Tender Fee online payment as mentioned in tender document on website: www.mahatenders.gov.in.		
2	Valid Licenses of Govt. of Maharashtra for Fire Services in appropriate categories.		
3	FORM NO. I to VI (To be filled by the Contractor)		
4	Satisfactorily completed one work of similar nature of estimated cost not less than 50% amount of Estimated Cost in each category, during last 3 years. i.e. 2022-23, 2023-24, 2024-25 (Completion Certificate issued by the Govt. / Semi Govt. Department /Public – Semi Public of Reputed Privet Sector by owner / Architect.) as per Form III & V.		
5	Minimum average annual turnover of Rs.2,00,00,000/- (Rupees Two Crore Only) in Three years i.e. 2021-22, 2022-23, 2023-24, Certificate of C. A. With UDIN duly certified to be attached		
6	Undertaking that he is not barred / not blacklisted by any Client including State/Central Govt. Department/ PSU's		
7	Arbitration / litigation record. If the bidder has no such record, he should submit an undertaking accordingly		
8	List of Technical Staff, & List of Machinery / Tools and Plant available with him for execution of work		
9	Declaration of Contractor (on 500/- Rs. Stamp Paper)		
10	Details of firm: Bio-Data / Details of Company / Details of Joint Venture etc.		
11	GST Registration Certificate, EPF Registration, Pan Card Etc.		
12	The bidder should have satisfactorily completed of one similar type and nature of work		

It is mandatory to submit all the aforesaid documents online along with this checklist duly signed and stamped by the bidder. If the bidder fails to submit online any of the above document, he will be disqualified and will not be considered for opening of the price bid.

-End-

TENDERING PROCEDURE & GENERAL INSTRUCTIONS TO BIDDERS

Manner of Submission: Tender has to be submitted online.

Technical Bid:
The attested documents should be scanned & uploaded online on or before the date specified in the tender notice.

Commercial Bid:
The bidder shall quote their rates as Percentage, at the appropriate place in e-tender document. The bidder shall not quote this offer anywhere directly or in directly. The bidder shall quote for the work as per details given in the main tender and also based on the detailed set of conditions, clarifications issued and additional stipulations made by the SSST.

The tender document is being invited on percentage rate basis. This tender shall be unconditional. Conditional tenders will be summarily rejected. If any alterations are made by the bidders in the tender documents, the tender may be liable for rejection. The bidders should ensure that their tender is received by the SSST before the expiry of the date and time.

Opening of E-Tender:

The tender documents will be opened at a place and on date and time which shall be decided at a later date.

I. Technical Bid:

Technical Bid of the tender will be opened to verify its contents as per requirements and as per minimum qualifying criteria. If any of the contents contained in this envelope do not meet the requirement of Sansthan, a note will be recorded accordingly by the tender opening authority and Commercial Bid of the said bidder will not be opened and their EMD will be returned by the Sansthan.

II. Commercial Bid:

This envelope shall be opened after opening of technical bid only if the contents of technical bid are found to be acceptable to the Sansthan.

SSST however reserves the right to reject any or all the tenders without assigning any reasons whatsoever.

The bidder if firm or company, shall in their forwarding letter mention the names of all the partners of the firms or directors / members of the company (as case may be) and name of the person / partners / directors who holds the power of attorney if any, authorizing him to conduct business transaction on behalf of the bidder.

GENERAL INSTRUCTIONS TO BIDDERS:

General:

This tender notice shall form a part of the contract of the agreement, to be entered into between the parties.

No claims as regards want of information of any particular point or any change in rate or conditions after the opening of tender shall be entertained. Bidder shall be deemed to have full knowledge of all the relevant documents.

The Contractor shall also have to give a declaration to the effect that they have fully studied the plans, specifications, local conditions and availability of labour and material and that they have quoted their rates with the consideration of all these factors. (As per format on Page No. 18)

Right is reserved to revise or amend the contract documents prior to the date notified for the receipt of the tender and extend the date. Such deviations, amendments or extensions, if any, shall be communicated in form of corrigendum as may be considered suitable to all the bidders. Bidder will be required to submit detailed work schedule to meet the target date of completion.

The successful bidder will be informed and a Letter of Intent / Work Order will be issued by the Sansthan.

The bidder whose tender is accepted will be required to enter into an Agreement with the Sansthan.

Instructions to Bidders:

1. Before quoting, every bidder is expected to inspect the site of proposed work and to have satisfied themselves as to the nature of all works, all existing roads, water ways and other means of communication and access to and from the site and work, disposal sites, labour camp sites and enabling works in connection with the work. No claims as regards want of information of any particular point or any change in rate or conditions after the opening of tender shall be entertained. Bidder shall be deemed to have full knowledge of all the relevant documents, site etc. whether they inspect the site or not, before submitting the bid.

2. The contractor will have to sign the original copy of tender papers and the drawings according to which the work is to be carried out. The contractor shall also have to give a declaration to the effect that they have fully studied the plans, specifications, local conditions and availability of labour and material and that they have quoted their rates with the consideration of all these factors.

3. The bidder whose tender is accepted will have to give an undertaking in and as per the Minimum Wages Act 1948 applied to the zone in which the work is to be executed and act accordingly.

4. The contractor shall comply with the provisions of the payment of wages Act 1936, the minimum wages act 1948, the employees liability act1938, the Workman's Compensation act 1923, The maternity benefit act 1961, The Contract Labour (Regulation and Abolition) Act 1979, GST, Service Tax and Work Contract Act, and any modification thereof or any law relating thereto and rules made there under from time to time and all other applicable statutory regulations, rules and procedures.

Chief Executive Officer,
Shree Saibaba Sansthan Trust, Shirdi.

-End-

SUBMISSION LETTER

To,

The Chief Executive Officer,
Shree Saibaba Sansthan Trust, Shirdi.

Subject: TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR.

Dear Sir,

With reference to the e-tender for the above work, invited by you, we are submitting herewith our rates for the above work.

We have examined the drawings, specifications and carefully read the General conditions of contract, Special conditions of contract, Articles of Agreement, Bill of Quantities, terms and conditions etc.

We have carried out the site survey and the letter of Site survey duly signed is also attached.

We agree to execute the whole work within 18 (Eighteen) months from the date the Letter of Intent/Work Order which is received by us to commence the work.

I / We hereby ready to execute the above-mentioned work, within the time specified above and hereto at the rates quoted in Bill of Quantities of in accordance in all respects with the specifications, drawings, conditions of contract and as per the instructions.

We have submitted the EMD By Online at Rs. /- Dated _____ through_____ Bank. In favour of Shree Saibaba Sansthan Trust, Shirdi, which will not bear any interest. **EMD exemption is not permitted for MSME.**

Power of Attorney authorizing undersigned to bid on our behalf is enclosed herewith.

Yours faithfully,

Signature:

Full Name:

Address:

Banker’s Details:

Name of Bank / Branch:
Account No.:
IFSC Code:

Date:

-End-

FORM NO. I

Details of plant and machinery immediately available with the tenderer for the work
Name of the tenderer: -

Sr. No.	Description	Quantity	Capacity	Owned/ Leased	Condition	Present Location
1	2	3	4	5	6	7

SPECIMEN FORM

Note: Attach copies or forms as necessary

Signature:

Name:
Designation:
Company:
Date:

FORM NO. II
WORKS IN HAND AND WORK TENDERED FOR

List of works tendered for and in hand as on the date of submission of this tender
Name of the tenderer: -

Sr. No.	Project Name	Place & Country	Work in hand		Anticipated date of completion	Work tendered for			Remarks
			Tendered Cost	Cost of remaining Work		Estimated Cost	Date when decision is expected	Stipulated date of period of completion	
1	2	3	4	5	6	7	8	9	10

SPECIMEN FORM

Note: Attach copies or forms as necessary

Signature:

Name:
Designation:
Company:
Date:

FORM NO. III

Details of works of similar type and magnitude carried out **in last Four years** by the Contractor

Name of the tenderer: -

Sr. No.	Name of work.	Details of Client with contact Nos.	Cost of work	Date of starting	Stipulated date of completion	Actual date of completion	Remarks
1	2	3	4	5	6	7	8

SPECIMEN FORM

Note: Attach copies or forms as necessary

Signature:

Name:
Designation:
Company:
Date:

FORM NO. IV

Details of Technical Staff / Personnel, available with Contractor

Sr. No.	Name of Person	Qualifications	Whether working in field or in office	Experience of execution of similar works	Period for which the person is working with the tenderer	Total Experience of the Person (in No. Of Years)	Remarks
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

SPECIMEN FORM

Note: Attach copies or forms as necessary

Signature:

Name:
Designation:
Company:
Date:

FORM NO. V
Statement Showing Cost of Works Executed/Completed in Last Three Years (Year-Wise)

		Year wise cost of works			
Sr. No.	**Name of Works/Years**	2022-23	2023-24	2024-25	**Remarks**
1	**2**	**3**	**4**	**5**	**6**

SPECIMEN FORM

Note: Attach copies or forms as necessary

Signature:

Name:
Designation:
Company:
Date:

FORM NO. VI

JOINT VENTURE

If the applicant is joint venture for the work, please give following information and submit all require document:

1. **Name & address of joint venture**.:

2. **Name & address of all partners & joint ventures (Attach registered partnership deed of joint venture.)**

3. **Name of Firm leading the Joint Venture.**

4. **Indicate the responsibility of the firm leading the Joint Venture & responsibility of other Joint Venture partners.**

5. **Joint Venture & Responsibility of Order.**

6. **Details regarding financial particulars of each firms in the joint Venture. Certified copy of the Balance Sheet with ITR, agreement & MOV of Joint Venture shall be attached.**

7. **In case of Joint Venture, the lead partner should have minimum 50% of his share.**

Certified that the above information is true and correct to the best of my knowledge and belief.

Signature of Contractor

Note: Attach all necessary self-attested documents for Joint Venture

-End-

DECLARATION OF CONTRACTOR
(On Letter Head)

I / We hereby declare that we have made ourselves thoroughly conversant with the local conditions regarding all materials and labour on which we have quoted our percentage rates for this work. The specifications, conditions of contract, site conditions, lead and lift of materials of this work have been carefully studied and understood by us before submitting this tender. We undertake to use only the best materials approved by Shree Saibaba Sansthan Trust, Shirdi or their duly authorized persons before starting the work and to be abiding by their decisions. The rates quoted by us are final and no escalation or increase in rates will be claimed by us till the work is fully completed.

Contractor:

Full Name:

Address:

Sign & Seal

-End-

GENERAL AND SPECIAL CONDITIONS OF CONTRACT

LOCATION: This work has to be carried out in the Premises of **SHREE SAIBABA HOSPITAL, SHIRDI (SSHS).** The site is mostly accessible by asphalted road / existing road. Temporary approaches / roads, if required, to have access to all the areas, shall be provided by the contractor at his own cost only.

The Tenderers are advised to visit the site of work with the prior Intimation to acquaint themselves with access to the site, location of work, labour requirement and availability etc. and any other situations relating to availability and carriage of materials etc.

The contractor carrying out this work shall strictly abide by the MC/State regulations as well as any security regulations imposed by the Department / Police Authority / Local Authorities/ Authority of Shree Saibaba Sansthan Trust, Shirdi/ CFO, from time to time, regarding transhipment of equipment, operations, drainage, security etc. wherever applicable.

Scope of work: Tender for Supply, Installation, testing and commissioning of Fire Fighting System such as Fire Hydrant System, Sprinkler System and Addressable Fire Detection & Alarm System at Shree Saibaba, Hospital, Shirdi Tal. Rahata, Dist. Ahilyanagar

The general character and the scope of the work is illustrated and defined by the Bills of Quantities, specifications and drawings attached herewith. All work shall be done as per the specifications. The works include proposed fire prevention work for **TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA SANSTHAN HOSPITAL, SHIRDI, TAL. RAHATA, DIST. AHILYANAGAR.** and all other services necessary for the completion. **Scope also includes 5 years Defect Lability Period (DLP)**

The scope of work consists of supply, installation, testing & commissioning of following:

1. Firefighting system works consisting of various type piping for hydrant & sprinkler line, hydrant landing valves, fire brigade connection, hose reel drum with hose pipes, various valves, sprinklers etc.

2. Including required all types of civil works etc.

3. Clearance / approval of complete installation from CFO and other licensing authorities, wherever required.

4. Obtaining Final Fire NOC from concerned Authority including fees & other expenditures etc.

5. Engineering proposals, drawings and data. Shop drawings, engineering data and Design calculations of all systems / Components / Materials.

6. All samples, test units by approved laboratory only.

7. Protection and maintenance of all materials and equipment during storage and construction until handing over.

8. All final exterior and interior cleaning of the equipment, systems etc.

9. Specified tests, inclusive of necessary reports.

10. Brochures of equipment's and Maintenance Manuals.

11. Design and Performance Guarantees.

12. Monitoring of all works for workmanship and technical compliance to ensure the work conforms to the approved shop drawing details & specifications (including any modifications made during execution) and of acceptable standards of quality.

13. Co-ordination of various activities with other Contractors and Vendors involved in this project.

14. Training to the staff of Department before the System handing over. The Tender principal / technical collaborator will offer the following services

I Certify design and drawing.

II Periodic inspection and supervision.

III Back-up guarantee in approved Performa for the quality and performances of the works.

IV Since the Hospital is an operational one, due care to be taken to reduce inconvenience to staff and patient. If required they may have to work in silent (Off working hours of the hospital)

1. DEFINITIONS:

1.1.1

a. The "Contract" means the documents forming the tender and acceptance thereof, together with the documents referred to therein including these Conditions, General Summary attached to the form of tender, the Specifications and the drawings, Contract the General and Special Conditions, the Appendix, the Annexure, Schedule of Items / Quantities and Specifications, and any other accepted amendments to the Contract, as applicable taken together shall be deemed to form one Contract and duly signed.

b. The "Tender Documents" means the form of tender, the applicable General Summary, these General and Special Conditions, and the Specifications and / or Drawings as loaned to Contractors for the purpose of preparing their tenders.

c. The "Project works" means the work described in the tender documents and or companying Drawings and Specifications as may be issued from time to time to the Contractor by the SSST within the powers conferred upon them, including all modified extra or additional works and obligations to be carried out either on the Site or at any factory or workshop or other place for subsequent incorporation, as required for the performance of the Contract.

d. "Site" means the lands or/ other places on, in, into or through which work is to be executed under the Contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the Contract.

e. "Contractor" means firm / company, whether incorporated or not, undertaking the works and shall include the legal representatives or the persons composing such

firm or company, or the successors of such individual or firm or company and the permitted assigns of such firm or company.

f. "Client" means Shree Saibaba Sansthan Trust, Shirdi, Tal.-Rahata, Dist.-Ahilyanagar, Maharashtra - 423109.

g. "Engineer – In- Charge" means authorized representative of Sansthan.

h. "Consultant / PMC" means **Radcorps Fire & Safety Private Limited. Office No-303, Foundation Tower, Sector-11, CBD Belapur, Navi Mumbai, 400614 Phone. (+91) 224 600 6 600 / Mo. (+91) 750 600 6 600 / Email. info@radcorps.com, www.radcrops.com**, appointed by SSST to prepare designs, plans, detailed working drawings, specifications, and supervision of work and checking of contractor bills etc.

i. "Approved" and "Directed" means the approval or / directions of Sansthan.

j. "Authorized Representative" means the managerial personal of the contractor who holds valid Power of Attorney to the effect that he is authorized for fully executing the Contract.

k. State Schedule Rates (SSR) means the PWD Rates for State of Maharashtra, for the year 2022-23 and Current Schedule Rates (CSR) means the PWD (electrical wing) rates for Maharashtra, for the year 2022-23 to be used as the basis for payment to Contractor for the work done as per Specifications.

l. Specifications means the technical specifications contained in the Contract, materials to be used and IS standards to be followed in the said work.

m. "Week" means seven days without regard to the number of hours worked or not worked in any day in that week.

n. "Day" means a day of 24 hours irrespective of the numbers of hours worked or not worked in that day.

o. "Working Day" means any day other than that prescribed by the Negotiable Instruments Acts as being a holiday and consists of the number of hours of labour as commonly recognized by good employers in the trade in the district where the work is carried out.

p. "Emergency Work" means any urgent measures which, in the opening of the Sansthan, becomes necessary during the progress of the Project Work to obviate any risk of accident or failure or which becomes necessary for reasons of security, or rectifications to essential services like water supply and electrification during the execution and Defect Liability Period (DLP) of the Contract.

q. The term "Sub-Contractor", as employed herein, includes those having a direct contract with the Contractor and it includes those who furnishes material worked or produced to special design, according to the plans or specifications of this Contract, but does not include one who merely furnishes material not so worked. Anyone doing work on piece rate basis shall be deemed a Sub-Contractor.

r. "Written Notice" shall be deemed to have been duly severed if delivered in person to the individual or to a member of the firm or to an office of the corporation for whom it is intended or if delivered at or sent by registered mail to their address given in this Agreement.

s. The term "work" of the Contractor or Sub-Contractor includes labour or material or both.

t. All time limits stated in the Contract document are of the essence of the Contract.

u. The date of “Substantial Completion” of a project or specified area of the project is the date when work, as specified in agreed Contract document are totally completed, with only a few items of work pending as listed in the punch list.

v. The term “Punch List” shall mean the list of items / corrective items to be attended by the Contractor, but which are not affecting any of the operations of the work, before completion of project as per directions of the SSST to facilitate proper handover of the project.

w. The date of “Completion” of a project or specified area of the project is the date when works are completed in all respects of agreed Contract documents and all the points are corrected or completed so that Contractor can handover the project for the intended use.

x. The "accepted risks" are,

a. War, hostilities, whether declared or not, invasion, act of risks of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war,

or,

b. Riot, commotion or disorder, unless solely restricted to the Contractor or of their Sub-Contractors and arising from the conduct of the works,

or

c. Use or occupation by the SSST of any part of the permanent works,

or

d. A cause solely due to the design of the Works,

or

e. Ionizing radiations or contamination by radio-activity from any or other hazardous properties of any explosive, nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive, nuclear assembly or nuclear component thereof, pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,

or

f. Any such operation of the forces of nature as an experienced Contractor could not foresee, or reasonably make provision for or insurance against all of which are herein collectively referred to as "the accepted risks".

y. The "Term LOI/WO" means “Letter of Intent / Work Order, which will be issued by Client to successful bidder after successful negotiations.

1.1.2 Intent:

The contract document is complementary and what is called for by one is as bindings as if called for by all. Any work that may be reasonably inferred from the drawings or specifications as being required to produce the intended result shall be provided by the contractor whether or not it is specifically called for, in Schedule 'B'. The contractor shall furnish and pay for all labour, supervision, materials, equipment, transportation, construction equipment and machinery tools, appliances, water, fuel (power, energy, light, heat) utilities, telephone and communications, temporary and sanitary facilities, storage, protection, safety provisions, and all other facilities, services and incidentals of any nature what so ever necessary for the satisfactory and acceptable execution, testing, initial operation and completion of the work in accordance with the contract document ready for use occupancy

or operations by the Client. The cost of all these arrangements shall be deemed to be included in the contract offer and no separate payment shall be admissible therefore.

1.1.3 Interpretations:

Written clarifications or interpretations necessary for the proper execution or progress of the work, in the form of drawings or otherwise, will be issued with reasonable promptness by the Engineer and in accordance with any schedule agreed upon. Such clarifications or interpretations shall be consistent with or reasonably inferable from the intent of the contract documents and shall become a part thereof. Whenever there is a discrepancy between the drawings and the specifications, the contractor shall obtain the Engineer's interpretation which shall be binding on the contractor.

1.1.4 Language and Law:

The English or Marathi language shall be used in the Contract documents and all official correspondence. The law which shall apply to the Contract and according to which the Contract shall be construed is that in force in Maharashtra. Litigation, If any shall be subjected to Ahilyanagar courts only.

1.1.5 Priority of Contract Documents:

The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the Contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows:

1. Contract Agreement.
2. Letter of Acceptance / Work Order.
3. Bill of Quantities.
4.Correspondence after submitting bid & before letter of acceptance/ modifications/amendments/ Common Set of Deviations/ Errata.
5. Special Conditions of Contract.
6. General Conditions of Contract.
7. Technical Specifications (including written instructions of the Engineer).
8. Drawings.

1.1.6 Use of Contract Documents:

The drawings and documents prepared for the project shall be treated as confidential documents and must not be copied or loaned to any other party without the express permission of the Sansthan.

The contract document shall remain in the custody of the client and be available at all reasonable times for the inspection of the Client or the Contractor. Immediately after the start of the contract for works, one copy of the contract document and two copies of the contract drawings shall without charge be supplied to the contractor and one copy each to the Client.

After the award of the Contract, the Contractor shall without charge be supplied with all such further drawings and details as may be prepared by and their engineers from time to time as the work proceeds, as are reasonably necessary either to explain or amplify

the Contract drawings or to enable the Contractor to carry out and complete the work in accordance with these conditions.

The Contractor shall keep one copy of the specifications, descriptive schedule or other like document referred to in this clause and one copy of the contract drawing and such other drawings and details supplied to them from time to time on the site, so as to be available to the SSST or their representative at all reasonable times.

One copy of the Drawing, provided to or supplied by the Sansthan's as aforesaid, shall be kept by the Contractor on the Site and the same shall at all reasonable times be available for inspection and use by the Sansthan's Consultant / Engineer - in - Charge and by any other person authorised by the Sansthan in writing.

None of the documents of contract shall be used by the contractor for any purpose other than this contract and neither the Client shall divulge or use any of the prices in the contract bills, except for the purpose of this Contract.

Should any item of equipment, materials or labour which would reasonably and obviously be inferred as necessary for the complete, safe and satisfactory usage of the works or part thereof, not be expressly specified, the contractor shall provide and execute such work as a part of the Contract at no extra cost to the Client.

Upon final payment, the Contractor shall if so requested by the SSST forthwith return to SSST all drawings, details, specifications, descriptive schedule and other documents of like nature which bears their name relating to this Contract.

2. BRIEF DESCRIPTION:

Shree Saibaba SSST is one of the most sacred places in India. Shree Saibaba Sansthan Hospital has decided to provide facilities to pilgrims and devotees visiting Shirdi for Darshan of Shree Saibaba.

2.1 REFERENCES AND STANDARDS

2.1.1 The provisions of the latest standards listed below form part of these specifications. The supply, installation, testing and commissioning of the equipment's / systems / materials / accessories etc. shall comply with the latest applicable standards and codes of practices.

2.1.2 Copies of all standards and codes proposed to be followed for materials, installation and testing shall be submitted to the department within two weeks of issue of works order.

2.2 GUARANTEE

2.1 The contractor shall be fully responsible for and shall guarantee proper design and performance of his installed system. The Contractor shall indemnify and save harmless the Consultants (PMC) and Department in consequence of the design manufacturing defect, patent manufacturing defect, construction defect, etc. found in the work at any time period commencing with the phase completion certificate given by the department to the contractor in accordance with and subject to the provisions of the said contract.

2.2 Guarantees in approved Performa shall be given for performance of various systems, equipment's, materials etc. All the guarantees shall be submitted

before final payment and shall not in any way limit any other rights to correction which the department may have under the Contract. The format of Approved Performa is given in the Annexure of the Conditions of the Contract.

2.3 The contractor shall also seek warranty for installed plant from the OEM equipment supplier. The Contractor shall ensure that the OEM norms for supply, installation, testing and documentation as specified by the OEM supplier shall be adhered to, provided those are in line with the relevant standards and as per the approval of Consultants (PMC). The warranty shall be provided by the OEM vendor to the department and shall be administered in India, and shall cover the system performance, application assurance and the costs of the supply of components and installation. A sample Warranty Certificate shall be provided by the Contractor along with the Tender.

2.4 Extent: The Contractor shall carry out the complete works in every respect in accordance with this Contract and with the directions of and to the reasonable satisfaction of the Sansthan. SSST may in their absolute discretion and from time to time issue further drawings, details and or written instructions, written directions and written explanations all of which are collectively referred to as Sansthan's instructions. All such drawings and instructions shall be consistent with contract documents, true developments thereof and reasonably inferable there from.

2.5 Intent: The intention of the tender and contract documents are to include all labours and materials, equipment and transportation necessary for the proper execution of the work. All such drawings and instructions shall be consistent with the contract document, true development thereof and reasonably inferable there from. Material of work described in words which so applied have a well-known technical or trade meaning shall be held or refer to such recognized standard.

2.3 Percentage Rate Contract:

The Contract shall include all labour, materials, tools, plant and equipment, all taxes and transport which may be required in preparation and the full and entire execution and completion of the works rates for a particular item of description given in Bill of Quantities shall, unless otherwise stated, be held to include waste on materials, carriage and cartage, carrying in, hoisting, setting, fitting and fixing in position and all other labour and taxes necessary in and for the full and entire execution and completion aforesaid in accordance with reorganized principles and good practices.

The Contractor shall be deemed to have satisfied themselves as to the nature of the site, local facilities, of access and all matters affecting the execution and completion of the works. No extra charges consequent to lack of understanding or misunderstanding or otherwise shall be allowed.

2.4 **Sufficiency of Schedule of Quantities**:

The Contractor shall be deemed to have satisfied themselves before tendering as to the Contract and sufficiency of their tender for the works and of the prices stated in the Schedule of Quantities and/or the Schedule of Rates & Prices. The rates and prices agreed to by Contractor shall cover all their obligations under the Contract and all matters and things necessary for the proper completion of their works.

3 CONTRACTOR'S RESPONSIBILITIES:

3.1 Responsibility.

The Contractor shall, subject to the provisions of the Contract, and with due care and diligence, execute and maintain the work and provide all labour, including the supervision thereof, materials and all other things, whether of a temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract. The Contractor shall take full responsibility for the adequacy, stability and safety of all site operations and methods of work, provided that the Contractor shall not be responsible, except as may be provided in the Contract, for the design or specification of the works. Contractor should take prior approval from SSST and legal approvals from local authorities for carrying out any excavation work required to be done by blasting.

The Contractor shall promptly inform the SSST of any error, omission, fault and other defect in drawing or specification for the work which are discovered while reviewing the Contract or in the process of execution of the works.

3.2 Inspection of Site and Study of Tender documents:

The Contractor shall be deemed to have inspected and examined the Site and its surrounding and information available in connection therewith and to have satisfied themselves, so far as is practicable, submitting their tender, as to the form and nature thereof, the extent and nature of the works and accommodation they may require and, in general, shall be deemed to have obtained all necessary information subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect their tender.

The Contractor is further deemed to have taken particular notice of roads, approaches and way connecting the site and the SSST does not undertake to improve the same. The Contractor shall be deemed to have satisfied themselves before tendering, as to the correctness and sufficiency of their tender for the works and of the rates and prices stated in the Bill of Quantities and the Schedule of Rates and prices, if any. These Tender rates and prices shall, except insofar as it is otherwise provided in the Contract, cover all their obligations under the Contract and all matters and things necessary for the proper execution and maintenance of the works. No claim for payment of any additional amount in this regard shall be entertained.

3.3 Work to the satisfaction of Sansthan:

The Contractor shall execute and maintain the works in strict accordance with the Contract, to the entire satisfaction of the SSST and shall comply with and adhere strictly to the Sansthan's instructions and directions, or any matter whether specifically mentioned or not in the Contract.

3.4 Follow Approved Drawings / Specifications:

Within 15 days (Fifteen Days) from the award of contract, the contractor shall prepare necessary detailed engineering drawings based on the preliminary

drawings and two (2) copies of all drawings shall be submitted to the Project Management Consultants (PMC) for review and approval. The Project Management Consultants (PMC) review of all drawings will be limited to their conformity to the design concept and specifications.

Project Management Consultants (PMC) approval of the drawings will not relieve the contractor from any of the responsibilities and requirements as stated in the Contract Documents. No work shall be fabricated until the drawings and all other related submissions, documentation, certifications, samples and the mock up for that work have been reviewed and approved by the Consultant's/ Sansthan's. On approval of the drawings by Consultant's/ Sansthan's, the contractor shall submit six (6) copies of all drawings to Project Management Consultants (PMC) for release to execution /site. Inaddition to hard copy drawings, the contractor shall also supply a soft copy of the drawings on a USB Drive containing these drawings in a digital form done with Auto Cad(Latest Version).

3.5 **Drawing Dimensions.**

Drawings shall indicate the desired dimensional profile, and modules, function, design and performance standards and in general delineate the scope of the work. The contractor shall verify and co-ordinate these items with all applicable and or related trades, contracts drawings and specifications. The Specifications and Schedule of Rates shall be considered as part of this contract and any work or material shown on Schedule and not called for in the Specifications or vice a versa, shall be executed as if specially called for in both.

3.6 **Work Installation.**

The work shall be installed as indicated on the drawings, however any minor changes found essential to co-ordinate the installation of this work with the other trades shall be made without any additional cost to the Sansthan.

The data given herein and on the drawings is as exact as could be secured, but its complete accuracy is not guaranteed. The drawings are for guidance of the Contractor and exact locations, distance, and levels will be governed by the site conditions. The Contractor shall examine all architectural, structural, electrical, sanitary, fire-fighting & low voltage drawings before starting the work and report to the department of any discrepancy, which in his opinion appear on them and get them clarified. He shall not be entitled to any extras for omissions or defects in the drawings or when they conflict with other works.

3.7 **Drawing Profile.**

Drawings shall indicate the desired profiles, dimensions and details of metal finish and in general delineate the scope of the work. Profile adjustments in the interest of economy, fabrication, erection, ability to satisfy the performance requirements may be made only with written approval of the department, provided that the general design and intent of the drawings and specifications are maintained.

3.8 **Deviation by Contractor.**

It is an express condition of this Contract that Contractor will not deviate from approved drawings and specifications. SSST will be authorized to deduct necessary payment required to undo the work which is not as per drawings or specifications and also deduct the amount required to execute as per drawings and specifications, from the payments due to the Contractor.

3.9 **The contractor's responsibilities include but are not necessarily limited to the following items:**

3.9.1 **Contractor Installation Responsibilities.**

The contractor shall provide and install all supplementary parts necessary to complete all items generally implied in the drawings and in the specifications though not specifically shown or mentioned. The Work to be carried out under this contract comprises of proprietary design, Supply, Installation, Guarantees, testing and maintenance up to defects liability period of the system for the entire building as pert he specifications and parameters. The Contractor shall carry out and complete the said work under this contract in every respect in conformity with the current standards and codes as per Bureau of Indian Standards / other relevant standards, and with the directions of and to the satisfaction of the Consultants (PMC) and department.

3.9.2 **Supply & Installation.**

The Contractor shall furnish all labour and install all materials, appliances, equipment (except those items which will be supplied by the Sansthan's to the Contractor at Site) necessary for the completion, and testing of the whole System installation as specified herein and shown on the drawings. This also includes any material, appliances, equipment not specifically mentioned herein or noted on the drawings as being furnished or installed but which are necessary and customary to make complete installation with all necessary equipment / components / systems shown on the Schedule or described herein, properly connected and in working condition. The work shall include all incidental jobs connected with System installation such as excavation of trenches and back filling, cutting / drilling and grouting for fixing of fixtures, equipment, conducting work etc. which shall be carried out under the supervision of Sub-contractor of System as per the approval of the department. The Contractor's system therefore must perform satisfactorily as a whole.

3.9.3 **Fees, Permits and Tests:**

The Contractor shall obtain and pay for any and fees and permits required for the installation of the work. The SSST and Consultants (PMC) shall have the right to test the materials or work to be tested by an independent agency at the Contractor's expense in order to prove their soundness and adequacy.

3.9.4 **In-Plant and Job Site Inspection:**

a. The contractor shall afford the Sansthan, Consultants (PMC) or their authorized representative full access to plants, shops and assembly points to view and inspect the processes and methods employed in the fabrication, assembly and finishing of the system works for this project.

b. The SSST will have the right to reject any and all components and assemblies during assembly and erection if the workmanship and intent are not in strict conformity with the approved drawings, design calculations, documentation,

certifications and samples.

c. The contractor shall submit a schedule of material specification and procedure for inspection of quality of equipment / components / systems during the fabrication / manufacturing in the plant.

d. The Contractor shall submit fortnightly reports on the results of the inspection of the components, in a format approved by the department.

e. The Contractor shall submit a description of the procedure of delivery, hoisting, storage, handling, fixing, and temporary working stage, protection and cleaning.

f. The Contractor shall give due notice to the department, Project Management Consultants (PMC) in writing whenever any work is to be buried in the earth or made inaccessible later on, in order that the work may be inspected and correct dimensions taken before such burial takes place, in default where off, the same shall be the option of the department and/or Project Management PMC, to open up for measurement and inspection at the Contractor's expense and no allowance shall be made for such work.

g. The Contractor shall maintain a site order book at the site of works. When necessary, the department will utilize the book to issue instructions to the Contractor. The Contractor shall follow these instructions in the execution of his work.

h. Where manufacturers have furnished specific instruction relating to the materials used in this job, covering points not specifically mentioned in these documents; these instructions shall be followed in all cases.

3.9.5 **Inspection & Acceptance.**

a. The Sansthan's / Project Consultants (PMC) / Authorized agency shall inspect the system, training and services. An inspection protocol shall be provided by the contractor and shall include physical and functional checks. Inspection and approval of delivery of the entire system to site is required before authorization will be granted to proceed with the installation.

b. Inspection will comprise a visual assessment and verification of the quantity and conformity of components of the system supplied. This will be performed in the presence of the Sansthan's / Project Consultants (PMC) / Authorized agency and the supply organization or designated agent and will include.

c. Verification that all packages are received in good condition and quantities correspond with Delivery Challan.

d. Verification that type, part and serial numbers provided by supplier, correspond with numbers on supplied material.

e. The contractor shall submit a detailed plan indicating the types of acceptance tests to be carried out by themselves as well as the Sansthan's / Project Consultants (PMC) / Authorized agency.

f. Materials received at site and inspected after un-packing or while being installed found damaged or unsatisfactory shall be identified, properly tagged

as unfit for use and removed from site as soon as possible to avoid any inadvertent usage of the same.

3.9.6 **Program to be Submitted**

The Contractor shall, within 15 days after the date of the Letter of Acceptance, submit to the SSST / Consultant / Engineer - in - Charge for his consent a program me, in such form and detail as the SSST / Consultant / Engineer - in - Charge shall reasonably prescribe, for the execution of the Works. The Contractor shall, whenever required, by the SSST / Consultant / Engineer, also provide in writing for his information a general description of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works.

3.9.7 **Revised Program**

If at any time it should appear to the SSST / Consultant / Engineer - in - Charge that the actual progress of the Works does not conform to the program to which consent has been given under Sub-Clause, 3.9.6, the Contractor shall produce, at the request of the SSST / Consultant / Engineer - in - Charge, a revised program showing the modifications to such program necessary to ensure completion of the Works within the Time for Completion.

4 SAMPLES AND MANUALS

All materials and equipment shall conform to the relevant standards and shall be of the approved make and design. Unless otherwise called for only the best quality of materials and equipment shall be used. All materials proposed to be used for the project shall **be new and un-used materials only**. The Contractor shall be responsible for the safe custody of all materials and shall insure them against theft, damage by fire, earthquake etc. A list of items of materials and equipment, together with a sample of each shall be submitted to the Consultant / SSST within 5 weeks of the award of the contract. Any item which is proposed as a substitute shall be accompanied by all “Technical Data’ giving sizes, particulars of materials and the manufacturer’s name. At the time of the submission of proposed substitute, the Contractor shall state the credit, if any due to the SSST in the event the substitution is approved. All changes and substitutions shall be requested in writing and approvals obtained in writing from the Consultant / Sansthan. Where no specific make of materials is specified, any first-class product of a reputed manufacturer may be used, provided it conforms to the requirement of these specifications. The PMC, decision with the prior approval of the Sansthan’s in this matter is final.

5 WORK SCHEDULE:

5.1 On the receipt of the work order, the Contractor shall submit the detailed schedule for the completion of the works including all activities and stages of the work such as submittals, approvals, fabrication, supply at site, installation, testing and commissioning. The time schedule shall be got approved from the Sansthan.

5.2 The time schedule shall be prepared in consultation with the SSST to suit the overall project schedule and shall be updated from time to time to suit prevailing conditions and co-ordination with other Contractors employed on site.

5.3 Co-ordination with other agencies : The Contractor shall carry out his work in such a manner that the work of other agencies operating at site is not hampered due to any action of the contractor. Proper co-ordination with other agencies will be contractor's responsibility. Contractor shall ensure that the work of other contractors is not held up due to non-completion of his part of work. In case of dispute the decision of the department shall be final and binding on the contractor.

5.4 The time and progress chart to be prepared by Contractor shall consist of detailed work progress and a time schedule. The critical path network shall be drawn by the Contractor soon after acceptance of tender. The time scheduling of the activities including scheduling of procurement of materials, Tools and Plants etc, required for the work, shall be done by the contractor so as to finish the work within the stipulated time. On completion of the time schedule, a firm calendar date schedule in direct relation to the time stated in the Contract documents shall be prepared and submitted by the Contractor to SSST who shall approve it after due scrutiny. The schedule shall be submitted to SSST in four copies within two weeks from the date of issue of Acceptance Letter.

5.5 During the tenure of the works, the Contractor is expected to adhere to the time schedule and this adherence shall be the part of contractor's performance under the contract. During the execution of the work, the Contractor shall participate in the review and updating of the schedule and network analysis undertaken by the Sansthan. These reviews may be undertaken at the discretion of the SSST either as a periodical appraisal measure or when the quantum of work ordered on the Contractor is substantially changed through deviation, or amendments are ordered on the Contractor. Any revision of the time schedule as a result of the review shall be submitted by the Contractor to the SSST within a week for approval after due scrutiny.

5.6 The Contractor shall adhere to the revised time schedule thereafter. In case of Contractor disagreeing with revised schedule, the same shall be referred to the Client, whose decision shall be final, conclusive and binding. Sansthan's approval to the received schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time. Extension of time shall be considered, decided and granted only by the Client.

6. GENERAL CONDITIONS OF SUPPLY OF EQUIPMENT

6.1 The Contractor shall submit all technical data and catalogues of all relevant manufactured goods he wishes to supply in his offer. However, the supply and selection of materials and makes shall comply with the standards and approvals se therein only. The list of approved materials and makes are listed separately under this Techno-Commercial Part. Wherever a choice of makes is indicated, it will be deemed that the SSST / Project Consultants (PMC) shall have the right to select the equipment in the series of different choice of makes offered. If any deviations are

noted, they shall be listed separately, the Contractor at his own discretion may list out any such reasons on quality / specifications / technical data for deviating from the approved makes. These shall then be appropriately considered. However, all such deviations shall ONLY be made by the Contractor as alternate to the makes and materials specified. If these are not indicated then the Contractor's offer is likely to be rejected in Toto.

6.2 All tests to be performed prior to supply shall be indicated clearly by the Contractor. It is generally expected that all type and routine tests for all, equipment's required to be supplied under this tender shall complied to, however if the Contractor wishes to deviate for certain reasons all such reasons should be clearly brought out in the offer. Specifically, all tests shall be called for noted in this section.

7. **TAKING OVER:** Upon the successful completion of all the tests to be conducted at site on the plant / equipment furnished and erected by the contractor, the Project Consultants (PMC) shall issue a recommendation letter to the SSST confirming that the plant / equipment is ready to be taken over by the Sansthan's. Issuance of such recommendation letter for taking over shall not relieve the contractor of any of his obligations under the terms and conditions of contract.

8. COMPLETION DRAWINGS / ACCEPTANCE OF INSTALLATIONS

8.1 The Contractor shall submit the required guarantees for the works in approved formats as well as performance guarantees for those items of works for which such guarantees are required.

8.2 Before handing over the project, 6 copies of operation and maintenance manual for major equipment shall be furnished to the (SSST) along with 6 sets of "As Built" drawings of all the works done as executed by the contractor.

8.3 In addition to hard copy of as built drawings, the contractor shall also supply a soft copy on a USB Drive containing these drawings in a digital form (done with Auto Cad Latest version). Similarly, the operation and maintenance manual etc. shall also be supplied in a USB Storage (Pen Drive) with suitable indexing format for easy retrieval and reference.

9. PAYMENTS:

Advance against material on site: The SSST will not pay any advance against materials at site or on order.

9.1 Measurement method and measurement sheets:

Measurement of measurable work executed under the Contract shall be taken in accordance with the rules of measurements as laid down in PWD Handbook, Maharashtra pertaining to various items of work as applicable, unless otherwise indicated in the respective parts of BOQ.

The quantity of proprietary articles brought to site shall be recorded in registers and signed by the Contractor and the Consultants (PMC) / SSST as

a check to ensure that the required quantity has been brought to site for incorporation in the works.

All items having a financial value shall be entered in the registers so that a complete record is obtained of all work performed under the Contract. Work which falls to be measured in detail shall be measured physically, without reference to any local custom that may obtain, except where it may otherwise be directed in the tender documents. The measurements shall be taken jointly by Consultants (PMC) / SSST and by the Contractor.

Measurement shall be entered in the measurement registers as applicable and signed and dated by Consultants (PMC) / SSST and Contractor each day at the Site, on completion of measurement.

The Contractor shall depute their authorized representative for taking joint measurements with the Consultants (PMC) / Sansthan. All measurements shall be taken and recorded by the Contractor jointly with the representative of the Consultants (PMC) / Sansthan, failing which the measurements recorded by the Consultants (PMC) / SSST shall be taken as final and binding on all the parties concerned.

The Contractor shall be deemed to have satisfied themselves before tendering as to the Contract and sufficiency of this tender for the works and of the prices stated in the Schedule of Quantities and / or the Schedule of Rates and Prices, which rates and prices shall cover all their obligations under the Contract and all matters and things necessary for the proper completion of the works.

Any error in description or in quantity or omission from the Contract Bills shall not vitiate this Contract but shall be corrected and deemed to be a variation required to be approved by the Consultants (PMC) / Sansthan.

9.2 **R. A. bills and payment mechanism:**

The Contractor will have to submit printed hard copies of the running bills along with supporting measurements from certified measurement books to the Consultants (PMC) /Sansthan. The mode of payment **for Running Account Bill** (R. A. Bill) shall be as follows:

(i) The Contractor will raise one R. A. Bill payment per month minimum amounting of Rs. 10, 00,000/- (Rs. Ten Lakh Only) or more, for quantity and value of work done. The R.A. Bill will be accompanied by all measurement sheets, abstracts, vouchers etc., supporting it and shall be prepared in the manner prescribed by the Sansthan.

(ii) Payment of R. A. bills shall be made as follows:
- Deduct 5% of the amount in each RA Bill as a retention money and it will be refunded in equal 5 (Five) instalment in Defect Liability Period (DLP). i.e. 5 (Five) years.

- Up to 75% of the amount of the bill shall be paid within 10 (Ten) working days after submission of the R. A. bill after preliminary scrutiny by Consultants (PMC) / SSST.

- Balance amount shall be paid within 15 (Fifteen) working days certification and approval of the bill.

The working days shall mean all days excluding Sunday and Holidays declared under the Negotiable Instruments Act.

If there are any discrepancies or errors in the bills, Consultants (PMC) / SSST may approve part payment or delay the approval of the R. A. bill for payment depending on nature of errors.

10. **Final Bill:**

Before submission of final bill, a list will be prepared of all pending works/ rectifications to be carried out and the contractor will attend to these works without any claim. The contractor should submit final bill within 15 days after completion of the work and the same shall be paid within two months if it is in order and approved by the Consultant (PMC) / Sansthan. Final Bill to be accompanied by all measurement sheets, abstracts, vouchers, etc. supporting it and shall be prepared in the manner prescribed by the SSST.

Disputed items and claims, if any, shall be submitted along with the final bill and no further claims will be entertained thereafter.

The contractor shall be entitled to be paid the final sum after deducting the value of payments already made on account, subject to the certification and approval of the final bill by the Consultants (PMC) / SSST.

The Consultants (PMC) / SSST shall have a right to cause a technical examination of the works and the final bill of the contractor including all supporting vouchers, abstracts, etc. to be made at the time of payment of the final bill. If as a result this examination or otherwise any sum is found to have been overpaid or over certified, it shall be lawful for the SSST to recover the sum. Payment of final bill will be made when all requirements as specified in “Provisional Acceptance” are satisfied and all claims are settled.

11. **Security Deposit:**

The successful bidder shall have to pay 3% of the Contract amount as security deposit. The earnest money deposit paid by the Contractor along with the submission of the tender shall be converted into security deposit. The security deposit @ 3% of contract value inclusive of EMD shall be paid by the contractor within seven days from the date of receipt of Acceptance letter / Work Order, in the form of RTGS or DD drawn on any of the nationalized banks in the name of Chief Executive Officer, Shree Saibaba Sansthan Trust, Shirdi, payable at Shirdi. The Contractor shall complete the Contract documents within 7days from date of receipt of Acceptance Letter / Work Order by them, as acceptance of their tender, failing which their earnest money will be forfeited to Shree Saibaba Hospital Shirdi (SSST). Security Deposit will be refunded after completion of Defect Lability Period (DLP).

12. **Return of Retention Money:**

5% Retention which was deducted from RA Bill, will be returned during Maintenance Period after completion of defect liability period, i.e. 5 Year in equal five instalment after completion of all work. No interest on Security Deposit or any other deposit will be paid by the SSST to the Contractor.

13. **Defects Liability Period:**

13.1 "Defects Liability Period" will be 60 Months (05 – Five Years) and it will be calculated from the work completion.

If any defect, leakage or other fault in the Works appears at any time prior to the end of the Defects Liability Period, the Sansthan's Engineer / Consultant may instruct the Contractor, with copy to the Employer, to search under the directions of the Sansthan's Engineer / Consultant (PMC) for the cause thereof.

The first 3 (three) months, contractors representative will be available at site after that quarterly visit in defect liability period, for remaining DLP Period.

The contractor to maintain the system for period of 05 years form the completion handing over of system. This period shall be the Defect Liability Period (DLP). The spares and accessories and Labour /Service shall not be chargeable as this is under the DLP of installation.

13.2 All such correction, rectification, repair etc. to the works described above shall be carried out by the Contractor at their own expense.

13.3 During Defects Liability Period, either the SSST will be interfacing and communicating with the Contractor to set right the defects.

13.4 After completion of the work, the contractor should have given necessary training to SSST Staff for handling of firefighting system.

Service Levels -

The Following Response Times and fix times shall apply to the Maintenance activities. Fix Time is the total elapsed time from the point where the problem is reported to Service Contractor. The target Fix Times are based on the severity of the problem as mentioned below.

Severity	Definition of Severity	Response Time	Fix Time
Level 1	Critical	Within (3) hour	Response may either be work around solution or permanent fix within (8) hours
Level 2	Moderate	Within (8) hour	Response may either be work around solution or permanent fix within (12) hours
Level 3	Standard	Within (72) hours	Permanent fix should be delivered within 72 hours unless both parties mutually agree to defer the fix.

13.5 Penalty: - 1. A Penalty of Rs. 1000/- (Rupees One Thousand Only) Per day will be imposed if Brake down is delayed by more than stipulated time. Penalty well be deducted from the Security Deposit.

2. If there are any damages / inconveniences caused to the SSST due to the negligence or deficiency in the service. Penalty will be imposed &recovered from Security Deposit / Retention Money

3. If the Contractor fails to respond & arrange repair rectification within the given time, The work will be got down by other sources & the charges of work will be recovered from security deposit.

14. Recovery from Contractor:

(a) Whenever any claims for payment of a sum of money arises out of or under this Contract against the Contractor, the Contractor shall on demand make the payment of the same or agree for effecting adjustment from any amounts due to them by the Sansthan. If, however, the Contractor refuses or neglects to make the payment on demand, or does not agree for effecting adjustment from any amounts due to them, the SSST shall be entitled to withhold an amount not exceeding the amount of the claims, from any sum when due or which at any time thereafter may become due to the Contractor, under this or any other Contract with the SSST or from any other sum due to the Contractor from the Sansthan, (which may be available with the Sansthan) or from the contractor's security amount and retain the same by way of lien till such time payment is made by the Contractor or till the claim is settled or adjudicated upon, or till the Contractor, at their expense furnishes fixed deposit receipts duly endorsed as directed by the Sansthan.

(b) It is an agreed condition of this Contract that the sum of money so withheld or retained as and by way of lien under this condition by Sansthan, shall be kept withheld or retained as such by the Sansthan, till the claims arising out of or under this Contract are settled or adjudicated upon and that the Contractor shall have no claim for interest or damages whatsoever on any account in respect of such sum so withheld.

(c) For the purpose of this condition, where the Contractor is a Partnership firm, the SSST shall be entitled to withhold in whole or in part as may be necessary, to cover the amount claimed, any sum found payable to any partner of the firm, whether in their individual capacity or otherwise.

(d) Any amount due to the contractor under this contract may be withheld by way of lien against any amount claimed or which may at any time hereafter be claimed by the SSST from the Contractor on any account whatsoever, under this or any other Contract between them and retained, till the claims are settled or adjudicated upon.

(e) In case of default on the part of the contractor in carrying out any project work or rectification of deficiencies in project work, the SSST shall be entitled to employ and pay other persons to carry out the same work and all expenses consequent thereon or incidental thereto. The cost and expenditure incurred by the SSST for such work shall be recovered from the Contractor by the SSST or may be deducted by the SSST from any monies due or which may become due to the Contractor.

14.1 Penalty, Delay and Extension:

a) If the Contractor fails to complete the works by the date of completion with in stipulated time under relevant clause, the Contractor shall pay to SSST the sum named in the Conditions of Contract as "Liquidated Damages /Penalty for delay" for the period during which the said works shall so remain incomplete and the SSST may deduct such damages from any monies due to the Contractor, in the manner described hereunder.

b) If the Contractor fails to achieve desired schedule agreed at the start of contract the SSST will have the authority to retain the Liquidated Damages amount as described in hereunder, from their bills due for payment.

c) If the Contractor fails to complete any of the work as designated in schedule of items / quantities, within the time indicated against they shall pay liquidated damages per week, from the date of delay in the said milestone of the work, up to the date of completion of the said designated work, at the rate shown hereunder,

Delays requiring penalty beyond upper limit of liquidated damages as specified in the Conditions of Contract shall be sufficient cause for termination of Contract and forfeiture of security deposit. The decision will be at the sole discretion of Sansthan.

d) Liquidated Damages will not be applicable, if in the opinion of the SSST / Consultant (PMC) the works are delayed due to the following reasons beyond the control of Contractor:

- by force majeure or
- due to exceptionally inclement weather
- by reason of civil commotion
- lockout affecting any of the building trades or
- in case of the Contractor not receiving necessary instructions from the SSST in due time, for which they have specifically applied in writing or
- due to delay in supply of materials by the SSST (if applicable)
- by reason of serious loss or damage by fire.

e) In case of any of the above conditions arising, the Contractor shall give written notice to the SSST immediately, but not later than 15 days of the happening of the event. But the Contractor shall nevertheless constantly use their endeavours to prevent delay and shall do all that may be reasonably required to the satisfaction of the SSST to proceed with work in full or in part.

f) In any such case, the SSST may make fair and reasonable extension in the completion dates of individual items or groups of items of works for which separate periods of completion are mentioned in the Contract documents.

g) In case the Contractor fails to notify the SSST of happening of any such events causing delay within the period of 15 days stipulated in sub para above, they shall forfeit their right to claim extension of time for the delay caused due to such events.

h) In all conditions referred to in (e) above, SSST may, with the previous approval in writing of the SSST make a fair and reasonable extension of time for completion of the Contract works. Extension of time, as granted above by the Sansthan, shall be communicated to the Contractor by SSST in writing and shall be final and binding.

i) **Liquidated Damages**

The liquidated damages to be recovered will be Rs.1000 per delayed day or 0.5% on Balance work per week which is higher. The total amount of liquidated damages/ penalty to be recover under the provisions of this clause shall not been exceed on five percent (5%) of the total Contract amount.

15. EXTRA ITEMS:

Items not covered in the Contract and Bill of Quantities and found by Consultant (PMC) / SSST to be necessary to execute the works will be treated as extra items and, shall be paid, accordingly. Rate for such items shall be worked out as per DSR rate applicable. If the rate for such items is not included in the DSR rates, the rate of such items shall be worked out on the basis of current market rates of labour and materials plus 10%overheads and profit of Contractor. In case of the extra item the contractor shall supply Rate Analysis based on labour and material along-with all the supporting documents, in case he is called upon to do so.

The Contractor should get prior written approval of any such work involving additional Items or labour, before execution of such extra items. Contractor should specify such items before15 days of planned execution of such items to Consultant (PMC)/ SSST. No extension of time for completion of the works will be granted on account of the extra items.

16. Variations in Quantity:

16.1 Rates as agreed in Contract will be applicable for all quantities, except actual quantities exceeding 25% of Contract quantities.

If the quantities increase by more than 25 % of the quantity for the particular item in the tender, the rate of such increase above 25 % shall be worked out as per Current CSR /SSR rate applicable at the time of execution of such items. If the variation is for Non CSR /SSR items, then variation quantity shall be treated as extra items and, shall be paid, as per the prevailing conditions.

Contractor should specify such items before 15 days of planned execution of such items to Consultant /Sansthan. No extension of time for completion of the works will be granted on account of the extra items.

Consultant (PMC) / Engineer - in - Charge, shall make any variation of the form, quality or quantity of the works or any part there of that may, in their opinion, necessary and for that purpose, or if for any other reason it shall, in their opinion, be appropriate they shall have power to instruct the Contractor to make such variations and implement such variations with prior permission of SSST and the contractor shall do any of the following:-

a) Increase or decrease the quantity of any work included in the Contract.

b) Omit any such work. (But not if the omitted Work is to be carried out by the Employer or by another contractor).
c) Change the character or quality or kind of any such work.
d) Change the levels, lines, positions and dimensions of any part of the works.
e) Execute additional work of any kind necessary for the completion of the works.
f) Change any specified sequence or timing of construction of any part of the Works.

Such variation shall not in any way vitiate or invalidate the Contract, but the price, if any, of all such variations shall be taken into account in ascertaining the amount of the Contract sum. The Contractor shall not be entitled to any compensation on account of omission or decrease in work. In the event of decrease in work, the Contractor shall be eligible for payment only for the work executed.

16.2 Instructions of Variations:

The Contractor shall not make any such variation without an instruction of the Sansthan's / Consultant (PMC) / Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any Work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

16.3 Valuation of Variations:

All variations referred to in Clause and any additions to the Contract Price which are required to be determined in accordance with Clause (for the purposes of this Clause referred to as "varied work"), shall be valued as detailed below:

i. If rate for varied item of Work is specified in the Bill of Quantities, the Contractor shall carry out the varied item at the same rate.

ii. If the rate for any varied item of Work is not specified in the schedule of work/items quantities, the rate for the such item shall be derived from the rate for the nearest similar item specified therein. In case of Bills of Quantities forming part of the contract, the rate shall be derived from the nearest similar item in the Bill of Quantities of Works in which the variation is involved, failing that from the lowest of the nearest similar items in other Bills of Quantities of the same Contract.

iii. If the rates of any varied item of Work are not included in the Bill of Quantities, such item of Work shall be carried out as per the latest Schedule of rates of particular department, based on which the estimate is framed, prevailing at the time of execution of such quantities of the item including markup quoted by the Contractor.

iv. If the rate for any varied item of Work cannot be determined in the manner specified in (i) to (iii) above, then the Contractor will be paid at such fair and reasonable rates as worked out by the Sansthan's / Consultant (PMC)/ Engineer - in - Charge on the basis of material and labour required to execute the item and allowing 10 percent (Ten Percent) towards overhead charges and Contractor's profit.

17. Reduced Rate or Part rate:

Payment at reduced rates: If the Contractor fails to carry out the work strictly in accordance with the drawing and specifications and, if in the opinion of the Consultant / Sansthan, the work is structurally sound, they may accept the work, but the Contractor will be paid at reduced rates which will be decided by the Sansthan.

Payment at part rates: If the Contractor fails to complete any item fully according to drawings and specification, but agrees to complete the same to satisfaction of the

SSST at a later stage decided by SSST and the Contractor demands payment for such item, then if the SSST thinks fit, the SSST can approve payments to the Contractor at part of the rates as contained in the tender.

18. Withholding of Payments:

18.1. On account of Delay:

SSST will have authority to withhold the amount equal to Liquidated Damages (LD) on lapses of Contractor to ensure pace of work or failing to achieve planned Milestones.

The amount equal to penalty against intermediate Milestones will be withheld for liquidated damages, as specified in “Schedule, Milestones, Penalty, Delay and Extension” of this contract and released if total completion of the Contract is as per agreed schedule dates for completion of the works.

b) On account of Quality:

Contractor is supposed to maintain required quality and workmanship of all works under this Contract as per IS standard and generally accepted engineering principles.

SSST will have authority to withhold the amount from R. A. bills on account of defective work or work that requires repair or rectification. Withheld amounts will be released only after completion of rectification of such items by contractor up to satisfaction of Sansthan.

19. Insurances: To be as per standard Govt Policies.

19.1 Labour:

The contractor must follow the relevant wages act for the area and workmen’s compensation Act, Insurance of labour, Third Party Insurance or any other rules issued from time to time by all the relevant authorities connected with such work. Insurance policies will be in the joint names of the SSST and the Contractor till the works are over. The Contractor shall employ no child labour less than 14 years of age on the work. If female labour is engaged, the Contractor shall make necessary provision for safeguarding small children & keeping them clear of the site of operations. No labours shall reside within the compound except authorised guards.

19.2 Compliances with statutes and regulations:

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The Contractor shall give all notices and pay all fees required to be given or paid by any National, or State or local Statute, ordinance, or other Law, or any regulation, or by law or any local or other duly constituted authority in relation to the execution of the works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the works.

The Contractor shall conform in all respects with the provisions of any such statute, ordinance or law as aforesaid and the regulations or bye laws of any local or other duly constituted authority which may be applicable to the works and with such rules and regulation of public bodies and companies as aforesaid and shall keep the SSST indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law.

19.3 Warnings and barricades:

The contractor shall provide and maintain barricade, guards, guardrails, temporary bridges and walkways, watchman, headlights and danger signals illuminated from sunset to sunrise, and all other necessary appliances and safeguards to protect the work life, property, the public excavations, equipment and materials, barricades shall be of substantial construction and shall be painted such as to increase their visibility at night, for any accident arising out of the neglect of above instructions the contractor shall be bound to bear the expenses of defence of every suit, action or other legal proceedings, at law, that may be brought by any person for injury sustained owning to neglect of the above precautions and to pay all damages and costs which may be awarded in any such suit action or proceedings to any such person or which may the consent of the contractor be paid in compromising any claim by any such person.

19.4 Safety Measures:

The contractor shall take all necessary precautions for the safety of the workers and preserving their health while working on such jobs, special protection and precautions whenever required. Following are some of the requirements listed through not exhaustive.

The contractor shall also comply with other directions issued by the Consultant / SSST in this behalf from time to time and at all times.

a) Providing protective footwear in situations like mixing and placing of mortar or concrete, in quarries and places where the work is to be done under too much wet conditions as also for movements over surfaces infested with oyster growth.

b) Providing protective headgear to workers working in quarries, etc. to protect them against accidental fall of materials from above.

c) Taking such normal precautions like providing hand-rails to the edges of floating platform or barrages, not allowing rails of metal parts or timber to spread around etc.

d) Providing adequate artificial arrangements to supply fresh/unpolluted air to the workers working in the stretch of long conduits with other arrangements such as lighting, dust proof mask, slippery preventing devices, etc.

19.5 Amenities:

1. Supply workman with proper belts, ropes etc. when working on any masts, cranes circle hoist, dragger etc.

2. Taking necessary steps towards training the workers concerned of the use of machinery before they are allowed to handle it independently and taking all necessary precautions in and around the areas where machines, hoists and similar units are working.

3. Providing adequate number of boats, if at all required, plying in water to prevent overloading and overcrowding.

4. Providing life belts to all men working at such situation from where they may accidentally fall into water, equipping the boats with adequate numbers of life belts, etc.

5. Avoiding bare live wires, etc. as would electrocute workers.

6. Making all platforms, staging and temporary structures sufficiently strong and not causing the workman and supervisory staff to take under risks.

7. Provide sufficient first-aid trained staff and equipment to be available quickly at the work site to render immediate first-aid treatment in case of accidents due to suffocation, drowning and other injuries.

8. Provide full length gum boots, leather hand-gloves, leather jackets with fire proof aprons to cover the chest back reaching up to knees and plain goggles for eyes to the labour working with hot asphalt, handling vibrators in cement concrete and in the interest of health and well- being of the labours in the opinion of the Sansthan.

19.6 Insurance of Works and Contractor's Equipment

The Contractor shall, without limiting his or the Employer's obligations and responsibilities under relevant Clause, insure:

19.6.1

(a) The Works, together with materials and Plant for incorporation therein to the full replacement cost (the term "cost" in this context shall include profit),

(b) An additional sum of 15 per cent of such replacement cost, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature, and

(c) The Contractor's Equipment and other things brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

19.6.2 Scope of Cover:

The insurance in paragraphs (a) and (b) of Sub-Clause 21.1 shall be in the joint names of the Contractor and the Employer and shall cover:

(a) The Employer and the Contractor against all loss and damage from whatsoever cause arising, other than as provided in Sub-Clause 19.6-4, from the date of start of Work at the Site until the date of issue of the relevant Taking-Over Certificate in respect of the Works or any Section or part thereof as the case may be, and

(b) The Contractor for his liability:

(c) During the Defects Liability Period for loss or damage arising from a cause occurring prior to the commencement of the Defects Liability Period,

and

(d) For loss or damage occasioned by the Contractor in the course of any operation carried out by him for the purpose of complying with his obligations under Clauses. It shall be the responsibility of the Contractor to notify the insurance company of any change in the nature and extent of the Works and to ensure the adequacy of the insurance coverage at all times during the period of the Contract.

19.6.3 Responsibility for Amounts not Recovered

Any amounts not insured or not recovered from the insurers shall be borne by the Employer or the Contractor in accordance with their responsibilities under relevant Clause. .

19.6.4 Exclusions

There shall be no obligation for the insurances in Sub-Clause 19.6-1 to include loss or damage caused by:

(a) War, hostilities (whether war be declared or not), invasion, act of foreign enemies,

(b) Rebellion, revolution, insurrection, or military or usurped power, or civil war,

(c) Ionizing radiations or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof,

(d) Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

20 Damage to Persons and Property

20.1 The Contractor shall, except if and so far, as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:

(a) Death of or injury to any person, or

(b) Loss of or damage to any property (other than the Works),
which, may arise out of or in consequences of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 21.2.

20.1 Exceptions

The “exceptions” referred to in Sub-Clause 21.1 are:

(a) The permanent use or occupation of land by the Works, or any part thereof

(b) The right of the Employer to execute the Works, or any part thereof, on, over, under, in or through any land,

(c) Damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract,

(d) Death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents, servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto, or where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the

extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

20.2 Indemnity by Employer

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause.

The contractor shall require executing an Indemnity Bond for satisfactory performance of the entire project on Stamp paper of appropriate value in the format approved by the Sansthan. This Indemnity Bond shall remain in force for a period of one (1) year after certified date of completion of the project.

21. THIRD PARTY INSURANCE (INCLUDING EMPLOYER'S PROPERTY)

21.1 The Contractor shall, without limiting his or the Employer's obligations and responsibilities under Clause 22, insure, in the joint names of the Contractor and the Employer, against liabilities for death of or injury to any person (other than as provided in Clause) or loss of or damage to any property (other than the Works) arising out of the performance of the Contract, other than the exceptions defined in paragraphs (a), (b) and (c) of Sub-Clause 21.2.

21.2 **Third Party Insurance (including Employer's Property)**

Such insurance shall be for at least the amount equivalent to 1.2 times of the Contract Price.

21.3 **Cross Liabilities**

The insurance policy shall include a cross-liability clause such that the insurance shall apply to the Contractor and to the Employer as separately insured.

21.4 **Insurance Policy**

All insurance to be affected by the Contractor and/or his sub- contractors (if any) shall be taken out only with the, MAHARASHTRA State.

22. ACCIDENT OR INJURY TO WORKMEN.

22.1 The Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any actor default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

22.2 **Insurance Against Accident to Workmen**

The Contractor shall insure against such liability and shall continue such insurance during the whole of the time that any persons are employed by him on the Works. Provided that, in respect of any persons employed by any Subcontractor, the Contractor's obligations to insure as aforesaid under this Sub-Clause shall be satisfied if the Subcontractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the

Contractor shall require such Subcontractor to produce to the Employer, when required, such policy of insurance and the receipt for the payment of the current premium.

It is mandatory for the Contractor that all workmen appointed to complete the Contract work, are insured under Workmen's Compensation Insurance Policy.

23. EVIDENCE AND TERMS OF INSURANCES

23.1 The Contractor shall provide evidence to the Employer as soon as practicable after respective insurances has been taken out but, in any case, prior to the start of Work at the Site that the insurances required under the Contract have been affected and shall, within 84 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall affect all insurances for which he is responsible with insurers and in terms approved by the Employer. The Contractor shall pay full premium prior to start of the Work and take out insurance policies for the entire period of Contract including defects liability period and also pay necessary premium for extended period of Contract if any. The Contractor shall prove to the Engineer from time to time that he has taken out all the insurance policies and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period.

23.2 Adequacy of Insurances

The Contractor shall notify the insurers of changes in the nature, extent or program for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipt for payment of the current premiums.

23.3 Remedy on Contractor's Failure to Insure

If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 25.1, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as maybe necessary for that purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor.

23.4 Compliance with Policy Conditions

In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure.

24. COMPLIANCE WITH STATUTES, REGULATIONS

The Contractor shall conform in all respects, including by the giving of all notices and the paying of all fees, with the provisions of:

(a) Any National or State Statute, Ordinance, or other Law, or any regulation, or bye-law of any local or other duly constituted authority in relating to the execution and completion of the Works and the remedying of any defects there in, and

(b) The rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works, and the Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such provisions. Provided always that the Employer shall be responsible for obtaining any planning, zoning or other similar permission required for the Works to proceed and shall indemnify the Contractor in accordance with Sub-Clause 21.3.

25. RESPONSIBILITIES OF SANSTHAN.

25.1 The Responsibilities of SSST under this Contract are as follows:

a. It is an express condition of the Contract that the Contractor will be responsible for all works as specified.

b. SSST shall make payment of all bills of Contractor for completed works, approved as specified in Contract.

c. SSST commits to give written instructions, responses, replies, approvals, etc. To the Contractor in an efficient manner as soon as practically possible, to prevent any delays or waiting of the work.

d. SSST assures that they will liaise closely with Contractor and discuss and give their suggestions and decisions to the Contractor where necessary, to ensure the smooth progress of the works.

e. SSST shall not be liable for damages for breach of contract or otherwise to the Contractor and the Contractor shall not be entitled to any claims, compensation, and damages for breach of contract by the Sansthan.

f. SSST shall not be liable for any damages of any kind including, incidental, special or consequential damages of any nature. Contractor will indemnify the Client against all claims of damages of any kind, including incidental, special or consequential damages. The maximum liability of SSST under this Contract is only to make payments for bills of Contractor for completed work.

a. **Water:**

Contractor will have to make his own necessary arrangement for work, Water at his own cost. SSST will provide water at one point only when available with them.

Water for work will be provided by client not necessarily at the site, if available with client. The Contractor will have to make their own arrangements in the event of non-supply of water from SSST at their own cost.

The Contractor will have to make their own arrangements for storage and distribution of water required for the use of Works, including water required for testing purpose and also for drinking purpose, or their employees on the works, together with all pipes and fittings, or other means that may be necessary or required to ensure proper and ample supply of water for all purposes for the works.

b. **Power:**

Electricity required for the works shall be made available at one point by client. Electricity required of execution of will be provided by client not necessarily at the site, however no claim or extension of time for delay on account of non-availability of electricity shall be entertained by the Sansthan.

The Contractor should pay all such electricity consumption bills directly to the electricity supplying agency or Sansthan.

The Contractor will have to make their own arrangements in the event of non-supply of electricity from SSST at their own cost.

26. IMPLEMENTATION:

26.1 Commencement of Works and Possession of Site:

The Contractor shall commence the works on site within the period named in the Special Conditions of Contract after the receipt by them of a written order to this effect from SSST and shall proceed with the same with due expedition and without delay.

26.2 Defective Work and Repair:

SSST shall during the progress of the works have power to order in writing from time to time:

- The removal from the Site, within such time or times as may be specified in the order, of any materials and Work which, in the opinion of the Sansthan, are not in accordance with the Contract and are not suitable

- The substitution of proper and suitable materials and

- The removal and proper re-execution, not withstanding any previous test thereof or interim payment thereof, of any work which in respect of materials or workmanship is not, in the opinion of the Sansthan, in accordance with the Contract.

In case of default on the part of the Contractor in carrying out such order, the SSST shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be recoverable from the Contractor by the SSST or may be deducted by the SSST from any monies due or which may become due to the Contractor.

27. ROLE OF SANSTHAN:

SSST will issue instructions / decisions on following matters:

- Issue of drawings, specifications and documents.
- Approval on detailed / drawings.
- Revisions in specifications / drawings / designs.
- Decisions pertaining to discrepancies in drawings / specifications.
- Approval of samples.
- Decisions on finishing / aesthetic items.
- Sansthan’s representative will be present at site for the works to expedite above tasks.

28. INSPECTION OF PROJECT WORKS:

28.1 Inspection of Project Works by Sansthan’s, Consultant (PMC), / Engineer:

The Contractor shall maintain a triplicate site instruction book on the site of work. The Consultants (PMC) / engineer of SSST shall issue instructions and observations in the same, which shall be signed by representatives of the Contractor as a token of receipt of instructions. One copy shall be taken by Consultant / Sansthan. One copy shall be available on the site and one copy shall be sent by the Contractor's representative to the contractor's office. SSST shall have power at any time to inspect and examine any part of the works and the Contractor shall give such facilities as may be required to be given for such inspection and examination.

28.2 **Inspection of Project Works by Contractor:**

The Contractor shall either supervise the execution of the works or shall appointment a competent agent approved by the Sansthan, to act on their behalf. If in the opinion of the Sansthan, the Contractor has no sufficient knowledge and experience of receiving instructions or cannot give full attention to the works, the Contractor shall at their own expense, employ as their accredited agent, a qualified engineer approved by the Sansthan.

Orders given to contractor's agent of any sub – contractor shall be considered to have the force as if these had been given to the Contractor themselves.

If the Contractor fails to appoint a suitable agent as directed by Sansthan, SSST shall have full power to suspend the execution of the work until such date a suitable agent is appointed and the Contractor shall be responsible for the delay so caused to the works and Contractor shall not be entitled for any compensation on this behalf.

28.3 **Access to site:**

SSST and their representatives shall at all reasonable times have access to the works or other places of the Contractor where work is being prepared for the Contract and when work is to be so prepared in workshops or other places of a Sub Contractor, the Contractor shall have a term in the Sub-Contract so as to secure a similar right of access to those workshops or places for the SSST and their representatives and shall do all things reasonably necessary to make such right effective.

28.4 **Testing of Materials and tolerances:**

Testing charges for materials and manufactured products, when tested by Consultant/ SSST in the Outside laboratory shall be recovered from the Contractor. Charges for testing of materials (if tested elsewhere) by the Contractor shall be borne by the Contractor. The tests results shall be recorded and signed jointly by the Contractor and Sansthan.

28.5 **Cost of Samples:**

The Contractors shall at their cost provide samples for the approval of Consultant / SSST and shall provide alternative samples until an approval has been obtained.

28.6 **Contactor's Supervision and staff:**

Contractor will be required to provide qualified and experienced staff at site. SSST will like to exercise control over them by specifying the experience and qualification level and nos. depending upon volume of work and period of completion. The Contractor should appoint minimum number of technical staff as agreed during negotiations of Contract required as updated by SSST during pendency of the Contract. Contractor shall either supervise the execution of the works or shall

appointment a competent agent approved by the Sansthan, to act on their behalf. If in the opinion of the SSST the Contractor has no sufficient knowledge and experience of receiving instructions or cannot give full attention to the works, the Contractor shall at their own expense, employ as their accredited agent a qualified Engineer approved by the Sansthan. The minimum number of staff and engineers to be employed by the Contractor for the works will be as per Special Conditions of Contract.

Orders given to the contractor's engineers shall be considered to have the same force as if they had been given to the Contractor themselves.

The Contractor or their engineers shall be in attendance at the site during all working hours and shall superintend the execution of the works with such additional assistance in each trade, as the SSST may consider necessary.

The Contractor or their accredited engineer shall attend, when required and without making any charge for doing so, either at the office of the SSST or on the works to receive instructions.

The SSST shall have full powers, and without giving any reason, to require the Contractor immediately to cease to employ in connection with this Contract any labour, treads man, servant or employee whose continued employment is in their opinion undesirable. The Contractor shall not be allowed any compensation on this account.

28.7 **Transport and Plant and Equipment:**

The Contractor shall at their own cost and expense, supply all tools, plants and equipment (hereinafter referred to as T and P) required for the execution of work. The Contractor shall at their own expense supply all transport required for the execution of the Contract.

29. MOBILIZATION BY CONTRACTOR:

29.1 Equipment, tools etc.:

Contractor shall mobilize and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted method of working and safety. No additional payment shall be made to the Contractor for any multiple shift work or other intensive methods contemplated by them in his schedule, even though the time schedule is approved by Sansthan.

29.2 Labour:

The Contractor will be expected to employ on the work only his regular skilled employees with experience of this particular work. No female labour shall be employed after darkness. No person below the age of eighteen year shall be employed.

The Contractor shall employ labour in sufficient number to maintain the required rate of progress and of quality to ensure workmanship of the degree required by the Specifications and to the satisfaction of the Sansthan.

The Contractor shall remain liable for the payment of all wages or other monies to their work-people or employees under the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Sansthan's liability Act, 1938, Workmen's compensation Act,1923, or any other Act or enactments relating thereto and rules framed there under from

time to time. The Contractor shall work only on and during the working hours of a working day unless they obtain a prior written approval of the SSST to do otherwise. If such approval is given no liability in respect of any excess cost arising there from shall be incurred by Sansthan.

In case the Owner becomes liable to pay any wages or dues to Labour or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Workmen Compensation Act, Contract Labour Regulation Abolition Act or any other law due to act of omission of the contractor, the Owner may make such payment and shall recover the same from the Contractor's bill.

The contractor's employees shall wear identification badges (ID Card), which is issued by the Sansthan's only, while on work at site,

29.3 Scaffolding, Staging, Guardrails:

The Contractor shall provide scaffolding, staging, guardrails, and temporary stairs, which shall be required during work. The support for the scaffolding, staging, guardrails and temporary stairs shall be strong, adequate for the particular situation. The temporary access to the various parts of the building under the said work shall be rigid and strong enough to avoid any chance of mishaps. The arrangement proposed shall be subject to the approval of the Sansthan.

29.4 Setting Out:

The SSST shall determine any lines levels which may be required for the execution of the work and shall furnish to the Contractor by way of accurately dimensioned drawings such information as shall enable the Contractor to set out the Project Work at ground level. The Contractor shall set out and level the work and shall be responsible for the accuracy of it. They shall provide all the instruments and attendance required by the Sansthan. They shall entirely at their own cost amend to the satisfaction of the SSST any error found at any stage, which may arise through inaccurate setting.

29.5 Surveys and Measurements:

The contractor shall carefully preserve all surveys as also setting out stakes, reference points, bench marks and monuments. Should any stakes, points or benches be removed or destroyed by any act of the contractor of his employees, they may be reset at the contractor's expense. Any expense incurred in replacing permanent monuments which the contractor may have failed to preserve shall be borne by the contractor unless the removal of the monuments is required by the contract documents. The contractor shall supply without charge the requisite number of persons with the means and materials necessary for the purpose of working survey, setting out works, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials.

29.6 Medical and Sanitary Arrangements:

1. The contractor shall provide an adequate supply of pure and whole some water for the use of labour on works and in camps.

2. The contractor shall construct trenches semi-permanent latrines for the use of labourer's latrine shall be provided for men and women.

3. The contractor shall build sufficient number of huts on a suitable plot of land for use of the labour according to the following specifications.

4. Huts of Bamboos and Grass not constructed in Sansthan's place, Contractor have made his separate arrangement for labour camp (residence) at his own cost

6. The contractor must find his own land and if he wants SSST land he should apply for it. However, the SSST does not bind itself for making available the required land.

7. The contractor shall construct a sufficient number of batching places, washing places should also be provided for the purpose of washing clothes.

8. The contractor shall make sufficient arrangement for draining away the surface as well as sludge water.

9. The contractor shall make arrangement for all anti-malaria measures to be provided for the labour employed on the work. The anti-malaria measures shall be as directed by Assistant Director of Public Health.

30. CONTRACTS:

30.1 Sub Contract and Assignment:

Assignments and Sub-letting:

The whole of the works included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or underlet the Contract or any part/share thereof or interests therein without the written consent, of the Sansthan.

No undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active supervision of the works during their progress.

Sub-Contractor:

As soon as practicable and before awarding any sub-Contract, the Contractor shall notify the SSST in writing the names of the Sub-Contractors proposed for the principal parts of the work and for such other parts as the SSST may direct, and shall not employ any of those who the SSST may have a reasonable objection. The value of such single sub contract work with material should not exceed 25% of the Contract Sum and total values of such sub contracts with material should not exceed 50% of contract sum. The Sansthan, however, shall have power to obtain estimate and select other agencies to carry out any of the work.

30.2 Law Governing Contract:

This Contract shall be governed by the Indian Laws for the time being in force. The bidder whose tender is accepted will have to give an undertaking in writing to the effect that they / they will pay the labourers engaged on the work the wages as per the Minimum Wages Act 1948 applied to the zone in which the work is being executed and act accordingly.

The Contractor shall comply with the provisions of the payment of Wages Act 1936, The Workmen's Minimum Wages Act 1948, The Employees Liability Act 1938, Compensation act 1923, The Maternity Benefit Act 1961, The

Industrial Dispute Act 1947, The Contract Labour(Regulation and Abolition) Act 1979, VAT, Service Tax and Work Contract Act, and any modification thereof or any law relating thereto and rules made there under from time to time.

The Contractor shall strictly comply with the provisions of safety code as well as instructions of the SSST issued from time to time.

30.3 Change in Law:

All rates / prices quoted is inclusive of all applicable taxes / duties and levies applicable on the date of Issue of acceptance letter / Contractor is supposed to provide full breakup of such taxes and duties and levies as applicable on issue of acceptance letter / Any statutory variation on account of change in applicable taxes / duties levies within the contract period shall be reimbursed by Client or refunded by Contractor, as the case maybe, as approved by Client and such changes and effective dates shall be agreed and approved prior in writing.

30.4 Workmen Compensation Act - Fair Wages, Payment to labour:

The Contractor must follow the relevant Wages Act for the area and the Workmen's Compensation Act, Insurance of labour, Third Party Insurance or any other rules issued from time to time by all the relevant authorities connected with such work. Insurance policies will be in the joint names of the SSST and the Contractor till the works are over.

30.5 Contractor's Liability under EPF Scheme:

The successful bidder will be required to produce to the satisfaction of the specified concerned authority a valid and current license issued in his favour under provision of Contractor Labour Act 1970 (Regulation & Abolition) before starting the work. On failure to do so, the acceptance of the tender is liable to be withdrawn & also earnest money forfeited.

The contractor is bound by the Contractor Labour Act 1970 (Regulation & Abolition) & rules framed there under. The contractor shall furnish copy of contract labour license & provident fund code no. the contractor shall deposit the amount of employer's contribution of EPF & furnish the copies of challan to Sansthan.

30.6 Treasure Discovered:

In the event of discovery of any treasure, fossils, minerals or any other articles of value or interest, by the contractor or his employees during the progress of the works the contractor shall give immediate intimation thereof to the Client and forthwith hand over to the Client such treasure or things which shall be the property of SSST as the case may be.

30.7 Fossils etc.:

All fossils, coins, articles of value or antiquity and structures or other remains or things of geological or archaeological interest discovered on the site shall be deemed to be the property of the Client and the contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal acquaint the Client of such discovery and carry out at the expense of the clients' order as to the disposal of the same.

30.8 House Keeping:

During the progress of the works the Contractor shall keep the site reasonably free from unnecessary materials / waste, rubbish etc. and keep the site and site enabling works, reasonably clean. Contractor should remove from the site any wreckage, rubbish or temporary works no longer required.

30.9 Disposal of Surplus Earth:

The Contractor shall, at their own expense, arrange proper disposal of soil and other conservancy work in respect of the work, Contractor's workmen or employees at the site. The Contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such work on their behalf. Contractor will ensure that disposal of surplus earth will not cause any environmental damage. The site selected for disposal shall be pre-approved by Client. However, total responsibility of disposal and issues arising out of disposal at site selected by Contractor will be at their risk and cost.

30.10 Royalties:

The Contractor shall indemnify the Client against all claims in respect of patent rights, and shall defend all actions arising from such claims, and shall themselves pay all royalties, license fees, damages, cost and charges of all and every sort that may be legally incurred in respect hereof.

It is the responsibility of the contractor to pay the royalty chares to the concerned govt. department as per the rules and regulations.

30.11 Termination of Contract in Part or in Full for Contractor's Default:

If the Contractor -

(a) Makes default in commencing the work within a reasonable time from the date of the handing over the site, and continues in that state after a reasonable notice from Sansthan; or

(b) In the opinion of the SSST at any time, whether before or after the date or extended date for completion, makes default in proceeding with the works, with due diligence and continues in that state after a reasonable notice from Sansthan; or

(c) Fails to comply with any of the terms and conditions of the Contract or after reasonable notice in writing with orders properly issued there under; or

(d) Fails to complete the works, Work order and items of work, with individual dates for completion and clear the Site on or before the date of completion.

The SSST may, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to the Sansthan, cancel the Contract as a whole or only such Work Order or items of work in default from the Contract. Whenever the SSST exercises their authority to cancel the Contract as a whole or in part under this condition they may complete the work by any means at contractor's risk and cost, provided always that in the event of cost of completion or after alternative arrangements have been finalized by the SSST to get the works completed, estimated cost of completion (as certified by SSST being less than the Contract cost the advantage shall accrue to the Sansthan. If the cost of completion or after alternative arrangements have been finalized by the SSST to get the works completed, estimated cost of completion (as certified by Sansthan) exceeds the moneys due to the Contractor under this Contract, the Contractor shall either pay the excess amount ordered by SSST or the same shall be recovered from the Contractor by other means. The SSST shall also be at liberty to hold and retain in their hand's materials, tackle, machinery and stores of all kinds on Site, as they may think proper and may at any time sell any of the said materials, tackle, machinery and stores and apply the proceeds of the sale towards the satisfaction of any loss which may arise from the cancellation of the Contract as aforesaid.

The SSST shall also be at liberty to use the materials, tackle, machinery and other stores on Site of the Contractor as they think proper in completing the work and the Contractor shall be allowed the necessary credit. The value of the materials and stores and the amount of credit to be allowed for tackle and machinery belonging to the Contractor and used by the SSST in completing the work shall be assessed by the SSST and the amount so assessed shall be final and binding.

In case the SSST completes or decides to complete the works or any part thereof under the provision of the Condition, the cost of such completion to be taken into account in determining the excess cost to be charged to the Contractor under this Condition shall consist of the cost or estimated cost (as certified by Sansthan) of materials purchased or required to be purchased and / or the labour provided or required to be provided by the SSST as also the cost of contractor's materials used with an addition of such percentage to cover the supervision and establishment charges as may be decided by the Sansthan, whose decision shall be final and binding. Delays for requiring penalty beyond upper limit of liquidated damages as specified in the Special Conditions of Contract shall be sufficient causes for termination of Contract and forfeiture of security deposit. The decision for claiming liquidated damages or termination of the Contract will be at the sole discretion of the Sansthan.

30.12 Suspension:

(a) The Contractor shall, on receipt of the order in writing of the Sansthan, suspend the progress of the works or any part thereof for such time and in such manner as the SSST may consider necessary for any of the following reasons:

(i) On account of any default on the part of the Contractor; or

(ii) For proper execution of the works or part thereof for reasons other than the default of the Contractor; or

(iii) For safety of the Works or part thereof.

(iv) The Contractor shall, during such suspension, properly protect and secure the work to the extent necessary and carry out the instructions given in this regard by the Sansthan.

(b) If the suspension is ordered for reasons (ii) and (iii) in Sub para (a) above:

(i) The Contractor shall be entitled to an extension of time equal to the period of every such suspension plus 25% for completion of the item or group of items of work for which a separate period of completion is specified in the Contract and of which the suspended work forms a part, and

(ii) If the total period of all suspensions in respect of an item or group of items of work for which a separate period of completion is specified in the Contract exceeds 120 days, The Contractor will be entitled to seek a termination of the suspended work as abandonment of the works. In such cases, the Contractor shall be entitled to receive payment only or the completed work including the contractor's percentage of profits based on the evaluation of the terminated work by the Sansthan.

30.13 Termination of Contract for Insolvency, Sub-letting etc.:

The SSST may, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to the Sansthan, cancel the Contract in any of the following cases:

If the Contractor:

(a) Being an individual or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of their estate made against them or shall take any proceedings for liquidation or composition under any In Act for the time being in force or make any conveyance or assignment of their effects or composition or arrangement for the benefit of their creditors or purport so to do or if any application be made under any Insolvency Act for the time being in force for the sequestration of their estate or if a Hospital deed be granted by them on behalf of their creditors; or being a company shall pass a resolution or the Court shall make an order for the liquidation of its affairs or a receiver or manager on behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or manager; or

(b) Assigns, transfers, sub-lets or attempts to assign, transfer or sub-let, any portion of the works without the prior written approval of the Sansthan. Whenever the SSST exercises their authority to cancel the Contract under this condition, they may complete the works by any means at the Contractors risk and expense provided always that in the event of cost of completion for alternative arrangements have been finalized by the SSST to get the works completed, estimated cost of completion as certified by the Sansthan, being less than the Contract cost, the advantage shall

accrue to the Sansthan. If the cost of completion for alternative arrangements has been finalized by the SSST to get the works completed, estimated cost of completion as certified by Sansthan, exceeds the monies due to the Contractor under this Contract, the Contractor shall either pay the excess amount ordered by SSST or the same shall be recovered from the Contractor by other means.

The SSST shall also be at liberty to hold and retain in their hand's materials, tackle, machinery and stores of all kinds on Site, as they may think proper and may at any time sell any of the said materials, tackle, machinery and stores and apply the proceeds of sale in or towards the satisfaction of any loss which may arise from the cancellation of the Contract as aforesaid.

The SSST shall also be at liberty to use the materials, tackle, machinery and other stores on site of the Contractor as they think proper in completing the work and the Contractor shall be allowed the necessary credit. The value of the materials and stores and the amount of credit to be allowed for tackle and machinery belonging to the Contractor and used by the SSST in completing the work shall be assessed by the SSST and the amount so assessed shall be final and binding.

In case the SSST completes or decides to complete the works under the provisions of this condition the cost of such completion may be taken into account in determining the excess cost to be charged to the Contractor under this Condition and shall consist the cost or estimated cost as certified by Sansthan, of materials purchased or required to be purchased and / or the labour provided or required to be provided by the SSST as also the cost of contractor materials used with an addition of such percentage to cover supervision and establishment charges as may be decided by the SSST whose decision shall be final and binding.

30.14 Termination of Contract for Corrupt Acts:

The SSST whose decision shall be final and binding, shall, without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to Sansthan, cancel the Contract in any of the following cases and the Contractor shall be subject to payment of any loss or damage resulting from any such cancellation to the like extent as is provided in the case of cancellation for default:

If the Contractor shall:

(a) Offer or give or agree to give to SSST or any of their staff, any service or gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for SSST or

(b) Enter into a Contract with SSST in connection with which commission has been paid or agreed to be paid by them or to their knowledge, unless the particulars of any such commission and the terms of payments thereof have previously been disclosed in writing to the SSST and their permission has been obtained in writing.

(c) Obtain a Contract with SSST as a result of ring tendering or forming a cartel or other non-Bonafide methods of competitive tendering without first disclosing the fact in writing to the Sansthan.

(d) **Termination of Contract for Death:**

Without prejudice to any of the rights or remedies under this Contract, if the Contractor dies, the SSST shall have the option of terminating the Contract without

compensation to the Contractor, except to make payments for the works completed till such date.

30.15 Disputes & Arbitration: -

The procedure for arbitration will be as follows:

30.15.1 The Employer proposes that [name of proposed Dispute Review Expert as indicated in Appendix] be appointed as Dispute Review Expert under the Contract, at a daily fee as indicated in Appendix plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If in the Letter of Acceptance, the Employer has not agreed on the appointment of the Dispute Review Expert, the Dispute Review Expert shall be appointed by the Council of Indian Roads Congress at the request of either party.

30.15.2 For works costing above Rs.5 Crore the procedure for arbitration will be as per G.R of Law & Judiciary Department issued vide Sankirn- 2016/C.R. 20/ Ka-19 dt. 13/10/2016 regarding “Institutional Arbitration Policy”.

30.15.3 That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents the settlement of which has not been here-in-before expressly provided for the same shall be referred to the Employer whose decision shall be final and the provision of the Indian Arbitration Act for the time being in force shall apply to any such reference.

30.15.4 Settlement of Disputes & Arbitration

Except where otherwise provided in the Contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the Contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

1) If the Contractor considers any work demanded of him to be outside the requirements of the Contract, or disputes any drawings, record or decision given in writing by the Engineer on any matter in connection with or arising out of the Contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Engineer-in-Charge in writing for written instruction or decision. Thereupon, the Engineer-in-Charge shall give his written instructions or decision within a period of one month from the receipt of the Contractor's letter.

If the Engineer-in-Charge fails to give his instructions or decision in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decision of the Engineer-in-Charge, the Contractor may, within 15 days of the receipt of the Engineer-in-Charge decision, appeal to the Appellate Authority specified in Schedule 'F' who shall afford an opportunity to the Contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Appellate Authority shall give his decision within 30 days of receipt of Contractor's appeal. If the Contractor is dissatisfied with this decision, the Contractor shall within a period of 30 days from receipt of the decision, give notice to the Appointing Authority specified in Schedule 'F' for appointment of arbitrator failing which the said decision shall be final binding and conclusive and not referable to adjudication by the arbitrator.

2) Except where the decision has become final, binding and conclusive in terms of Sub Para (1) above, disputes or difference shall be referred for adjudication through arbitration by a sole arbitrator appointed by the Appointing Authority. The selection of Arbitrator by the Appointing Authority will be governed by the fact whether the dispute is (i) between two Public Sector Enterprises or (ii) between a Public Sector Enterprise and a Government Department or (iii) Otherwise. In case the dispute does not fall under item (i) or (ii) of this Para the Appointing Authority, shall appoint the sole Arbitrator. Within 30 days of receipt of notice from the Contractor to refer the dispute for Arbitration, the Appointing Authority stipulated in Schedule F shall send to the Contractor a list of three serving officers of ARAI of appropriate status depending on the total value of claim, who have not been connected with the work under the Contract. The Contractor shall, within 15 days of receipt of this list select and communicate to the Appointing Authority, the name of one officer from the list who shall then be appointed as the Sole Arbitrator. If the Contractor fails to communicate his selection of name within the stipulated period, the Appointing Authority shall without delay, selection officer from the list and appoint him as the Sole Arbitrator.

3) In case the dispute falls under item (i) or (ii) of Sub Para (2) above, the Appointing Authority shall refer the dispute for Arbitration by one of the Arbitrators in the Department of Public Enterprises to be nominated by the Secretary to the Govt. of India in charge of the Department of Public Enterprises. The Arbitration & Conciliation Act 1996 shall not be applicable to the Arbitration in such a case. The Award of the Arbitrator shall be binding upon the parties to the dispute, provided however that any party aggrieved by such award may make a further reference for setting aside or revision of the Award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Govt. Of India. Upon such reference, the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the parties finally and conclusively. The Parties to the dispute will share equally the cost of Arbitration as intimated by the Arbitrator. The Arbitrator shall make a speaking Award and the Award may be published on plain paper. In the event of the Sole Arbitrator dying, neglecting or refusing to act or being unable to act for any reason, it shall be lawful for the Secretary to the Govt. Of India in charge of the Department of Public Enterprises to nominate another person in place of the outgoing Arbitrator to act as Sole Arbitrator. The new Arbitrator as appointed shall as far as practicably proceeds from the stage where it was left by the outgoing Arbitrator.

It is a term of this Contract that the party invoking arbitration shall give a list of disputes with amount claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Appellate Authority of the appeal in the form at Annexure `C' It is a term of this Contract that "Excepted matters" or matters where the decision of the Engineer-in-Charge or any higher authority has been stipulated as "Final and Binding " in various Clauses of Contract, stand specifically excluded from the purview of Arbitration Clause. It is also a term of this Contract that no person other than après on appointed by such Appointing Authority as aforesaid should act as arbitrator and if for any reason that is not possible, the matter shall not be referred to arbitration tall. It is also a term of this Contract that if the Contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for payment, the claim of the Contractor shall be deemed to have been waived and absolutely barred and the Employer shall be discharged and released of all liabilities under the Contract in respect of these claims.

4. Obligation during pendency of arbitration

Work under the Contract shall unless otherwise directed by the Engineer-in-Charge continue during the Arbitration proceeding and no payment due or payable by the Employer shall be withheld on account of such proceedings, provided however, it shall be open for the Arbitrator to consider and decide whether or not such work should continue during arbitration proceedings.

5. Signing of "No Claim" certificate

The Contractor shall not been titled to make any claim whatsoever against the Employer under or by virtue of or arising out of the Contract, nor shall the Employer entertain nor consider any such claim if made by the Contractor after he shall have signed a "No Claim Certificate "in Favour of the Employer in such form as stipulated by the Employer, after the works are finally measured up. The Contractor shall be debarred from disputing the correctness of any item covered by the "No Claim Certificate" or demanding a reference to arbitration in respect thereof.

6. Parties to be impaled in the arbitration proceedings

In case of any claims by the Contractor, the Employer as well as ARAI acting as Agent to the Employer will impaled themselves as parties to the Arbitration Proceedings.

7. The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) or any statutory modification so re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause, except for cases falling under para 2 (i) or (ii).

8. It is also a term of this Contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and in all cases where the total amount of the claims by any party exceeds Rs.1,00,000/- the arbitrator shall give reasons for the award.

9. It is also a term of the Contract that where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period- till the date on which the award is made.

10. It is also after muftis Contract that the arbitrator shall indicate
a. The Award amount payable on the date of award
b. The period with in which it is to be paid and
c. Simple rate of interest applicable beyond the stipulated free period for making payment of Award amount.

11. It is also a term of the Contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties**.**

12. It is also a term of the Contract that the arbitrator shall be deemed to have entered on

the reference on the date he issues notice to both the parties calling the m to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and public shed, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part there of shall be paid and fix or settle the amount of costs to be so paid.

30.16 **Jurisdiction and Jurisdiction of courts: Resolution of Disputes :-**

In case of any dispute between the parties, the jurisdiction shall vest at Rahata and Kopargaon court and Mumbai High Court, Aurangabad Bench only. Except the territorial jurisdiction of Shirdi prescribed by law, no other court is having jurisdiction over the matter. All legal claims should be within the jurisdiction of Kopargaon Court and Mumbai High Court, Aurangabad Bench.

30.17 Discrepancy and adjustment of errors:

In the event of any discrepancies occurring in Drawings / BOQ / Specification and other tender document, superior specifications against them will be applicable. However, SSST reserves the right to instruct Contractor to follow specific direction other than mentioned in Contract. In the event of any discrepancy between the details and/ or description given in the Bill of Quantities, the drawings and the technical specifications, then the item shall be deemed to have been priced in accordance with the details and/ or description confirming to the most superior provisions contained in any of the following:

a) Bill of Quantities
b) Drawings
c) Technical Specifications

In all the cases, it is understood that the details and/or description not specifically mentioned in the Bill of quantities and/or the drawings shall be the same as those mentioned in the technical specifications.

Any further interpretation of above clause shall be at the discretion of the Sansthan, whose decision shall be final and binding on the parties to this Contract.

30.18 **Secrecy and copyrights:**

The contract is confidential and must be strictly confined to the contractor’s own use (except so far as confidential disclosure to Sub-Contractors or suppliers is necessary) and to the purposes of the Contract.

The Contractor shall keep one copy of all drawings, and of the Specifications on the Site and the SSST or their representative shall at all reasonable times have access to them.

All documents, copies thereof and extracts there-from furnished to the Contractor shall be property of SSST and Contractor shall not use these documents for any purpose other than this Contract. Contractor shall return these documents to the SSST on the completion of the works or the earlier determination of the Contract.

The copy right of these documents will lie only with SSST at any time during and after completion of Contract.

30.19 **Provisional Acceptance:**

The work shall deem to have been provisionally accepted after fulfilment of all of the following by the Contractor / Bidder.

1. Obtaining Certificate of Completion from the Owner.
2. Handing over of the Work to the Owner.

The Works shall be deemed to have been approved and accepted only on issue of Certificate of Final Completion by the Owner without prejudice to the Owner's rights under the Contract.

31 **Contractor's Equipment, Temporary Works and Materials**

31.1 **Exclusive use for the Works:-**

All Contractors Equipment, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent of the Sansthan's Consultant / Engineer. Provided that consent shall not be required for vehicles engaged in transporting any staff, labour, Contractor's Equipment. Temporary Works, Plant or materials to or from the Site.

31.2 **Employer not liable for Damage:**

The Employer shall not at any time be liable, save as mentioned in Clauses for this loss of or damage to any of the said Contractor's Equipment, Temporary Works or materials.

31.3 **Customs Clearance:**

The Employer will use his best endeavours in assisting the Contractor, where required, in obtaining clearance through the Customs of Contractor's Equipment, materials and other things required for the Works.

31.4 **Condition of Hire of Contractor's Equipment:**

With a view to securing, in the event of termination under Clause, the continued availability, for the purpose of executing the Works, of any hired Contractor's Equipment, the Contractor shall not bring on to the Site any hired Contractor's Equipment unless there is an agreement for the hire thereof (which agreement shall be deemed not to include an agreement for hire purchase) which contains a provision that the owner thereof will, on request in writing made by the Employer within 7 days after the date on which any termination has become effective, and on the Employer undertaking to pay all hire charges in respect thereof from such date, hire such Contractor's Equipment to the Employer on the same terms in all respects as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other contractor employed by him for the purpose of executing and completing the Works and remedying any defects therein, under the terms of the said Clause

31.5 Cost for the Purpose of Clause:

In the event of the Employer entering into any agreement for the hire of Contractor's Equipment pursuant to Sub-Clause, all sums properly paid by the Employer under the provisions of any such agreement and all costs incurred by him (including stamp duties) in entering into such agreement shall be deemed, for the purpose of clause 26, to be part of the cost of executing and completing the Works and the remedying of any defects therein.

31.6 Incorporation of Clause in Subcontracts:

The Contractor shall, where entering into any subcontract for the execution of any part of the Works, incorporate in such subcontract (by reference or otherwise) the provisions of this Clause in relation to Contractor's Equipment, Temporary Works or materials brought on to the Site by the Subcontractor.

31.7 Approval of Materials not implied:

The operation of this Clause shall not be deemed to imply any approval by the Sansthan's Consultant (PMC) / Engineer - in - Charge of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any time by the Engineer.

32. Safety, Security and Protection of the Environment:

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects there in: -

(a) Have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons.

The Contractor shall, at his own expense, arrange for the safety provisions as required or instructed by the SSST / Consultant / Engineer – in – Charge, in respect of all labour, directly or indirectly employed for performance of the Works and shall provide all facilities in connection therewith. In case, the Contractor fails to make arrangements and provide necessary facilities as aforesaid, the SSST / Consultant / Engineer – in –Charge, may do so and recover the costs thereof from the Contractor.

(b) Provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the SSST / Consultant / Engineer – in – Charge or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and

(c) Take all reasonable steps to protect the environment on and off the Site**,** in accordance with Environment (Protection) Act, 1986, and amendments thereof, and to avoid damage or nuisance to persons or to property of the public or others, resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

(d) Trees designated by the Engineer shall be suitably protected from damage during the course of the Work as directed by the Engineer, cost of which shall be borne by the Contractor.

33 Books / Registers:

The contractor shall maintain at his own cost the various books, registers etc., required to be maintained under the relevant rules and regulations and as directed by the Client. These books shall be open for inspection at all times by the Client or his

representative and the Contractor shall furnish the copies or extracts of books or registers as and when required.

33.1 **Work Order Book**:

A site order book shall be maintained on site and it shall be the property of SSST and the contractor should promptly sign orders given there in by SSST or PMC or his representative, and comply with them. The Contractor shall report the compliance in within the time instructed by the SSST or PMC or his representative, so that it can be checked by Client. The site order books have triplicate pages. Original pages will be retained by the SSST.

33.2 Register of Workmen:

A register of workmen shall be maintained in and kept at the work site or as near to it as possible and the relevant particulars of every workman shall be entered therein within three days of his employment.

Note: A copy of attendance register or extract or attendance register will be provided by Contractor to the Client

33.3 **Register of Materials:**

The Contractor(s) shall maintain a Register of the daily account of receipt and use of all materials in a manner approved under Performa. The Contractor(s) shall regularly supply the copies of the record of the same to the SSST / PMC.

33.4 **Employment Card**:

The contractor shall issue an employment card to each worker from SSTS, on the day of worker ‘s entry in to his employment. On termination or completion of employment, the employment card shall be endorsed by the contractor and returned to the SSST.

33.5 **Register of Wages Etc.**:

A register of wages cum muster roll shall be maintained and kept at the work site or as near to it as possible.

33.6 **Inspection of Registers and other Documents**:

The Contractor shall allow Inspection of the registers and other documents prescribed under these regulations by Inspecting Officer and the SSST or PMC or his authorized representative at any time and by the worker / labour or his agent on receipt of the due notice at a convenient time.

33.7 **Police Clearance Certificate of Staff Employed:**

The Contractor shall ensure that the Police Clearance Certificate of the Staff employed at the time of deployment.

The verification submitted should be not idler than 06 months.

In case the PCC is expiring during the contract period, the contractor shall ensure that SSST is intimated at least 30 days in advance of expiry.

Under no circumstances shall any person be deployed without Police Clearance Certificate.

33.8 **Conduct at site:**

The contractor to ensure that the staff deployed at site should have the following:

a. Safety Shoes.
b. Helmet
c. Reflective Jacket
d. I Card
e. Company Uniform

-End-

SCHEDULE – "A"

SHREE SAIBABA SANSTHAN HOSPITAL, SHIRDI BILL OF QUANTITIES FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT. SHREE SAIBABA HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR

(NOTE :- RATES TAKEN FROM ELECTRICAL CSR 2022-23 and all rates shall be inclusive of all taxes, duties, F&I charges.

PART - 1 - FIRE HYDRANT SYSTEM

S. N.	PWD-BMC-SSR-NDR	SSR No. / P. No.	PARTICULARS	UNIT	QTY	UNIT RATE (₹)	TOTAL AMOUNT (₹)
A							
1	PWD-CSR		Supplying and installing **G.I. Pipe above ground of 'C' Class** ERW of following sizes conforming to IS:1239, along with necessary fittings and M.S. angle iron supports, with one coat of red oxide primer and two coats of Post office fire red enamel paint, duly tested to 1.5 times of working pressure, in an approved manner. as per specification no. FF-PP Thickness will be consider 6 mm				
1.1	PWD-CSR	13-6-8/PWD-22-23/Page No. 219	200 mm dia	Rmt	343	3572	1225196
1.2	PWD-CSR	13-6-7/PWD-22-23/Page No. 219	150 mm dia	Rmt	84	2409	202356
2	PWD-CSR		Supplying and installing **G.I. Pipe underground of 'C' Class** ERW of following sizes conforming to IS:1239, along with necessary fittings and M.S. angle iron supports, duly tested to 1.5 times of working pressure, in an approved manner. as per specification no. FF-PP				
2.1	PWD-CSR	13-6-8/PWD-22-23/Page No. 219	200 mm dia	Rmt	99	3572	353628
2.2	PWD-CSR	13-6-7/PWD-22-23/Page No. 219	150 mm dia	Rmt	525	2409	1264725
2.3	PWD-CSR	13-6-5/PWD-22-23/Page No. 219	80 mm dia	Rmt	43	1116	47988

3	PWD-CSR	13-7-35/PWD-22-23/Page No. 222	Supplying and installing **Stainless Steel single outlet hydrant valve** Morris pattern, oblique type, conforming to IS:5290, ISI mark, with G.M. blanks cap and M.S. or G.I. chain in an approved manner. complete as per specification No. FF-VL/HV	Nos	42	5799	243558
4	PWD-CSR		**Fire Brigade Inlet connection**				
4.1	PWD-CSR	13-8-10/PWD-22-23/Page No. 222	Supplying and erecting **fire brigade header** of 150 mm dia, for supplying water in fire tank complete as per specification no. FF-FA/FBC	Nos	1	9479	9479
4.2	PWD-CSR	13-8-11/PWD-22-23/Page No. 223	Supplying and erecting fire brigade header (Siamese connection) **4 way, of** 150 mm dia for supplying water to wet riser system complete as per specification no. FF-FFA/SMC	Nos	3	11588	34764
5	PWD-CSR	13-8-2/PWD-22-23/Page No. 222	Supplying and installing **wall mounting swinging Hose reel drum as per IS:884** fitted with 19 mm dia. 30m high pressure polypropylene (Polyhose) long fitted with necessary accessories complete as per specification No. FF-FFA/HV	Nos	33	6921	228393
6	PWD-CSR	13-8-13/PWD-22-23/Page No. 223	Supplying and erecting **20/25mm Ø G.M. air release cock,** with necessary G.I. coupling to be fitted on top of Air vessel or on wet riser as per specification No. FF-FFA/ARV	Nos	2	840	1680
7	PWD-CSR	13-8-4/PWD-22-23/Page No. 222	Supplying fire-fighting **R.R.L. Hose pipe,** 63mm dia,15m in length, fitted with necessary accessories complete as per complete as per specification no. FF-FFA/RRL	Nos	42	5229	219618
8	PWD-CSR	13-8-7/PWD-22-23/Page No. 222	Supplying **Stainless Steel Branch Pipe 63 mm Ø fitted with 20 mm dia** detachable hexagonal nozzle as per specifications No. FF-FFA/NZ	Nos	34	1926	65484
9	PWD-CSR		**Supplying & erecting of Brass orifice plate**		52		0
9.1	PWD-CSR	13-8-16/PWD-22-23/Page No. 223	Supplying and erecting one no. **Brass orifice plate having 6mm. thickness, 140 mm** outer dia of140 mm at every single outlet hydrant valve as per specification No. FF-FFA/OP	Nos	34	1009	34306
9.2	PWD-CSR	13-8-17/PWD-22-23/Page No. 223	Supplying and erecting one no. **Brass orifice plate having 6mm thickness,160 mm** outer dia at every double outlet hydrant valve as per specification No. FF-FFA/OP	RO		1022	0
10	PWD-CSR		**M.S./CRCA Cabinet for Housing**				

10.1	PWD-CSR	13-8-19/PWD-22-23/Page No. 223	Supplying and erecting **M.S./ CRCA cabinet for housing Fire Brigade/ SIEMESE connections (size 1250x 400 x 300 mm.)** made from 16 SWG sheet and angle iron 25mm. x 25 mm. x 4 mm. having front doors with viewing glass (8" x 6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour	Nos	25	8249	206225
10.2	PWD-CSR	13-8-20/PWD-22-23/Page No. 223	Supplying and erecting **M.S./ CRCA cabinet for housing Floor Hydrant valve, hose pipe, hose reel and branch pipe (size 1000 mm x 736mm x 736 mm.)** made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8"x6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour	Nos	25	15886	397150
11	PWD-CSR	13-7-31/PWD-22-23/Page No. 221	Supplying & installing **gun metal gate valve of size 20 mm /25mm** dia having threaded ends conforming to IS:778, ISI mark, along with G.I. threaded nipple. (drain valve).as per specification No. FF-VL/GV	R0		913	0
12	PWD-CSR	13-8-9/PWD-22-23/Page No. 222	Supplying & erecting **Gun Metal Chrome plated Nozzle,** 19mm Ø complete erected with 4 nos Jubilee clips duly clamped with polyhose / rubber hose pipe. as per specification No. FF-FFA/NZ	Nos	30	961	28830
13	NDR	NDR	Supplying and installing glycerin filled pressure gauge of 100 mm (4 inch) diameter, having range 0–14 kg/cm² (or 0–200 PSI), with stainless steel case and internals, bottom entry connection (3/8" or 1/2" BSP), and dual scale dial (kg/cm² and PSI)	Nos	5	4430	22150
14	PWD-CSR	13-8-15/PWD-22-23/Page No. 223	Supplying and installing **pressure switch** with 12/15 mm dia isolation valve, G.I. nipple, elbow, etc. complete as per specification no. FF-FFA/PS	Nos.	5	1763	8815
15	PWD-CSR	13-7-20/PWD-22-23/Page No. 221	Supplying & Installing cast iron double **flange butterfly valve** of size 100 mm dia. confirming to IS 13095 having cast iron body, FG 220 Nitrite rubber replaceable seat with molded 'O' ring, C.I. powder coated disc flow control complete & tested	Nos.	6	4121	24726

			to 1.5 times of working pressure in an approved manner. as per specification No. FF-VL/BFV				
16	NDR	NDR	**Supply & Fixing of Water cum Foam Monitor** Detachable type having discharge capacity of 1750 LPM @ 7 Kg / cm2 pressure made of C.S. Seamless tube conf. to hot dip galvanized having Gunmetal swivel joints with SS 304 with double row of SS 304 Ball Bearings, Horizontal rotation 360 Deg and Vertical rotation +80 o TO –40o Deg, inlet : 80 NB; OD: 200; PCD:160, 4 Holes (19MM), Al Alloy Aqua Nozzle with Pickup Tube of 3 Meter length and Stainer. Nozzle will be jet -spray type having arrangement for Foam induction also so that the same can be used as Foam Monitor also using Foam induction tube. Horizontal reach of monitor will be at least 35/45 Mtrs at 30 Deg angle in still air. AS PER IS 8442.				
16.1	NDR	NDR	Water Monitor	RO		28910	
16.2	NDR	NDR	Foam Monitor	Nos	3	28910	86730
17	PWD-CSR	13-8-1/PWD-22-23/Page No.222	Supplying & installing **One piece molded HDPE / Fiber water tank.** for -ve suction only, having capacity 1000 ltrs. fitted with necessary accessories complete as per specification No. FF-FFA/PT	RO	0	9804	0
18	PWD-CSR		**Supplying and installing cast iron Ball Type foot valve**				
18.1	PWD-CSR	13-7-2/PWD-22-23/Page No.219	Supplying and installing cast iron **foot valve ball type** / flap type of size 100 mm dia with strainer for negative suction as per specification No. FF-VL/FV	Nos	0	6667	0
18.2	PWD-CSR	13-7-4/PWD-22-23/Page No.219	Supplying and installing cast iron **foot valve** ball type / flap type of size200 mm dia with strainer for negative suction as per specification No. FF-VL/FV	Nos	0	31110	0
19	PWD-CSR	13-8-12/PWD-22-23/Page No.223	Supplying and installing **Air Vessel** of 300 mm Ø 1.5m in height M.S. tank installed inside pump house as per specification No. FF-FFA/ACT	Nos	2	12472	24944

20	PWD-CSR	13-7-5/PWD-22-23/Page No.220	Supplying and erecting 75/80 mm dia Cast Iron end line strainer of Y-type flanged end pattern, PN16 pressure rating, SS screen, end connection with Flanged / Screwed / Socket Weld / Butt Weld End etc. with standard OAR (open area Ratio) for positive suction complete as per specification no. FF VL/ELS	Nos	2	4373	8746
20.1	PWD-CSR	13-7-6/PWD-22-23/Page No.220	Supplying and erecting 100 mm dia Cast Iron end line strainer of Y-type flanged end pattern, PN16 pressure rating, SS screen, end connection with Flanged / Screwed / Socket Weld / Butt Weld End etc. with standard OAR (open area Ratio) for positive suction complete as per specification no. FF-VL/ELS	Nos	3	6349	19047
20.2	PWD-CSR	13-7-8/PWD-22-23/Page No.220	Supplying and erecting 200 mm dia Cast Iron end line strainer of Y-type flanged end pattern, PN16 pressure rating, screen of SS end connection with Flanged / Screwed / Socket Weld / Butt Weld End etc. with standard OAR (open area Ratio) for positive suction complete as per specification no. FF-VL/ELS	Nos	3	21035	63105
21	NDR	NDR	Providing and laying of **non-pressure NP2 Class of** following sizes **RCC Hume pipes** preferably in half cylindrical form confirming to IS 458-1988				
21.1	NDR	NDR	300 mm dia	Mtr	0	727	0
21.2	NDR	NDR	225 mm dia	Mtr	0	518	0
22	PWD-CSR		Supplying, Installing and Commissioning approved make **Ball valve** of following Sizes				
22.1	PWD-CSR	13-7-32/PWD-22-23/Page No.221	Supplying & installing **gun metal gate valve of size 25mm** dia as per specification No. FF-VL/GV	Nos	27	1202	32454
22.2	PWD-CSR	13-7-33/PWD-22-23/Page No.221	Supplying & installing **gun metal gate valve** of size **50mm dia** as per specification No. FF-VL/GV	Nos	27	1289	34803
23			**Road Breaking & Re-Surfacing**				
23.1	PWD-CSR	16-1-5/PWD-22-23/Page No.238	**Excavating hard Rock or bituminous** road by chiseling for preparing pit for pole / stay/earth plate / for laying cable/ pipe & clearing the site by removing debris & making the site as required complete.	Cum	50	1081	54050

23.2	NDR	NDR	Making good the same after the work is satisfactorily completed Providing 50mm thick semi grout bituminous road surface including supplying all materials, preparing the existing road surface, laying the required thickness of metal layer, heating and spraying bitumen, spreading chips, laying seal coat and compacting complete as directed by Engineer in charge. (By using Bulk Asphalt 60/70 grade) Spec. No. Rd.60 Page No.232.	Sqm	50	1750	87500
24			**Removing and Demolishing**				
24.1	PWD-SSR	Sr.No.1557/46.19/BDW8/Page No.297/SSR-23	**Removing Shahabad or Tandur stones /Cement tiles/ Peever Block / Marble mosaic tiles** from floor without bed concrete including stacking the materials as directed with all leads, lifts, complete. As directed by Engineer in charge.	RO /SQM	0	45	0
24.2	PWD-SSR	Sr.No.1550/46.12/BDW8/Page No 296/SSR-2023	**Removing lime or lean cement concrete** including stacking the spoils as directed with all leads, lifts, complete. As directed by Engineer in charge.	RO /Cum	0	558	0
25	NDR	NDR	**Disposing of dismantling material** of reinforced cement concrete stone / brick masonry from work site to 50m beyond the building area. Disposing of the surplus excavated materials by mechanical transport to the lead up to 2 km over the initial lead of 50 m including loading, unloading, spreading, levelling etc., As directed by Engineer in charge.	RO / Cum	0	287	0
26	NDR	NDR	Fabrication, supply and installation of **MS support as required but not covered under specific items** as per drawings, specifications and as instructed by E-I-C. Material shall conform to IS-2062.	KG	150	150	22500
27	PWD-CSR	16-3-5/PWD-22-23/Page No.239	Providing Cement concrete **foundation for pump in 1:2:4** with required size and length of foundation bolts and nuts as per design and drawing etc. complete (cost with wooden box is included). Etc. completed as Directed	Cum	6	5011	30066

28	PWD-SSR	383/11.04 CD 3B Page. No. 160 P No. 62 (Civil SSR 2021-22	Providing and laying in **situ cement concrete of 1:4:8** proportion with trap/ granite / quartzite/ gneiss metal in foundation including necessary form work, compacting and curing etc. complete. (with reversible drum type mixer with SCADA with Natural / VSI standard Artificial Sand)	Cum	6	5780	34680
29	PWD-CSR	13-6-10/PWD-CSR-22-23/Page No.219	Providing coating of **Bitumen Paint & 4mm thick Wrapping** as per IS 10221 for underground **150 mm Ring Main of Fire Fighting System**.	Mtr	60	345	20700
30	PWD-CSR	13-6-11/PWD-CSR-22-23/Page No.219	Providing coating of **Bitumen Paint & 4mm thick Wrapping** as per IS 10221 for **underground 200 mm Ring Main of Fire Fighting System.**	Mtr	24	423	10152
31	PWD-CSR	13-6-9/PWD-CSR-22-23/Page No.219	Providing coating of **Bitumen Paint & 4mm thick Wrapping** as per IS 10221 for **underground 80/100 mm Ring of Fire Fighting System.**	Mtr	12	249	2988
32	PWD-SSR	Sr.No.1384/42.13/BDV43/Page No.275/PWD-SSR-22-23	Providing and constructing **Brick Masonry Inspection Chamber 90cm x 45cm x 90cm** including 1:4:8 cement concrete foundation 1:2:4 cement concrete channels half round G.S.W. pipes, Brick Masonry, plastering from inside and with frame fixed in cement concrete with R.C.C. Cover medium duty 140 kg with frame etc. complete.	RO /Nos	0	10777	0
33	NDR	NDR	Supplying and fixing of **Expansion Bellow Valve** Neoprene Rubber Expansion Bellow (In Wrapping Process) With High Tensile Tyre Chord & S.S. Wire Reinforced With Integral Rubber Flanges on both side With M.S. Backup Flanges -10 mm thick- Split Type Galvanized-Single Convolution Bellow As Per ANSI B 16.5 Class 150- Drilling Standard Temperature: 100 Deg. C Pressure : 10 kg/cm2 Test Pressure:16 kg/cm2 ID 8"XL 200 mm along with necessary fittings etc. completed as directed.				
33.1	NDR	NDR	200 mm dia	Nos	3	10350	31050
33.2	NDR	NDR	80 mm dia	Nos	2	5176	10352

34	PWD-CSR		Earth work excavation over areas for foundation of tank, trenches, pits etc. in all soils, soft and hard rocks, up to depth 1.5 m including shoring and dewatering if necessary, dressing the sides, trimming and preparing the bed for foundation and refilling all-round the foundation / tank (after testing) with selected excavated earth in layers not exceeding 250 mm thick, watering, consolidation and disposing off the surplus earth within a distance of 50 m etc., complete as per specifications & drawings, including spreading, levelling the surplus disposed earth in required grade / profile as directed by E-I-C.		0		0
34.1	PWD-CSR	16-1-7/PWD-CSR-22-23/Page No.238	**Excavation for foundation in earth, soil of all types, sand, gravel and soft murum** (Lift Up to 1.50 Meter) Spec. No.: Bd. A 1 Page No.259	Cum	0	232	0
34.2	PWD-CSR	16-1-6/PWD-CSR-22-23/Page No.238	**Excavation for foundation in hard murum** (Lift up to 1.50 m). Spec. No. : Bd.A.2, P. No. 259.	Cum	12	270	3240
34.3	PWD-CSR	16-1-5/PWD-CSR-22-23/Page No.238	**Hard rock** by chiseling, wedging, line drilling, etc. complete. (Lift up to 1.5 m) Spec No. : Bd. A 6 Page No.260	Cum	5	1081	5405
35			**Flooring**				
35.1	PWD-SSR	987 33.02. BDM 1A Bd.M.1 Page Number 379, P. No 156 (Civi SSR).2021-22	**Providing and laying Rough Shahabad Stone Flooring 40mm.to 45 mm.** thick and of required width in plain/ diamond pattern on a bed of 1:6 C.M. including cement float, striking joints, pointing in cement mortar 1:3 curing and cleaning etc. etc. complete	RO /Sq m	0	775	0
35.2	PWD-SSR	188, 5.20 IRC-SP-63 P. No. 37 (Civi SSR)2021-22	Providing and fixing factory made **Hydraulically pressed Mechanically vibrated and compacted precast inter locking cement concrete paving blocks 60MM thick in M-40** grade of approved size and shape for City streets, small /medium market roads, low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving	RO / Sqm	0	1135	0

			blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all strata's, spreading blende of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete.				
35.3	PWD-SSR	1019, 33.34, Bd. M. 3 B/ Page No. 380 P. No. 158 (Civil SSR)2021-22	Providing and laying in position flooring of telephone black / Amba White / Cat bary brown / Ruby red / Ocean Brown granite stone of approved shade and size 18 mm to 20 mm thick on bed 1:6 cement mortar including cement floats striking joints, pointing in C.M. 1:3 curing and cleaning etc. complete.	RO / Sqm	0	4005	0
B			**FITTINGS & FIXTURES ETC.**				
1	PWD-CSR		Supplying and installing cast iron **double flange sluice valve** of following size conforming to IS: 780, ISI mark having cast iron body and gun metal working parts with nut bolts, gaskets etc. and tested to 1.5 times of working pressure in an approved manner. as per specification No. FF-VL/SV				
1.1	PWD-CSR	13-7-14/PWD-CSR-22-23/Page No.220	100 mm dia	Nos	2	8753	17506
1.2	PWD-CSR	13-7-15/PWD-CSR-22-23/Page No.220	150 mm dia	Nos	3	13646	40938
1.3	PWD-CSR	13-7-16/PWD-CSR-22-23/Page No.220	200 mm dia	Nos	3	23265	69795
2	PWD-CSR		Supplying and installing **double flange NRV** of size conforming to IS: 5312 (Part - I), ISI marks having cast iron body and gun metal working parts with nut bolts, gaskets etc. and tested to 1.5 times of working pressure in an approved manner.				
2.1	PWD-CSR	13-7-24/PWD-CSR-22-23/Page No.221	100 mm dia	Nos	2	8240	16480
2.2	PWD-CSR	13-7-26/PWD-CSR-22-23/Page No.221	200 mm dia	Nos	3	21297	63891

3	NDR	NDR	Supplying and fixing of Pre-Fabricated Tank of Synthetic material. Tank Capacity 2,00,000 Ltrs. Warranty 5 Years or more. The tank to be mounted on solid metal frames of I-Beam of equivalent strength. The tank to be placed a height of min 2.8 Mtrs above the ground level. The area between the ground level & the tank may be utilised as fire marshal.	Nos	1	1500000	1500000
			TOTAL OF PART – 1 - FIRE HYDRANT SYSTEM			**Total (Excluding GST)**	**6910193.00**

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PART - 2 - FIRE SPRINKLER SYSTEM

S. N.	PWD-BMC-SSR-NDR	SSR No. / P. No.	PARTICULARS	UNIT	QTY	UNIT RATE (₹)	TOTAL AMOUNT (₹)
PART- 2 - SPRINKLER SYSTEM							
1	PWD-CSR	13-12-1/PWD-22-23/Page No. 228	Supplying and erecting 15mm (1/2") dia NBCM body chrome finished Quartzoid bulb **sprinkler (Pendant type)** having 68° C fixed temperature rating with deflector disc of conventional construction. as per specification No. FF-SPR	Each	566	427	241682
2	PWD-CSR	13-12-1/PWD-22-23/Page No. 228	Supplying and erecting 15mm (1/2") dia NBCM body chrome finished Quartzoid bulb **sprinkler (Wall side)** having 68° C fixed temperature rating with deflector disc of conventional construction.	Each	192	427	81984
3	NDR	NDR	Supply, Installation, Testing & commissioning of Flexible drop with supports & approved makes - length - 01 Mtr, Type Braided, should be able to withhold the System pressure & approved warranty	Each			
3.1	NDR	NDR	1200 mm	Each	12	1800	21600
3.2	NDR	NDR	1000 mm	Each	5	1650	8250
4	NDR	NDR	Supplying and fixing **Rojas Plate** for Sprinkler, as directed	Each	122	88	10736
5	PWD-CSR		Supplying and erecting **vane type water flow detector** suitable for detecting flow of water in wet sprinkler pipe of main line or branch lines of following dia. having following features 1) Visual Switch Activation 2) Rugged Switch Assembly 3) Heavy duty Aluminum pipe Saddles 4) Durable Metal Enclosure 5) Steel U Bolts for Secure Mounting 6) Two SPDT (Single Pole Double Track) Synchronized Switches 7) Serviceable without Draining Pipes.				
5.1	PWD-CSR	13-12-2/PWD-22-23/Page No.228	75 / 80mm dia	Each	2	7362	14724

5.2	PWD-CSR	13-12-3/PWD-22-23/Page No.228	100 mm dia	Each	9	8408	75672
6	PWD-CSR		Supplying and installing G.I. Pipe above ground of 'C' Class ERW of following sizes conforming to IS:1239, along with necessary fittings and M.S. angle iron supports, with one coat of red oxide primer and two coats of Post office fire red enamel paint, duly tested to 1.5 times of working pressure, in an approved manner. as per specification no. FF-PP				
6.1	PWD-CSR	13-6-7/PWD-22-23/Page No.219	150 mm dia	Rmt	108	2409	260172
7	PWD-CSR		Supplying and installing **G.I. Pipe underground of 'C' Class** ERW of following sizes conforming to IS:1239, along with necessary fittings and M.S. angle iron supports, duly tested to 1.5 times of working pressure, in an approved manner. as per specification no. FF-PP				
7.1	PWD-CSR	13-6-7/PWD-22-23/Page No.219	150 mm dia	Rmt	58	2409	139722
8	PWD-CSR		Supply & installation of **G.I. (C-class) pipe** IS standard including cutting threading welding etc. providing all required accessories confirming to IS 1239 standards like flanges, bends, tees, elbows, reducers, unions supporting with G.I clamps hangers etc. including cuttings holes and chases in brick or RCC wall/slabs and making good the same to the approval of architect/ consultant including Painting with one coat of primer and two or more coats of red synthetic enamel paint of approved make and shade on the sprinkler pipes. (ISI mark). as per specification no. FF-PP				
8.1	PWD-CSR	13-6-6/PWD-22-23/Page No.219	100 mm dia	Rmt	160	1588	254080
8.2	PWD-CSR	13-6-5/PWD-22-23/Page No.219	80 mm dia	Rmt	150	1116	167400
8.3	PWD-CSR	13-6-4/PWD-22-23/Page	65 mm dia	Rmt	90	893	80370

		No.219					
8.4	PWD-CSR	13-6-3/PWD-22-23/Page No.219	50 mm dia	Rmt	90	705	63450
8.5	NDR	NDR	40 mm dia	Rmt	24	638	15312
8.6	NDR	NDR	32 mm dia	Rmt	150	554	83100
8.7	PWD-CSR	13-6-2/PWD-22-23/Page No.219	25 mm dia	Rmt	1246.3	348	433705.44
9	PWD-CSR	3-11-77/PWD-22-23/Page No.70	Carrying out core cutting of size 3" to 5" dia x 15" length in the C.C./rock/stone wall with the help of specialized core cutting machine in proper manner and finishing the site as original.	Job	24	7519	180456
10	PWD-CSR	13-8-13/PWD-22-23/Page No.223	Supplying and erecting **20/25mm Ø G.M. air release cock,** with necessary G.I. coupling to be fitted on top of Air vessel or on wet riser as per specification No. FF-FFA/ARV	Nos	5	840	4200
11	PWD-CSR		Supplying & installing cast iron **double flange butterfly valve** of Following confirming to IS 13095 having cast iron body, FG 220 Nitrite rubber replaceable seat with molded 'O' ring, C.I. powder coated disc flow control complete & tested to 1.5 times of working pressure in an approved manner. as per specification No. FF-VL/BFV				
11.1	PWD-CSR	13-7-21/PWD-22-23/Page No.221	150 mm dia	Nos	4	6327	25308
11.2	PWD-CSR	13-7-20/PWD-22-23/Page No.221	100 mm dia	Nos	4	4121	16484
11.3	PWD-CSR	13-7-19/PWD-22-23/Page No.221	80 mm dia	Nos	8	3183	25464
12	NDR	NDR	Supplying and installing glycerin filled pressure gauge of 100 mm (4 inch) diameter, having range 0–14 kg/cm² (or 0–200 PSI), with stainless steel case and internals, bottom entry connection (3/8" or 1/2" BSP), and dual scale dial (kg/cm² and PSI)	Nos	11	4430	48730
13	PWD-CSR	13-8-15/PWD-22-23-/Page No.223	Supplying and installing **DANFOSS make pressure switch** with 12/15 mm Ø isolation valve, G.I. nipple, elbow etc. in an approved manner as per specification No. FF-FFA/PS	Nos.	2	1763	3526

14	PWD-CSR	13-7-20/PWD-22-23/Page No.221	Supplying & Installing cast iron double **flange butterfly valve** of size 100 mm dia. confirming to IS 13095 having cast iron body, FG 220 Nitrite rubber replaceable seat with molded 'O' ring, C.I. powder coated disc flow control complete & tested to 1.5 times of working pressure in an approved manner. as per specification No. FF-VL/BFV	Nos.	9	4121	37089
15	PWD-CSR		**Supplying and installing cast iron Ball Type foot valve**				
15.1	PWD-CSR	13-7-2/PWD-22-23/Page No.219	Supplying and installing cast iron **foot valve ball type** / flap type of size 100 mm dia with strainer for negative suction as per specification No. FF-VL/FV	RO/ Nos	0	6667	0
15.2	PWD-CSR	13-7-4/PWD-22-23/Page No.219	Supplying and installing cast iron **foot valve** ball type / flap type of size200 mm dia with strainer for negative suction as per specification No. FF-VL/FV	RO/ Nos	0	31110	0
16	PWD-CSR		Supplying and installing of following size **end line 'Y' strainer for +ve suction,**		0		0
16.1	PWD-CSR	13-7-6/PWD-22-23/Page No.220	Supplying and installing **100 mm dia end line strainer** for +ve suction as per specification No. FF-VL/ELS	Nos	2	6349	12698
16.2	PWD-CSR	13-7-8/PWD-22-23/Page No.220	Supplying and installing **200 mm dia end line strainer** for +ve suction as per specification No. FF-VL/ELS	Nos	3	21035	63105
17	PWD-SSR		Providing and laying concrete pipes of I.S.NP. class of Following diameter in proper line, level and slope including necessary collars, excavation, laying, fixing with collars in cement mortar 1:1 and refilling the trench complete.				
17.1	PWD-SSR	Sr.No.1380/42. 09/BDV 41/Page No. 274/SSR-2022-23	300 mm dia	RO/ Mtr	18	744	13392
18	PWD-CSR		Supplying, Installing and Commissioning approved make **Ball valve** of following Sizes				
18.1	PWD-CSR	13-7-32/PWD-22-23/Page No. 221	Supplying & installing **gun metal gate valve of size 25mm** dia as per specification No. FF-VL/GV	Nos	11	1202	13222
18.2	PWD-CSR	13-7-33/PWD-22-23/Page No. 221	Supplying & installing **gun metal gate valve** of size **50mm dia** as per specification No. FF-VL/GV	Nos	2	1289	2578
19	PWD-CSR		**Road Breaking & Re-Surfacing**				

19.1	PWD-CSR	16-1-5/PWD-22-23/Page No.238	Breaking and removing the existing bitumen pavement to full width and depth and disposal of the material to 2 kms, compaction with power roller etc. complete. Spec. No. MORTH 2001 clause No. 202.3 P. No. 45	Cum	2	1081	2162
19.2	NDR	NDR	Making good the same after the work is satisfactorily completed Providing 50mm thick semi grout bituminous road surface including supplying all materials, preparing the existing road surface, laying the required thickness of metal layer, heating and spraying bitumen, spreading chips, laying seal coat and compacting complete as directed by Engineer in charge. (By using Bulk Asphalt 60/70 grade) Spec. No. Rd.60 Page No.232.	Sqm	2	531	1062
20			**Removing and Demolishing**				
20.1	PWD-SSR	Sr.No.1557/46.19/BDW 8/Page No. 297 (Civil SSR) 2022-23	**Removing Shahabad or Tandur stones /Cement tiles/ Peever Block / Marble mosaic tiles** from floor without bed concrete including stacking the materials as directed with all leads, lifts, complete. As directed by Engineer in charge.	RO/Sqm	0	45	0
20.2	PWD-SSR	Sr.No.1550/46.12/BDW 8/Page No. 296/SSR-22-23	**Removing lime or lean cement concrete** including stacking the spoils as directed with all leads, lifts, complete. As directed by Engineer in charge.	RO/Cum	0	558	0
21	NDR	NDR	**Disposing of dismantling material** of reinforced cement concrete stone / brick masonry from work site to 50m beyond the building area. Disposing of the surplus excavated materials by mechanical transport to the lead up to 2 km over the initial lead of 50 m including loading, unloading, spreading, leveling etc., As directed by Engineer in charge.	RO/Cum	0	287	0
22	NDR	NDR	Fabrication, supply and installation of **MS support as required but not covered under specific items** as per drawings, specifications and as instructed by E-I-C. Material shall conform to IS-2062.	KG	200	150	30000
23	PWD-CSR	16-3-5/PWD-22-23/Page No.239	Providing Cement concrete **foundation for pump in 1:2:4** with required size and length of foundation bolts and nuts as per design and drawing etc. compel (cost	Cum	3	5011	15033

			with wooden box is included). Etc. completed as Directed				
24	PWD-SSR	Sr.No.381/11.04/CD 3B/Page No.81/SSR22-23	Providing and laying is **situ, cement concrete in 1:4:8** of trap / granite / quartzite / gneiss metal for foundation and bedding including bailing out water, formwork, compacting, finishing if required and curing etc. complete as Directed	Cum	3	5780	17340
25	PWD-CSR	13-6-10/PWD-22-23/Page No.219	Providing coating of **Bitumen Paint & 4mm thick Wrapping** as per IS 10221 for underground 150 mm Ring Main of Fire Fighting System.	Mtr	12	345	4140
26	PWD-SSR	Sr.No.1384/42.13/BDV 43/Page No.275/SSR-22-23	Providing & constructing **Brick Masonry in cement mortar 1:6 for Inspection Chamber** 90cm x 45cm including 1:4:8 cement concrete foundation 1:2:4 cement concrete channels half round S.W.G. pipes, with plastering Brick Masonry inside and outside with cement mortar 1:4 and inside neat cement finish including 75mm thick RCC cover etc. complete (depth up to 1.20m). Bd.V.43 Page No.574.	Nos	3	10777	32331
27	NDR	NDR	Supplying and fixing of **Expansion Bellow Valve** Neoprene Rubber Expansion Bellow (In Wrapping Process) With High Tensile Tyre Chord & S.S. Wire Reinforced With Integral Rubber Flanges on both side With M.S. Backup Flanges - 10 mm thick - Split Type Galvanized - Single Convolution Bellow As Per ANSI B 16.5 Class 150- Drilling Standard Temperature : 100 Deg.C Pressure : 10 kg/cm2 Test Pressure : 16 kg/cm2 ID 8" X L 200 mm along with necessary fittings etc. completed as directed.				
27.1	NDR	NDR	200 mm dia	Nos	1	10350	10350
27.2	NDR	NDR	80 mm dia	Nos	1	5176	5176
28	PWD-CSR		**Earth work excavation** over areas for foundation of tank, trenches, pits etc. in all soils, soft and hard rocks, up to depth 1.5 m including shoring and dewatering if necessary, dressing the sides, trimming and preparing the bed for foundation and refilling all-round the foundation / tank (after testing) with selected		0		0

			excavated earth in layers not exceeding 250 mm thick, watering, consolidation and disposing off the surplus earth within a distance of 50 m etc., complete as per specifications & drawings, including spreading, leveling the surplus disposed earth in required grade / profile as directed by E-I-C.				
28.1	PWD-CSR	16-1-7/PWD-22-23/Page No. 238	**Ordinary Soils of all types sand, gravel and soft murum** (Lift Up to 1.50 Meter) Spec. No. : Bd. A 1 Page No.259	RO/Cum	3	232	696
28.2	PWD-CSR	16-1-6/PWD-22-23/Page No. 238	Hard murum (Lift up to 1.50 m). Spec. No. : Bd.A.2, P. No. 259.	RO/Cum	3	270	810
28.3	PWD-CSR	16-1-5/PWD-22-23/Page No. 238	**Hard rock** by chiseling, wedging, line drilling, etc. complete. (Lift up to 1.5 m) Spec No. : Bd. A 6 Page No.260	RO/Cum	0	1081	0
29	PWD-SSR		**Flooring**		0		0
29.1	PWD-SSR	Sr.No.989/33.02/Page No.213-SSR-22-23	Providing and laying rough **Shahabad Stone Flooring 40 mm. to 45 mm**. thick & of required width in plain/diamond pattern on a bed of 1:6 C.M. including cement float, striking joints, pointing in cement mortar 1:3 curing and cleaning etc. complete.	RO/Sqm	0	791	0
29.2	PWD-SSR	Sr.No.188/5.20/Page No.44/SSR-22-23	Providing and fixing factory made **Hydraulically pressed Mechanically vibrated and compacted precast inter locking cement concrete paving blocks 80MM thick in M-40** grade of approved size and shape for City streets, small /medium market roads, low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all stratas, spreading blende of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete.	RO/Sqm	0	1153	0

29.3	PWD-SSR	Sr No.1021/33.34 /BDM 3/Page No. 216/SSR-2022-2023	Providing and laying in position flooring of telephone black/Amba White/Catbary brown/Rubyred/Ocean Brown granite stone of approved shade and size 18mm to 20mm thick on bed 1:6 cement mortar including cement floats striking joints, pointing in C.M. 1:3 curing and cleaning etc. complete.	Sqm	0	4024	0
	PWD-CSR		**FITTINGS & FIXTURES ETC.**		0		0
1	PWD-CSR		Supplying and installing cast iron **double flange sluice valve** of following size conforming to IS: 780, ISI mark having cast iron body and gun metal working parts with nut bolts, gaskets etc. and tested to 1.5 times of working pressure in an approved manner. as per specification No. FF-VL/SV		0		0
1.1	PWD-CSR	13-7-14/PWD-22-23/Page No.220	100 mm dia	Nos	2	8753	17506
1.2	PWD-CSR	13-7-15/PWD-22-23/Page No.220	150 mm dia	Nos	3	13646	40938
1.3	PWD-CSR	13-7-16/PWD-22-23/Page No.220	200 mm dia	Nos	3	23265	69795
2	PWD-CSR		Supplying and installing **double flange NRV** of size conforming to IS: 5312 (Part - I), ISI marks having cast iron body and gun metal working parts with nut bolts, gaskets etc. and tested to 1.5 times of working pressure in an approved manner.				
2.1	PWD-CSR	13-7-24/PWD-22-23/Page No.221	100 mm dia	Nos	4	8240	32960
2.2	PWD-CSR	13-7-26/PWD-22-23/Page No.221	200 mm dia	Nos	4	21297	85188
3	PWD-CSR	13-1-6/PWD-22-23/Page No. 210	Supplying, installation, testing and commissioning of main fire pump(MFP/EP) suitable for water discharge of 2280 to 2850 LPM at 120 to 90 m head driven by electric motor 415 volts, 3 phase 50 Hz, AC supply of 75kW or of suitable kW capacity for manual/automatic operation and consisting of following:(a) Horizontal type, single stage, centrifugal/split casing pump	Each	2	409749	819498

			of cast iron body & bronze impeller with stainless steel shaft(SS410 grade), mechanical seal conforming to IS 1520.(b) Squirrel cage induction motor, TEFC, synchronous speed 3000 RPM, suitable for operation with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.(c) M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required.(d) Erected on provided suitable size cement concrete foundation duly plastered with anti-vibration pads with perfect aligning, proper levelling complete pump set with accessories duly painted with two coats of synthetic enamel paint of firered colour over a coat of primer (ISC code 536 as per IS 2932 of 2003) complete, as per specification no. FF-MFP/SSC/EP				
4	PWD-CSR	13-2-3/PWD-22-23/Page No.212	Supplying installing, testing, commissioning of **Jockey Pump** of 240 LPM at 105 m head, 3 ph. 415 A.C. **15 HP,** (11 kW) or of suitable HP with 2900 RPM C.1 casing single stage (mono block) with Bronze impeller, Bronze working parts (EN-8) shaft (C-40) and directly coupled to suitable capacity H.P motor, 'B' class insulation squirrel cage induction motor working on 3 ph. 440 A.C. Both Pump & Motor are to be mounted on common base plate along with suitable rigid foundation, nut bolts, with coupling guards and antivibration rubber pads in an approved manner, as per specification No. FF-MFP/JP (Similar to Kirloskar KDS 844+/MBH make.).	Nos	2	105613	211226
5	NDR	NDR	Supplying installing, testing, commissioning of **Booster Pump** of 450 LPM at head, **10 HP** or of suitable HP with suitable Stages as per specification No. FF-MFP/BP	Each	4	81147	324588
6		1/13/2003	Supplying and installing, testing, perfect aligning and proper levelling and commissioning of **fire service main pump, (for Sprinkler)** multistage, of 2800 LPM (Liters/min.) at 105 mtr head centrifugal type, **75 HP**, (55 kW) or of suitable HP as per	RO/Each2	0	317455	0

			specification No. FF-MFP/MSC				
7	NDR	NDR	Supply, installation, testing and commissioning of **Diesel Engine** driven fire pump suitable for automatic operation comprising of the following and conforming to BS 649/IS 10002 all amended up to date complete as required. a). Horizontal, split casing, high pressure centrifugal pump, suitable for operation on 415 volts ± 6%, 3 phase, 50 HZ A.C supply. The installation shall be complete with flexible coupling and coupling guard as required. Fire pump shall have C.I. casing, CS diffusers, bronze impeller (hard finished and dynamically balanced) and SS (304) shaft with mechanical seal, capable for delivering 1450 LPM capacity @ 105 mtr head to ensure a minimum pressure of 3.5 Kg /Sqcm at the farthest or topmost hydrant / sprinkler. The installation shall be complete with necessary pressure gauge with gun metal shut off cock on delivery side (The pump should be tested for bench mark at factory and shall be gotten approved by the Local fire Authority). Pump shall be capable of furnishing not less than 150% of rated capacity at a head of not less than 65% of the rated head. The shut off head shall not exceed 120% of rated head.	Each	1	550000	550000
	NDR		b. The tank shall be fitted with Magnetic oil level indicator, MH with cover, drain valve, air vent including structural supports (painted with approved shade), 2 Nos. x 12 volt battery, heat exchanger with necessary piping connections & fittings, flexible coupling, coupling guard & exhaust pipe connection complete as required.				
	NDR		c. Common base plate for (a) and (b) from M.S. channel of required size.				
	NDR		d. Suitable cement concrete				

			foundation with plaster, (design and drawing to be provided by the Contractor while the foundation will be done by contractor) complete with ant vibration arrangement of cushy foot mountings.				
	NDR		Full Set as above				
8	NDR	NDR	Providing Supplying erecting and testing and commissioning of **Fuel Tank (500 Ltr Capacity)** with stand, fuel piping with valves and other accessories as per design and drawing etc. complete. fuel tank to be handed over by contractor.	Nos	1	11500	11500
9	NDR	NDR	Supply, Fabricating and Fixing of **Florescent Type Safety Signs** and Exit Signs on all strategic location as per the IS 123449 & IS 12407. (All Types of Signage- Pump Room, Arrow Marking, Extinguisher Here, MCP, etc.)	Lot	1	20000	20000
C	NDR	NDR	**FIRE EXTINGUISHERS**				
1	NDR	NDR	**Ceiling Mounted Automated Fire Extinguishers**				
1.1	NDR	NDR	Supplying and erecting **9 Ltr Mechanical Foam Extinguisher**	Nos	2	2156	4312
1.2	PWD-CSR	13-15-1/PWD-22-23/Page No.228	Supplying & erecting Carbon Dioxide (CO_2) fire extinguisher of 4.5 kg. capacity cartridge type conform to IS 2878 /15683 complete erected with necessary clamp made from 50 x 6 mm. M. S. flat with nut & bolts routed in wall complete	Nos	14	9902	138628
1.3	NDR	NDR	Supplying and erecting ABC powder type fire extinguisher as per IS: 13849 /15683 of 6 kg capacity with necessary clamp for erection on Wall	No	36	2156	77616
E			**Electrical Works**				
1	NDR	NDR	Fire Pump Panel (Electrical) (Suitable for all above pumps) and as required.	Set	1	525300	525300
	NDR	NDR	Supplying, erecting, testing and commissioning cubicle pattern electrical control panel made of 14 /16 / 18 / 20 SWG MS Sheet duly painted with 2 coats of enamel paint,				
	NDR	NDR	Electrical switchboards, powder coated floor mounting, front operated front ccess cubicle type, totally enclosed, with IP-42 protection with hinged and lockable doors. It shall be fabricated from 2 mm thick				

	NDR	NDR	**Notes**				
	NDR	NDR	1) All G.A. & fabrication drawings shall be got approved from the E.I.C. Necessary touch up painting may be done at site, incase if required. The scope includes all tests as specified in department's specification, relevant I.S. and as required by E.I.C, shall have to be performed at factory & at installation site and shall be included in the quoted rate.				
	NDR	NDR	2) The equipment shall be designed to ensure complete safety during operation inspection, connection of cables etc.				
	NDR	NDR	3) Control wires shall be of 1.1 KV 1.5 sq.mm FRLS copper wires and neatly bunched separately and adequately supported				
	NDR	NDR	so as to prevent sagging and strain on termination.				
	NDR	NDR	4) A minimum of 10% spare terminals shall be provided on				
	NDR	NDR	each terminal block for future requirement.				
	NDR	NDR	5) All metallic parts of the equipment not carrying current shall be earthed with copper material				
	NDR	NDR	6) All concealed hinged doors and covers shall be provided with suitable flexible earthing connections.				
	NDR	NDR	7) The size of the earth bus chosen shall be to withstand full fault current of 25 KA				
	NDR	NDR	8) Earth bus bar shall be supported at suitable intervals.				
	NDR	NDR	9) All the current transformers shall be resin cast type class-I only.				
	NDR	NDR	10) Name of fabricator, G.A. & detailed fabrication drawing and short circuit forces and temp rise calculation for panel shall be				
	NDR	NDR	submitted for dept's approval.				
	NDR	NDR	11) Bimetallic washers shall be used for all aluminum to copper joints & it shall be of approved make & quality.				
	NDR	NDR	12) Indication lamps shall be heavy duty cluster type LED.				
	NDR	NDR	13) All Outgoing feeders shall have 'ON' indication lamps.				
	NDR	NDR	14) All neutrals shall be isolatable type.				

	NDR	NDR	15) Power cabling between motor and starter shall be measured separately. Control cabling between panel and tank shall be measured separately. However, any other control / power wiring / cabling, if required is in the scope of this item.				
	NDR	NDR	16) Multiplication of level switches using relays / contactors and necessary control cable for control of both main and standby domestic & flushing water supply pumps shall be in the scope of the bidders.				
2	PWD-CSR		**Cables**				
2.1	PWD-CSR	7-1-20/PWD-22-23/Page No.127	Supplying, erecting & terminating **XLPE armored** cable **3½ core 120 sq. mm. aluminum** conductor with continuous **12.97 sq. mm. (8 SWG)** G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Mtr	130	754	98020
2.2	PWD-CSR	7-1-30/PWD-22-23/Page No.128	Supplying, erecting & terminating **XLPE armored** cable **4 core 25 sq. mm. aluminum** conductor with continuous **5.48 sq. mm. (12 SWG)** G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. **CB-LT/AL**	Mtr	48	261	12528
2.3	PWD-CSR	7-2-33/PWD-22-23/Page No.132	Supplying, erecting & terminating **XLPE armored** cable **4 core 10 sq. mm. copper conductor** continuous **5.48 sq. mm. (12 SWG)** G.I. earth wire complete erected with glands & lugs, on wall/ trusses/ pole or laid in provided trench/ pipe as per specification no. **CB-LT/CU**	Mtr	24	603	14472
2.4	PWD-CSR	13-9-13/PWD-2022-23/Page No.242	Supplying, installing, testing and commissioning FR**, XLPE armored cable 12 core 1.5 sq.mm. copper conductor** complete erected on wall/ ceiling complete as per specification no. **CB-LT/CU**	Mtr	36	322	11592
2.5	PWD-CSR	9-2-3/PWD-22-23/Page No.160	Supplying and erecting **GI strip** of required size used for earthling on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint in an approved manner with joints required. As per specification no **EA-**	KG	20	222	4440

			EP.				
					0		0
			TOTAL OF PART – 2- SPRINKLER SYSTEM			**Total (Excluding GST)**	**5587418.44**

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SMOKE DETECTION & FIRE ALARM SYSTEM (ADDRESSABLE) & PUBLIC ADDRESS SYSTEM

PART- 3 - SMOKE DETECTION & FIRE ALARM SYSTEM (ADDRESSABLE) & PUBLIC ADDRESS SYSTEM							
S. N.	PWD-BMC-SSR-NDR	SSR No. / P. No.	PARTICULARS	UNIT	QTY	UNIT RATE (₹)	TOTAL AMOUNT (₹)
1	NDR	NDR	**Main Fire Alarm Control Panel**				
	NDR	NDR	SITC of Microprocessor based Net-workable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have expandable capacity from 2 loops to 16 loops. The Panel must have Full color 800 x 480 LCD with resistive touch screen and automatic backlight dimming. The Panel must also have the capability to take Addressable Analogue Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The panel shall have an event log of minimum 10,000 events @ 1 second resolution, Filterable and Printable. The Panel shall have Three access levels. Panel shall support up to 5000 Cause & Effects entries, with up to 20,000 inputs controlling & 20,000 Controlling outputs across the network. The Panel shall have capability for Peer-to-Peer networking through RS485 network card. The Panel must have 4 inbuilt programmable sounder circuits; each circuit rated at 2.5A. The Panel must have inbuilt 3 programmable inputs and 5 inbuilt programmable relay outputs. The Panel shall have up to sub-addressable 512 programmable Inputs/Outputs via optional RS485 COMMS serially connected expansion cards. The Panel shall have 240 V AC power supply along with automatic Battery Charger. The Panel shall be fully expandable via common plug-in loop driver boards. The user shall have a choice of using the panel with 5.25 Amp or 10.25 Amp power supply unit which is inbuilt in the FACP and should be approved to EN54-4. The Panel shall have configurable via USB port	No.	1	375000	375000

			to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. Approved by LPCB.				
	NDR	NDR	SITC of Network Module. The Module shall connect Panels and **Repeater Panels** through RS485. The Module shall use RS485 data at a Baud rate of 115200 Bauds. The Network Module must be configured Master/Slave, Multiple Master/Slave and Peer to Peer net W\working.	No	1	102180	102180
	NDR	NDR	SITC of Local LCD Control Repeater Panel to be integrated with Fire Alarm Control Panel. Panel should have 8 lines of 40 characters graphic LCD and shall be compliant with EN54-2, EN54-4 and Approved by LPCB.	No	1	112211	112211
2	PWD-CSR		**Analogue Addressable Optical smoke detector**		0		0
	PWD-CSR	13-9-3/PWD-CSR-22-23/Page No.224	SITC of Analogue Addressable Smoke Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% lbs./m, Incorporate Optical elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & Vads with back box.	Nos.	324	1730	560520
3	PWD-CSR		**Analogue Addressable Multi sensor (Photo + Heat) smoke detector**		0		0
	PWD-CSR	13-9-2-NEW/PWD-CSR-22-23/Page No.224	SITC of Analogue Addressable Multi-Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical and dual Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & Vads.	Nos.	0	2255	0
4	NDR		**Analogue Addressable Manual Call Point**				
	NDR	NDR	SITC of Analogue Addressable Manual Call Point with Integral Short Circuit Isolator, Analogue Addressable Protocol having, Bi-colored status LED (red for alarm, amber for (short-circuit), Non-frangible element fitted as standard (conforms to EN54), pulsing/non-pulsing can selectable via panel, Electronically addressed, Approved by LPCB.	Nos.	20	4370	87400
5	NDR		**Analogue Addressable Hooter cum Strobe**		0		0

	NDR	NDR	SITC of Intelligent Loop Powered Wall Sounder Beacon, Variable Sound Output 90 ~ 102 dB(A) (±2 dB(A)) output at 1 meter, High Intensity LED technology, 51 User-Selectable Tones (all tones EN54-3 compatible). Approved by LPCB & Vads.	Nos.	19	4537	86203
6	NDR	NDR	**Isolator**		0		0
	NDR	NDR	SITC of Short Circuit Isolator. The device shall have ability to locate between any devices on the SLC loop, Indicate of a single short circuit by a yellow LED, UL Approved	Nos.	3	2050	6150
	NDR		(Additionally separate Isolator modules will installed only if required)		0		0
7	NDR	NDR	**Response Indicator**		0		0
	PWD-CSR	13-9-9/PWD-CSR-22-23/Page No.224	Supplying, erecting and testing of response indicators as per specification .and as directed.	Noa.	270	207	55890
8	PWD-CSR		**FRL Armored Cable**		0		0
	PWD-CSR	13-9-11 PWD-2022-23 Page No. 242	Supplying, installing, testing and commissioning FR, XLPE armored cable 4 core 1.5 sq.mm. copper conductor complete erected on wall/ ceiling complete as per specification no. CB-LT/CU	Mtrs.	2968	135	400680
9	PWD-CSR	7.-11.-6	Cable Tray		0		0
	PWD-CSR	7.-11.-6/PWD-2022-23 Page No. 144	Providing & erecting Hot dipped Galvanized Perforated type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 150 mm width & 75 mm height complete with necessary coupler plates & hardware in approved manner. etc. complete as directed	Mtrs.	500	614	307000
10	PWD-CSR	3.-11.-77./PWD-2022-23 Page No. 70	Carrying out **core cutting of size 3" to 5" dia x 15" length** in the C.C./rock/stone wall with the help of specialized core cutting machine in proper manner and finishing the site as original.	BLDG	40	7519	300760
			TOTAL OF PART – 3- SMOKE DETECTION & FIRE ALARM			**Total A (Excluding GST)**	**2393994.00**
11	**Public address and Voice Alarm Control Panel**						

	NDR	NDR	Digital microprocessor-controlled voice alarm compact amplifier for voice alarm, announcements and background music. Integrated audio inputs, 8-level priority control, voice alarm control, power amplifier, circular dial and complete monitoring according to VDE 0828-1, EN 54-16 and VDE 0833-4.6 switchable and adjustable volume speaker outputs with a total of 240 Watt nominal power output. Three microphone / audio carrier inputs with switchable sensitivity as well as two stereo audio carrier inputs with volume control and tone control on front panel, one input switchable sensitivity and volume control back to prevent an intentional or unintentional adjustment, two speaking bus lines for up to four external stations.Front mounted acoustic and electronically monitored fire brigade microphone (fist microphone) with control panel for controlling the alarm: emergency one and out, range selection, selection of evacuation and warning text. Fault indication with plain text display of the occurred error, acoustic signal and reset button.Password-protected setting the equalizer settings, language, password many more. and display relevant system information via menu on alphanumeric two-line display. LAN connection for system programming and read out of the log with detailed event and error messages to diagnose locally or to remote diagnosis.8 universally usable inputs and 8 universally usable control outputs; 6 separate inputs for alarm control of the BMZ with switchable monitoring, one with 24-volt control (polarity); three separate control outputs with relay contacts for feedback to the BMZ: collective fault signal (changeover contact), emergency (changeover contact) and activated CPU off (make contact). Each line output a switching relay for example external volume control in 3- and 4-wire technology.An appropriate additional amplifier can be used as a	No	1	360000	360000

			rescue and announcement enhancer, in the second case, announcements are made without the interruption of background music in the chosen areas can be made. The monitoring of the additional amplifier is taken over by the compact amplifier. Extension of the system up to 60 areas with suitable extension amplifiers possible.				
12			**Booster Amplifier**				
	NDR	NDR	The booster amplifier shall operate on 220 – 240 V AC or 24 V DC power, and shall control and mix 1 balanced (screw terminal) Line in and 1 unbalanced (screw terminal) 100 V Line inputs. Outputs shall be balanced Loop out and balanced high and low impedance (floating) Speaker out. The amplifier shall meet the following performance criteria: Power output shall be 240 W at less than 1% THD (at 1 kHz, 1/3 rated power). Frequency response shall be 50 Hz to 20 kHz (+/-3 dB), with an S/N ratio of over 60 dB. Bass Tone Control shall be +/-10 dB at 100 Hz, and Treble Tone Control shall be +/-10 dB at 10 kHz. It shall be possible to bypass the master volume to make emergency announcements. Power, signal and peak indicators, and fan cooling ventilation shall be provided. The panel shall be ABS black resin, and the case black steel plate. Dimensions shall be 420 (W) x 100.9 (H) x 351.3 (D) mm, and weight 13.2kg.		1	78000	78000
13	NDR	NDR	**DIGITAL BOOSTER AMPLIFIER**				
	NDR	NDR	The booster amplifier shall operate on 100 - 240 V AC, 50/60Hz or 24 V DC power, and shall control and mix 1 balanced (screw terminal) Line in and 1 unbalanced (screw terminal) 100 V Line inputs. Outputs shall be balanced Loop out and balanced high and low impedance (floating) Speaker out. The amplifier shall meet the following performance criteria: Power output shall be 480 W at less than 1% THD (at 1 kHz, 1/3 rated power). Frequency response shall be 50 Hz to 20 kHz, with an S/N ratio of over 70 dB or better. Bass Tone Control shall be +/-10 dB at 100 Hz, and Treble		1	142000	142000

			Tone Control shall be +/-10 dB at 10 kHz. It shall be possible to bypass the master volume to make emergency announcements. Power, signal and peak indicators, and fan cooling ventilation shall be provided. The panel shall be ABS black resin, and the case black steel plate.				
14	NDR	NDR	**REMOTE MICROPHONE**				
	NDR	NDR	Digital paging microphone with 15 programmable buttons with activation indicator led for area and text option from the text store. Digital control signals, audio signals, and power supply via bus line. Input socket for external power supply, socket for connecting a headset speaking with preload for electret microphones. Integrated Mic Preamps with switchable compressor and adjustable microphone sensitivity, floating balanced output. Automatic triggering of a pre and/or post gongs from 4 different 1-4 sound effects by the talk button can be programmed, display by LED during the Gong. Operational, engaged and talking advertisement for activation. Intercom station without additional accessories as a built-in intercom can be used. The number of buttons can be increased through a keyboard extension. Monitoring speaking points connecting to the ELA management amplifier. Indicator for connection failures to the ELA management system. Output level: 0 dBV into 600 ohm Frequency response: 100 Hz to 19kHz Connection cable: Category 5 cable with RJ45 connectors, maximum length: 800m		1	64000	64000
15	NDR	NDR	**CEILING MOUNT SPEAKER**				
	NDR	NDR	The ceiling mount loudspeaker shall be an integrated cone driver, line transformer and baffle (grille) assembly. The driver shall be a 16cm (6") diameter cone type with 8ohm nominal impedance and a ferrite		100	1900	190000

			magnet. Power handling shall be 6 W (15 W program) with a frequency response from 65 – 18 KHz and sensitivity of 90 dB SPL at 1 W input measured at a distance of 1m. The line transformer shall accept 70 V and 100V inputs with taps for 1 W, 3 W and 6 W with an output impedance of 8 ohms. The baffle shall be made of polypropylene resin and grille shall be surface-treated steel plate net with an off-white color (RAL9010). With two spring clamps mounted at the opposite side of the baffle for easily assembly.(The contractor to use back box as required)				
16	NDR	NDR	**WALL MOUNT SPEAKER 6W BLK**				
	NDR	NDR	The speaker shall be a 5" (12cm) cone type enclosure suitable for wall mounting with a supplied plug-in speaker receptacle accessory. The input connector shall be an M4 screw terminal, with an 11 mm distance between barriers. The speaker impedance shall be 1.7kohm (6W) or 3.3kohm (3W) for a 100V line, and 1.7kohm (3W) or 3.3kohm (1.5W) for a 70V line. The output sound pressure level at a distance of 1m with a 1W input level applied shall be 90 dB SPL. The speaker shall have a frequency response of 120 – 18,000Hz (-20dB). The speaker enclosure shall be constructed of fire-resistant HIPS resin. The grille shall be constructed of surface-treated steel plate net.		45	7400	333000
17	NDR	NDR	**PAGING HORN SPEAKER**				
	NDR	NDR	Weather-resistant pressure chamber loudspeaker compliant with IP65 in 100 V design, oval horn made of powder-coated aluminum, driver cover made of ABS plastic, swivelling bracket made of stainless steel for precise alignment of the speaker, rear selector switch for power matching Rated power: 15 W Power matching: 15W, 10W, 5W, 3W Degree of protection: IP65 Frequency response: 280 – 12,500 Hz Sound pressure (1W/1m): 109 dB (Peak 112dB)		8	11000	88000

18	NDR	NDR	**ATTENUATOR**				
	NDR	NDR	The Attenuator is a flush-mounted wall attenuator and uses a transformer which allows connection of a wide range of loads (30 W or less). Volume can be adjusted in eight steps. Wall mounting back Box as required		15	7500	112500
						Total B	**1367500.00**
						Total A+B	**3761494.00**
						Total (Excluding GST)	**3761494.00**

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SITC OF PASSIVE PROTECTION - ITEMS - FRD 120 (METAL)

S. N.	SSR No. / P. No.	PARTICULARS	UNIT	QTY	UNIT RATE (₹)	TOTAL AMOUNT (₹)
1	NDR	**Fire Door (Metal) 120 min rating**				
	NDR	For Single / Double Leaf Door (Including Frame, Shutter & Fasteners) confirming to BS - 476, Part 22 and IS : 3614 Part II, with thick galvanized steel sheet. The frame & shutter are finished with Powder Metal Single Frd Door 120min Rating. As per the below mentioned specifications:- Type - Fire Resistant Double Leaf, MOC - Metal, MS, Size of wall opening Width: 1500 mm, Height: 1800 mm (The contractor to take detailed measurement & opening pattern approval from client) Door leaf Size - Includes both leaf Width: 1360 mm, Height: 1730 mm Thickness - As per standard, 1.2 mm per sheet Infill material - Resin bonded honeycomb paper core of 120 min. fire rating Frame Profile - 120 x 70 mm, thickness 1.2 mm Frame MOC - Fire rated MS Fire Rating - 120 Minutes Bearing & Hinges - SS-304,ball bearing but hinges of size: 100 x 75 x 3 mm - 08 Nos. with 5 mm machine screw SS-304 Door Closure - STD Arm 65 Kg Capacity - 02 No. Make: Hilti/ Garg/ SS or equivalent Panic Bar - Single point locking, touch bar type: DK 1000 - 02 Pc Trim Lock - External trim lock with lever handle & lock cylinder: TMB - 02 Pc Glass - Fire rated, Clear wired glass 200 x 300 x 11 mm - 02 No. Fastener - Hilti HUD 10 x 70 x 95 mm - 12 Nos. - Fire Strip seal Fire Strip seal 10 x 4 mm Handle - SS-304,D-type, 22 x 250 mm - 04 No. with pull push back to back set Dead Lock - Dead lock with 70 mm cylinder C EPC - 02 set Flush tower bolt - Lever action flush tower bolt with 300 mm rode Sign board - Emergency Exit sign board - 01 No. Colour of door - Red/ Beige / Grey as finalised by STL Label Details : a) Name of the manufacturer, b) Type of	No.	6	28000	168000

		fire door, c) Fire rating classification, d) Serial number of the door, e) Year of manufacture, and f) Certificate reference number. Miscellaneous : Door shall be tested and certified by any approved laboratory, the label shall specify the name of the agency and the certificate number Warranty : 5 year post installation except physical damage Certification & Test : According to IS: 3614, Report to be submitted as per Annex C of IS: 3614 along with Fire door test report`				
					Total (Excluding GST)	**168000.00**

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SCHEDULE – "B"
SHREE SAIBABA HOSPITAL, SHIRDI
SUMMARY SHEET

SR. NO.	PARTICULARS	AMOUNT
1	TOTAL OF PART – 1 - FIRE HYDRANT SYSTEM	**69,10,193.00**
2	TOTAL OF PART – 2- SPRINKLER SYSTEM	**55,87,418.44**
3	TOTAL OF PART - 3 - SMOKE DETECTION & FIRE ALARM SYSTEM (ADDRESSABLE)	**37,61,494.00**
4	TOTAL OF PART - 4 – PASSIVE PROTECTION (FRD-120)	**1,68,000.00**
	(Excluding G.S.T.) Total	**1,64,27,105.44**
	SAY	**1,64,27,105.00**

SCHEDULE – C (Summary in Percentage)

Name of Work: - TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM, SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT. SHREE SAIBABA SANSTHAN HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR.

Schedule showing (approximately the materials to be supplied from the departmental stole for work contracted to be executed and preliminary and ancillary works and the rate at which they are to be changed for. Please mention the rates in Percentage i.e. **(Above /Below/ at Par- in Percentage % Only)**:

Kind of material	Quantity	Rate in figure **(Above /Below/ at Par- in Percentage Only)**	Rate in words **(Above /Below / At Par - in Percentage Only)**	Unit	Place of delivery
----------	----------	----------	Nil	----------	----------

Xxxxx

TECHNICAL DETAILS AND SPECIFICATION

PART – 1- HYDRANT SYSTEM

PART – I: SPECIFICATION FOR PIPING AND VALVE:

1. **Scope: -** The scope includes/ comprises the supply, installation, testing and commissioning of all pipes including pipe fittings, jointing, valves required as per S.O.Q. The drawings show the general layout of the piping and award of contract; the contractor shall prepare his own detailed working drawing to suit site conditions and showing the details of fittings location of valves etc.

2. **Fire-Fighting water supply system piping:**

(A) G. I piping:

All GI piping shall conform to IS 1239 for “Heavy” series (class C) with flanged joint. The pipe and fittings shall be able to withstand a hydrostatic test pressure of 5 Map (50Kg/sq. cm) maintained for at least 3 seconds at manufacturing works / lab test. The flanged joints shall be provided on both sides of the valves. 3mm thick 3 ply rubber insertions conforming to IS 638 shall be provided between two flanges at the flanged joints. Wet riser cum down comer for Firefighting system, suction and delivery pipes of booster pumps shall be made of GI.

Sr. No.	Description	Thickness
1	15 mm	3.25 Mm
2	20 mm	3.25 Mm
3	25 mm	4.05 Mm
4	32 mm	4.05 Mm
5	40 mm	4.05 Mm
6	50 mm	4.47 Mm
7	65 mm	4.47 Mm
8	80 mm	4.8 Mm
9	100 mm	5.40 Mm
10	125 mm	5.40 Mm
11	150 mm	5.40 Mm
12	200 mm	6 Mm
13	250 mm	6 Mm
14	300 mm	6 Mm
15	350 mm	6 Mm

(B) General:

(i) All nuts and bolts shall be of MS hot dip galvanized.

(ii) All pipes shall have IS certification marks. The pipes and fittings shall be smooth, sound, free from any imperfection and neatly dressed.

(iii) GI pipes shall be properly supported with approved “U” clamps at proper interval.

3 Installation of Pipes:

A. The contractor, while making working drawings, must keep in view the openings in the building and other structural members through which the pipes are designed to pass or to be laid. All pipes shall be cut to accurate length at site.

B. Pipes shall be properly supported with suitable steel structures on walls/ roofs and PCC supports for the underground pipes. The tenderer shall adequately design all the brackets saddles, clamps, hangers, etc. and ensure their structural integrity.

C. The pipe-supports of steel shall have one coat of primer and two coats of rust preventive paint. The spacing of the pipe supports shall not exceed the following:

Pipe dia Spacing

Up to 15mm dia	-	1200mm
20 to 25mm	-	1800mm
30 to 150mm	-	2400mm
150 and above	-	3000mm

Where pipe and clamps are of dissimilar materials, a gasket shall be provided in between. Pipe-hangers shall be fixed on walls and ceilings by means of Rawl plugs and approved shear fasteners.

D. Vertical risers shall be parallel to wall and column lines and shall be straight. Risers passing through floor-slab shall be fixed at each floor by clamps or collars attached with a 12 mm thick rubber pad or any resilient material.

E. Pipe sleeves of 50mm or larger dia shall be provided wherever pipe passes through walls and annular space filled with felt and finished with retaining rings.

F. All pipe-threading shall be in accordance to IS 554.

4 Installation of underground pipes: -

Underground pipelines for fire-fighting systems from Pump Room up to Hospital and pipe loop surrounding the complex, as well as pipeline connecting to wet risers shall be are as per the drawings. Piping buried underground shall be properly supported on plain cement concrete pedestal and properly anchored. Backfilling shall be done after all the required tests are carried out with excavated materials free from rubbish and large stones. It shall be tamped in layers.

5 Testing of Pipe: -

All pipes after installation shall be tested at a hydrostatic test pressure of at least 1.5 times the maximum operating pressure for a period of 2 hrs. All leaks and defects joints shall be rectified to the satisfaction of the Sansthan's PMC, / Engineer. Pipes repaired subsequent to above pressure test shall be retested in the same manner. All tests shall be witnessed by the Sansthan's PMC, / Engineer.

6 Painting: -

After installation and testing, the pipes shall be painted as per S.O.Q.

7 Valves: -

7.1 Gate (Sluice) Valve:

The valves shall be of rating PN1.6 conforming to IS-14846. Valves shall be provided as shown in the applicable drawings conforming to the following specification: -

i) 15 to 50 mm gun metal Screwed

ii) 50mm and above body cast iron Flanged end non-rising spindle. The valves shall be tested hydraulically at 1.5 times of maximum system pressure.

7.2 non-return valves:

The valves shall be of rating PN1.6 provided as shown in the applicable drawing and conform to the following specification.

(i) 15 to 65 mm gun metal Screwed
(ii) 80 and above C.I. Flanged

Valves shall conform to IS 9338 or IS 5312 or latest IS as required. The valve shall be tested hydraulically at 1.5 times of the max system pressure.

7.3 Air Release Valve: - The valve shall be provided for venting. The valve shall be double float type with C.I/G.M body, Vulcanite balls, rubber seating etc. The air release valve shall be associated with an equal size peet valve.

8. Testing of Various Materials in Laboratory:

The Sansthan's / Consultant / Engineer may direct the Contractors to get the samples of various materials tested etc. in laboratory. The results of the tests are normally binding on the Contractor and Sansthan's. The Sansthan's / Consultant / Engineer is also empowered to take action to reject or approve materials based on the test results. The Contractors shall pay the stipulated charges for carrying out the tests as per rules. In case the Contractor disputes the results of tests, it is open for him to ask for the re-testing in which case the cost shall be borne by the Contractor. The decision of the Sansthan's on acceptability or otherwise of test results, re-testing by Sansthan's or testing again independently in Government Approved Laboratory.

10. Pressure Switch:

A pressure switch shall be connected on delivery line of fire pump, at a pre-set pressure level so designed to automatically start the fire pump or Jockey pump as the case may be when the pressure in the system falls or raises below or above the pre-set level. There shall be 4 pressure switches one with upper and lower limit for

Jockey pump, and another only for lower pressure limit for main pump. Stopping of main pump should only by manual push button which should be prominently indicated on the pump panel. Similar lower pressure switch should also be incorporated in the diesel pump to make the start automatically at preset drop in pressure.

11. Air Release Valve:

A Gun Metal air release valve to be placed at all wet riser, so that the air bubbles formed as a result of leakages can be overcome. The valve shall be useful at the time of commissioning and maintenance.

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PART – II

SPECIFICATIONS FOR FIRE HYDRANT SYSTEM COMPONENTS

STAND POST TYPE FIRE HYDRANT:

GENERAL: The item includes supplying of C.I. Stand Post type Fire hydrant, C.I. sluice valve etc. including fixing.

MATERIAL: Stand post column shall be fitted with 65 mm size instantaneous male coupling and 80 mm size C.I. duck-foot bend, C.I. sluice valve etc. Stand post hydrant shall conform to the relevant IS code. 80 mm socket or flanged tailpiece shall be as per site requirements. Sluice valve shall conform to the relevant IS code with necessary flanged/lead joints.

FIXING: Hydrant and C.I. sluice valve shall be fixed in position as indicated in the drawing or as directed. They shall be fitted by means of flange joints on the pipe line.

TESTING: The Hydrant and the joints shall be tested under the testing clause of pipe line. The testing shall be done along with the testing of pipe line.

HYDRANT VALVES (Single/twin outlet landing valve)

GENERAL: The item includes supplying stainless steel, single or double outlet (twin) hydrant landing valve with C.I./ S.S. hand wheel, detachable brass or stainless-steel female coupling as specified in schedule of quantities.

MATERIAL: The hydrant landing valves shall be oblique Morri's pattern stainless steel conforming to IS 5290 /BS 5041 having instantaneous coupling having 100 / 150mm with blank cap and chain conforming to IS 901 to suit the hosepipes, including nuts, bolts, washers, gaskets with necessary fittings like `tee' to main riser 150mm or 100 mm dia as specified.

FIXING: Twin outlet valves shall be fixed on 100 / 150mm nominal bore and single outlet shall be fixed on 80 /100mm nom. bore and court yard hydrant at 900 / 1200mm aboveground level. The valve shall be flanged jointed.

PAINTING: -The hydrant valve unit shall be painted with three coats of signal red paint.

FIRE HOSE PIPES: -

GENERAL: The item includes supplying of approved synthetic hose pipe of 63 mm dia x15m long with guaranteed bursting pressure of 35.7 kg Cm2 fitted with 63 mm dia. Instantaneous male and female Brass/SS coupling on each end as specified in schedule of quantities.

MATERIAL: The hose pipe shall be Unlined Flex Canvas for firefighting conforming to IS4927, Fabric Reinforced Rubber Lined Woven-Jacketed (RRL) fire hose type A or Synthetic Fibber Woven-Jacketed (SFWJ)/ Elastomeric fire hose type B conforming to IS 636 or controlled percolations (CP) Hose conforming to IS 8423 all with ISI mark as specified in schedule of quantities. The instantaneous male and female coupling shall be of Brass / SS conforming to IS 903 with ISI mark.

The coupling shall be bound and riveted to Hose pipe with copper rivets & 1.5 mm GI wire.

PLACING: The fire hose shall be stored in the hose pipe box single or double either in flaked or rolled manner.

FIRE HOSE BOX: -

GENERAL: The item includes supplying fabricated MS sheet metal / FRP hose pipe box shall be capable to accommodate 1 or 2 nos. hose pipe as specified in the schedule of quantities.

MATERIAL: The hose pipe box shall be fabricated from M.S. Sheet as per BOQ for accommodating 2 nos. of those pipe and branch pipe with nozzle or hose branch pipe with nozzle specified in schedule of quantities. The box shall have front glass door lock with angular on frame.

FIXING: The hose pipe box shall be fixed with 4 nos. C.P. brass screws and Rawal plugs on the wall as directed.

PAINTING: The MS box shall be painted with two coats of signal red enamel paint from outside and white enamel-paint from inside.

BRANCH PIPE:

GENERAL: The item includes supplying of Stainless-Steel branch pipe fitted with detachable hexagonal nozzle as specified in schedule of quantities.

MATERIAL: The branch pipe shall be SS conforming to IS 903 or universal pattern as per IS 2871. The branch pipe shall be 63 mm dia fitted with detachable hexagonal nozzle of 19 mm dia. suitable to connect hose pipe.

PLACING: The branch pipe with detachable nozzle shall be placed in the hose pipe box.

FIRST AID HOSE REEL: -

GENERAL: The item includes supplying of approved rubber hose reel of 20mm dia x 37mwith swinging drum with cut off outlet nozzle.

MATERIAL: The hose reel shall be high pressure rubber hose reel fitted on swinging wall mounted type drum of 20mm dia x 37 m (120') long conforming to IS 884 along with 8mmdia. Outlet cut off nozzle chromium plated brass or stainless steel as specified in schedule of quantities.

FIXING: The swinging wall mounted drum fitted with rubber hose reel shall be fixed on necessary bracket on the wall with 4 nos. of C.P. brass screws. The hose reel shall be connected to wet/dry riser and shall be fixed near to riser.

PAINTING: The drum and brackets shall be painted with two coats of signal red enamel paint from outside and white enamel pain from inside.

FIRE BRIGADE SERVICE INLET SIAMESE CONNECTION: -

GENERAL: The item includes Siamese connections suitable to connect the mobile pump to wet riser for supplying water to the vertical riser in case of emergency.

MATERIAL: The Siamese connections shall have 2, 3 or 4 nos. of 63 mm dia. SS make inlet (instantaneous male coupling) as specified in schedule of quantities. The double flange C.I. body swing type non-return valve conforming to IS5312 (part I) shall be flanged jointed to the vertical pipe of Siamese connection. This includes blank cap drain valve of 25 mm dia and GI / MS pipe conforming to IS 1239 of necessary length and fittings required for connecting

to main riser. The nom. bore of pipe riser shall be 100mm or 150 mm as specified in schedule of quantities.

PAINTING: The exposed pipe of Siamese connection shall be painted with two coats of signal red anticorrosive paint over to coats of red oxide primer. The GM inlet housing box shall be painted with red enamel paint from outside. The underground pipe shall be given anticorrosive treatment as per IS 10221.

FIRE BRIGADE COLLECTIVE BREECHING INLET CONNECTION:

GENERAL: The item includes the inlet connection to the fire compartment of the water tank with G.I. pipe for augmentation.

MATERIAL: The fire bridge inlet connection shall have 2, 3 or 4 nos. of 63 mm dia. GM make inlet (instantaneous male coupling) specified in schedule of quantities. The Grippe for augmentation shall be confirming to IS 1239 (part I) of heavy quality and joints shall be with weld joint.

PAINTING : The exposed G.I. pipe of the connection shall be painted with two coats of signal red anticorrosive paint over two coats of red oxide primer. The underground pipe shall be given anticorrosive treatment as per IS 10221.

DEWATERING: The contract rate shall include bailing or pumping out all the water, if accumulated during the progress of the work while connecting the collective breeching to the water tank fire compartment, either from rain, seepage, springs or any other cause till completion of work.

TESTING: The Inlet connection shall be tested including fittings weld joints and shall be tested under the testing head (clause) of G.I. piping work.

PIPE PIECE:

GENERAL: The 80 mm nominal pipe of required length with flange at one end and other end welded with riser.

MATERIAL: The 80 mm dia pipe piece shall be conforming to IS of 300, 450,600 mm length as specified in schedule of quantities. The pipe piece shall be with flange with holes welded or integral at one end for fixing hydrant and other end to be welded with Riser in the shaft.

FIXING: The pipe piece shall be welded with Riser in the shaft. The 10% of the welded joint shall be dye penetration (D.P.) tested to the relevant IS code. The flange at another end shall be welded or integral to the pipe piece.

PAINTING: The pipe piece shall be painted with two coats of signal real anticorrosive paint over a two-coats of read oxide primer.

TESTING: The pipe piece shall be tested along with GI / MS, pipe risers under the respective head (clause) testing.

ORIFICE PLATE (ORIFICE FLANGE): -

GENERAL: The item includes providing and fixing GM / Brass or stainless-steel orifice plate of not less than 6 mm thick or as specified in schedule of quantities, having suitable bore for reducing the pressure and to restrict the operating pressure within 3.5 to 4.00 kg / sq. cm at the hydrant outlet at every floor.

MATERIAL: The orifice plate shall be Gun Metal/Brass/Stainless Steel and bore size shall

be properly designed to reduce the pressure at the fire hydrant outlet as per fire brigade requirement.

FIXING: The orifice plate shall be fixed in position as indicated in drawing or as directed. It shall be fitted by means of flanged or welded or screwed joint as specified in schedule of quantities.

TESTING: The orifice plate shall be tested or calibrated to give the required pressure. The bore shall be modified or orifice plate shall be replaced without any extra cost.

PRESSURE GAUGE: -

GENERAL: The pressure gauge shall be of specified diameter and appropriate range and be complete with shut off gauge cocks.

MATERIAL: The pressure gauge shall be brass body siphon and cock dial type. The size of pressure gauge shall be100 mm dia or 150 mm dia as specified in schedule of quantities. Dial range shall be adequate for the pressure encountered as specified. The Dial shall have the calibration in MKS and FPS units and shall be properly calibrated before installation. Accuracy over the selected range shall be ± 1%.

FIXING: The pressure gauge shall be fixed & screwed in the pipe making or drilling necessary holes in pipe line etc.

TESTING: The pressure gauge shall be tested for the leak poorness of the joints along with pipeline laid under testing clause of relevant piping work.

WATER CUMFOAM MONITOR: Detachable type having discharge capacity of 1750 LPM @ 7 Kg/cm2 pressure made of C.S. Seamless tube conf. to hot dip galvanized having Gunmetal swivel joints with 5.5. Ball bearing horizontal rotation 360 Dig and Vertical rotation + 45 to -15 Dig, Nozzle will be jet –spray type having arrangement for Foam induction also so that the same can be used as Foam Monitor also using Foam induction tube. Horizontal reach of monitor will be at least 35/45 Mtrs at 30 Dig angle in still air

BARREL SIZE: 2.5” (63 MM).

Inlet 80 nab; od: 200; pcd:160, 4 holes (19mm), volume 1750 lpm @ 7kg/cm2 pressure mock Ms seamless pipe anti corrosive treatment zinc plating swivel joints ss 304 with double row of ss 304 ball bearings. movement: vertical +80 o to –40o movement: horizontal 360 o continues movement. mode of movement handle bar: Ms with hand grip locking arrangement brass locks. hydrostatic test pressure 25 kg. /cm2 foam nozzle al alloy aqua nozzle with pickup tube of 3-meter length and strainer. standard as per is 8442. horizontal throw-water 45 meter @ 7 kg inlet pressure vertical throw 30 meter @ 7 kg inlet pressure.

TESTING &INSPECTION: Hydrostatic test pressure _ 23 KG / CM2 (for monitor body only for 5 min) Discharge Capacity - 750 GPM (±5%) (AT 7 KG/CM² (G) nozzle inlet pressure) Performance - flow at 7 kg/cm2 –750 GPM Throw in still weather condition.

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PART – 2- SPRINKLER SYSTEM

1. **Sprinkler System:** UL Listed, FM Approved, NBC-2005 Part IV and IS:15051 2002 and NFPA /TAC for QB Sprinkler and IS:1209 for Pipes/ Fittings

1.1 **The sprinkler system consists of:**

1) Sprinkler pipe with valve.

2) Sprinkler header pipe from the sprinkler pumps up to the alarm (installation control) valve at ground level.

3) Sprinkler riser pipe from ICV up to the top of last floor.

4) Tapping at each floor with a flow switch assembly.

5) Sprinkler pipe network at ceiling level on each floor. This network is fitted with Quartzoid Bulb (Q.B.) detector cum water sprayer. These are rated at 68°C to break due to fire heat on the floor below. Only those will spray water which get broken.

6) After the fire is extinguished, the fused sprinkler is to be replaced with new a one.

The system to be recharged with water 7 kg. /cm2 pressure.

1.2 Material **of Sprinklers**: Brass or Nickel Chrome-Plated Finish and as per Schedule 'A'

1.3 **Testing:** Manufacturer's Test Certificates Each floor pipe network with sprinkler heads fitted in position and tested at 10.5 kg/cm2 hydraulic pressure.

1.4 **Metallic Flexi Drops for Sprinklers:** Installing, testing and commissioning of metallic flexi drops for sprinklers for below false ceiling 25 mm dia. of suitable length with supports as directed by Sansthan/ Consultant / Engineer.

Testing of Various Materials in Laboratory:

The Sansthan’s / Consultant / Engineer may direct the Contractors to get the samples of various materials tested etc. in laboratory. The results of the tests are normally binding on the Contractor and Sansthan’s. The Sansthan’s / Consultant / Engineer is also empowered to take action to reject or approve materials based on the test results. The Contractors shall pay the stipulated charges for carrying out the tests as per rules. In case the Contractor disputes the results of tests, it is open for him to ask for the re-testing in which case the cost shall be borne by the Contractor. The decision of the Sansthan’s on acceptability or otherwise of test results, re-testing by Sansthan’s or testing again independently in V.J.T.I. or I.I.T will be binding on both the parties to the contract.

PART – II: Specifications for Pumps

1 **Scope** The scope includes / comprises of the supply, erection, testing and commissioning of motor driven Booster pump set Nos, along with base plate, foundation bolts, ant vibration pads along with necessary accessories, complete in all respect as per following technical specifications and schedule of quantity for fire-fighting systems requirements for Sansthan.

2 **Fire Pumps:**

Data:

a) Type: Automatic Fire Hydrant system.

b) No. of Fire Pumps: Main Fire Pumps (One Electrical Motor Driven Pumps (Main Pump), Diesel Engine Driven Pump (Standby), Jockey Pump, Booster Pump.

Pumping Sets:

Pumping sets shall be single or multistage horizontal centrifugal multistage single-outlet pumps with cast iron body and bronze dynamically balanced impeller connecting shaft shall Be stainless steel.

a) Pumps shall be connected to the drive by means of a flexible coupling.
b) Pumps shall be provided with approved type of mechanical seals pressure gauge with Isolation cock on the delivery side.
c) Pumps selected should work under 150% rated flow delivered against 65% of the rated Head. So as to meet local statutory requirements/Client's requirements.

Electrical Motor Driven Pump:

Fire pump shall be electrically driven centrifugal pump of capacity are mentioned below against 7 bars. The pump shall be automatic in operation and driven by a totally enclosed fan cooled Induction electric motor of suitable HP with suitable speed. The construction details of the pumps shall be as follows: -

340 cum/hr @ 105 m Head

a) Pump: Horizontal type Split casing.
b) Casing: Cast Iron.
c) Impeller: Double inlet enclosed type – bronze.
d) Shaft: Stainless Steel.
e) Bearings: Heavy duty ball bearings.
f) Flanges: Faced and drilled as per BSS-10 table or IS.
g) Drive: Direct drive with flexible coupling.
h) Gland: Horizontal split for each inserter and removal.
i) Motor: Total enclosed fan cooled inducting motor suitable for operation of 430 Volts, 3 Phase, 50 Hz, A.C. supply.
j) Starting: Automatic starting device with arrangement, contactor, pressure switch etc., and suitable hooter.
k) Installation: Pump and motor set shall be mounted on a common base plate and installed on a suitable concrete foundation and curing the same. Suitable anti-vibration springs shall also be installed to minimize the vibration. The pump set shall,

however be factory aligned. The bed plate levels shall be properly fixed at site before the foundation bolts are grouted.

l) Pump Accessories: Pump set shall be provided with the following accessories:

i) Coupling guard.
ii) Air vent for pump casing.
iii) Suction and delivery pressure gauges.
iv) Base plate, foundation bolts.

Diesel Engine Driven Pump:

a) Diesel Engine shall be 4 (Four) cylinder type with individual head assemblies. The Engine shall be water cooled and shall include radiator, water pump and connecting piping, strainer, isolating and pressure reducing valves, by-pass line complete in all respects.

b) Engine shall be direct injection type with low noise and exhaust omission levels.

c) The speed of the engine shall match the pump speed for direct drive.

d) The engine shall be self-starting type and shall be provided with 12 Volts heavy duty batteries, dynamo, starter, cut-out, starter, cut-out battery leads complete in all respects. two additional spare batteries shall be provided.

e) The system shall be provided with an automatic fully connected battery recharger of type and capacity required for the system.

f) System should be designed such a way that both batteries are connected and are individually able to provide automatic pump starting. The battery circuits should be arranged to alternately attempt starting on one circuit first, then the other one battery could be charged by an alternator on the engine with the other one charged by an independent means.

g) The engine shall be provided with an oil bath air cleaner.

h) Engine shall be suitable for running on high-speed diesel oil.

i) The system shall be provided with a control panel with push button starting arrangement and wired to operate the engine on a differential pressure gauge.

j) The entire system shall be mounted on a common structural base plate with ant vibration Mounting and flexible connections on the suction and delivery piping.

k) Providing one fully mounted and supported day oil tank fabricated from 5mmthick MS sheet of capacity (size 1 Mtr x 1 Mtr x 0.7 Mtrs) 500 ltrs with inlet, outlet with valves, gauge glass, manhole cover. The cost of MS frame work for staging to be included.

l) Provide one exhaust pipe of MS 3 mm thick with suitable muffler to discharge the engine Gasses to outside open air as per site conditions duly painted. Exhaust pipe to be fully Insulated and GI sheet cladded from engine outlet including muffler and exhaust pipe Which is located outside the building (i.e. complete length of exhaust piping).

m) Provide all accessories fittings and fixtures necessary and required for a complete operating engine set.

n) Pressure switches/sensing devices to be mounted on its own independent discharge header for all the three pumps to achieve automatic operation.

Jockey Pump:

Pump shall be electrically driven centrifugal pump of capacity 180 LPM at 105 meters head. the pump shall be automatic in operation and driven by dip proof squirrel cage electric motor of suitable HP with suitable speed with a degree of protection not less than IP 55.

Base Plate:

Pumps and motors shall be mounted on a common structural base plate with anti-vibration mounting pads.

Booster Pump:

Booster pumps (electrical motor driven) shall be horizontal centrifugal split casing type/end suction type.

Capacities Vs head of Booster pumps:

Booster pumps (motor driven) shall be capable of furnishing not less than 150% of rated flow capacity at a total head of not less than 65% of total rated head.

The shut-off head for pumps shall not exceed 120% of rated head.

Power ratings of firefighting pumps:

Power ratings motors shall be suitable for the pumps

General requirements:

The pump shall be directly coupled to the motor with love-joy coupling.

The unit shall be statically and dynamically balanced so that the peak amplitude of vibration in the horizontal or vertical direction at the pump/ motor bearings does not exceed 50 microns during start up or while running at rated condition.

The suction and discharge nozzles shall be flanged to match with pipeline flanges.

Nozzle-connections 50 mm NB and below may be with threaded ends.

Vent and drain connection shall be provided.

Suitable lifting lugs or eye bolts shall be provided for handling.

The pump plate shall be of sturdy construction to withstand the weight of the complete unit as well as normal piping loads. The base plate shall be properly drilled for the anchor bolts for mounting on concrete pedestal.

The pumps shall be of robust construction, suitable for continuous service. It shall be standard product of a reputed manufacturer thoroughly proven for satisfactory performance and reliability.

3.0 Technical requirements: -

3.1 Data sheet for Booster pumps:-

a)	Fluid	: Clear water
b)	Capacity	: as per S.O.Q.
c)	Total head required	: as per S.O.Q.
d)	Speed	: i) 1500 rpm (synchronous speed),
e)	Shut off head	: shall be maximum 120% of operating head for main Fire Fighting pumps.
f)	Efficiency	: should preferably be above 50%. Motor efficiency should preferably be more than 90%. Available head at Pump suction is 10 m (approx.).

3.2 Mechanical data: -

Coupling	: Love joy type
Seal	: **All pumps shall have mechanical seals.**

3.3 Components and material specification:-

a)	Pump casing and cover	: closed grain cast iron as per IS 210 Gr. FG 260
b)	Impeller	: Bronze
c)	Shaft	: High tensile stainless as per AISI 410
d)	Fasteners	: Alloy steel/carbon steel
e)	Base plate	: Carbon steel of IS 2062

4. Submission of documents: The Contractor shall submit three copies of certified dimensional drawings, descriptive data on the equipment supplied, foundation details (design and drawing to be provided by the supplier), Dismantling operation, maintenance, spare parts list and any other relevant literature. The supplier shall also recommend list of spare parts that are necessary for maintenance purpose.

5. Packing: The pumps set shall be packed properly and perfectly in a rigid wooden casing.

6. Air Vessel Tank: Air Vessel Tank made out of 4mm MS Sheet 300mm dia x 1000mm long with dished ends in 5m thick sheet with provision necessary for inlet, outlet safety valve, Air release valve, isolation valve duly painted inside with two coats of anti-corrosive paint of approved synthetic enamel paint.

7. Pressure Switch: A pressure switch shall be connected on delivery line of fire pump, at a pre-set pressure level so designed to automatically start the fire pump or Jockey pump as the case may be when the pressure in the system falls or raises below or above the preset level. There shall be 4 pressure switches one with upper and lower limit for Jockey pump, and another only for lower pressure limit for main pump. Stopping of main pump should only by manual push button which should be prominently indicated on the pump panel. Similar lower pressure switch should also be incorporated in the diesel pump to make the start automatically at preset drop in pressure.

8. Pressure Gauge: One number pressure gauge to be placed at ever delivery pipe of pump. The calibrated reading should be readable and units to be mentioned. The pressure reading to be slightly below the lower limit and above the upper limit of

pressure standards. Pressure gauges used for the test shall be accurate and shall preferably have been re calibrated before the test.

9. Air Release Valve: A Gun Metal air release valve to be placed at all wet riser, so that the air bubbles formed as a result of leakages can be overcome. The valve shall be useful at the time of commissioning and maintenance.

Inspection and testing requirement and documents to be submitted

Pumps:

a) **Physical and chemical test:-**
The Tenderer shall furnish:
i) The actual results of chemical analysis and mechanical properties of the following:-
ii) Pump casing (i) Impeller (ii) Shaft
iii) Other components as per standards
iv) Dynamic balance Certificate

b) **Weldments**:-

Welding shall be done by qualified welder only. Weldment shall be examined by Dye Penetrate Test in accordance with IS/ASTM.

c) **Inspection & Testing of pumps:**

Performance test of Pumps shall be conducted to determine the characteristics of the unit over the entire range of flow from 0 to maximum flow. At least five points approximately equally spaced on the characteristics curves including shut off, operating flow and max flow shall be plotted. The characteristics determined during tests are developed head, Pump BHP and efficiency vs flow. Pump RPM shall also be noted. Necessary performance curves of the pumps, balancing certificate and test certificates as per standard shall be submitted by tenderer.

d) **Erection & testing at site :**

The Pump sets shall be installed on the concrete foundation block as per the drawings. The agency shall ensure that the foundation bolts are correctly embedded and the Pump and motor are properly levelled before grouting of foundation bolts. On completion of entire installation, the agency shall test these pumps and the results shall tally with the specifications and performance curves. Vibration & noise level of the pump sets shall be within acceptable limits of relevant Standards.

e) **Submission of drawings**

Following drawings shall be prepared and submitted for approval:

- General arrangement drawing indicating overall dimensions of all components
- Concrete foundation plan, base plate drawings and load details of all equipment.
- Complete electrical drawings.
- Instrumentation control circuit drawings and layout.

f) Submission of Operation and Maintenance Manual :

The tenderer shall furnish 5 sets of operation and maintenance manuals, service & overhauling manuals and spare parts catalogue of the supplied equipment’s and instruments.

PART – III

Operation sequence of Fire fighting water supply Pumps:

Pressure setting of the pumps in pump house (from where fire fighting water will be supplied) shall be as per site operational requirement.

Painting :

After complete installation and testing, terrace pumps, accessories and fittings shall be given two coats of enamel paint of approved make over a coat of primer.

PART –IV

CEILING MOUNTED AUTOMATED FIRE EXTINGUISHERS:

Available in ABC Powder and Clean Agent variants, Ceiling Mounted extinguishers are effective against virtually all classes of fire. Rapid, Hassle-free Installation With no piping or ducting required, these extinguishers can be rapidly installed with no breakage, hassle or loss of man hours.

Item including with Armour/ Fire Chem 5 Kg Ceiling Mounted Fire Extinguisher Mono Ammonium Phosphate Powder 90, Stored Pressure Type, Pressure Gauge, Gross Weight 7.7 Kg, Empty Weight 2.7 Kg, Can Height 264MM, Diameter 240MM, Discharge time minimum 8 Secs, Auto discharge mechanism on temperature rise, Applicable on Class A, B, C and electrically started Fire, 5 Years Warranty. as directed or as per the project requirements & as directed by PMC / Sansthan.

AUTO FIRE EXTINGUISHER BALL: Dimension: Sphere, Diameter 15cm, Gross Weight:1.3Kg, Chemical Weight :1.25Kg. including with all necessary fittings as Dimension: Sphere per the project requirements.

DEWATERING: The contract rate shall include bailing or pumping out all the water, if accumulated during the progress of the work while connecting the collective breeching to the water tank fire compartment, either from rain, seepage, springs or any other cause till completion of work.

TESTING: The Inlet connection shall be tested including fittings weld joints and shall be tested under the testing head (clause) of G.I. piping work.

PIPE PIECE:

GENERAL: The 80 mm nominal pipe of required length with flange at one end and other end welded with riser.

MATERIAL: The 80 mm dia pipe piece shall be conforming to IS of 300, 450, 600 mm length as specified in schedule of quantities. The pipe piece shall be with flange with holes welded or integral at one end for fixing hydrant and other end to be welded with Riser in the shaft.

FIXING: The pipe piece shall be welded with Riser in the shaft. The 10% of the welded joint shall be dye penetration (D.P.) tested to the relevant IS code. The flange at another end shall be welded or integral to the pipe piece.

PAINTING: The pipe piece shall be painted with two coats of signal real anticorrosive paint over two coats of read oxide primer.

TESTING: The pipe piece shall be tested along with GI / MS, pipe risers under the respective head (clause) testing.

PRESSURE GAUGE: -

GENERAL: The pressure gauge shall be of specified diameter and appropriate range and be complete with shut off gauge cocks.

MATERIAL: The pressure gauge shall be brass body siphon and cock dial type. The size of pressure gauge shall be100 mm dia or 150 mm dia as specified in schedule of quantities. Dial range shall be adequate for the pressure encountered as specified. The Dial shall have the calibration in MKS and FPS units and shall be properly calibrated before installation. Accuracy over the selected range shall be ± 1%.

FIXING: The pressure gauge shall be fixed & screwed in the pipe making or drilling necessary holes in pipe line etc.

TESTING: The pressure gauge shall be tested for the leak poorness of the joints along with pipeline laid under testing clause of relevant piping work.

Y-STRAINER: A Y-Strainer to be placed in the suction pipe for all pumps. The strainer should be capable of withstanding the suction pressure.

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TECHNICAL DETAILS AND SPECIFICATION FOR WORKS

PART- 3 - ADDRESSABLE FIRE DETECTION & ALARM SYSTEM

1. DESCRIPTION OF WORK

a. This specification outlines the requirements for an analogue addressable fire detection and alarm system.

b. The work described in this specification consists of all labour, materials, equipment and services necessary and required to complete and test the automatic fire detection and alarm system. Any material not specifically mentioned in this specification or not shown on drawings but required for proper performance and operation shall be furnished and installed for a complete and operational system, by the contractor at no extra cost.

c. The contractor shall furnish, and install complete and ready for intended use and operation, an automatic fire detection and alarm system including control panel (s), initiating devices (manual call point, intelligent smoke and heat detectors, etc.) indicating devices (hooters, bells, visual warning signals, etc.) and repeater panel, wiring apparatus and accessories.

d. The installation and locations of equipment and devices in the building shall be governed by the specifications and drawings with due regard to actual site conditions, manufacturers' recommendations, ambient factors affecting the equipment and other operations in the vicinity. If any departure from the specifications or drawings is necessary, approval shall be obtained from the Project Manager before work is started thereon.

e. Materials and equipment shall be new, first grade, standard, current models of the manufacturer and shall be suitable for this system. Where two or more pieces of equipment performing the same function are required, they shall be exact duplicates produced by the same manufacturer.

f. All materials, devices, and equipment shall be compatible with the circuits or systems in which they are utilized.

g. The system shall be based on an “Open Protocol” to ensure flexibility of using Sensors / Detectors of an alternate manufacturer, in case the user requires such an option at a later date.

h. The system shall have provisions for interfacing with BMS.

2. APPLICABLE CODES, STANDARDS AND APPLICABLE PUBLICATIONS

IS: 2175	:	Heat Sensitive Detectors.
IS: 2189	:	Automatic Fire Detection and Alarm System.
IS: 11360	:	Smoke Detectors.
NFPA 71 & 72 /BS: 5839	:	Commissioning Tests for Fire Alarm Systems.
VDS	:	Fire Detection and Alarm System.

3. SUBMITTALS

3.1 Drawings and Data

a) Shop drawings showing location of all the detectors, control modules, Fire Alarm panel, Repeater Panel etc.

b) Conduit & wiring layout.

c) Block diagram indicating connection of detectors, numbering, loop connections etc.

d) Specific catalogue cuts of all the items to be installed.

e) Control panel interior wiring diagram identifying all symbols.

f) Point-to-point wiring diagrams showing the points of connection and terminals used for all electrical field connections in each system, all equipment or systems which are supervised and controlled by the fire alarm system. Diagrams shall show all connections from field devices to the control panel initiating modules, output modules, switches, relays and terminals. Diagrams shall show interconnection of all devices, modules, output modules, switches, relays and terminals.

g) Custom Build software details for project with loop/device annunciation description and automatic control functions for each specific loop/device.

3.2 Tests & Test Reports

a) Tests certificates will be furnished for approval of all Fire alarm devices and system devices.

b) All routine tests as per relevant codes for the Fire Alarm Panel shall be conducted and results furnished to the Project Manager.

4. SPECIFICATIONS

4.1 FIRE ALARM SYSTEM DEVICES

4.1.1 General

i. The detectors shall be set by inserting a coded plastic card / selectable switch into each mounting base, allowing up to a minimum of126 unique address code. The address will be a simple seven-bit binary code, set at the time of commissioning. The detector address card will be held in the base so that it cannot be accidentally removed with the detector. Each address card shall provide a space visible from below when the detector is in place. The loop number and individual address or any other information can be written in the space.

ii. Devices shall receive loop power for Short Circuit isolators and communication from the same pair of conductors/Wire.

iii. Each device shall contain screw terminals with rising plates for positive termination of wiring specified in schedule of quantities.

(Every fire Alarm system should be specified with ISI Mark & test certificate. use of coded plastic card is required as per IS norms.)

4.1.2 **Addressable Manual Call Point**

I. The addressable manual call points shall monitor and signal to the FACP the status of a switch operated by a “non-frangible element” assembly. They shall be red in colour and suitable for surface or flush mounting. The addressable call points shall be provided with an integral red LED to indicate activation.

II. One version of the addressable call point shall be available mounted in a weatherproof housing, affording protection to IP66.

III. The addressable call points shall be capable of operating by means of thumb pressure and not require a hammer. They shall be capable of being tested using a special ‘key’ and feature a no frangible, resettable element instead of a glass.

IV. The addressable call points shall incorporate a mechanism to interrupt the normal addressable loop scan to provide an alarm response within 3 seconds and shall be field programmable to trigger either an alert or an evacuate response from the FACP.

V. The unit should also be available as an integral SCI (short-circuit isolator) variant, both for internal and external use.

4.1.3 **Addressable Analog Detectors**

I. All fire sensors shall mount on a common base to facilitate the changing of sensor type if building conditions change. The base shall be incompatible with conventional detectors to preclude the mounting of a non-intelligent device.

II. If the Fire Alarm Panel determines that the sensor is in alarm, the Fire Alarm Panel shall command the sensor LED to remain on to indicate alarm & led must be viewable from 360-degree angle.

III. Each sensor shall be capable of being tested for alarm via command from the Fire Alarm Panel.

IV. Each sensor shall respond to Fire panel scan for information with its type identification to preclude inadvertent substitution of another sensor type. The Fire Alarm panel shall operate with the installed type but shall initiate a mismatch condition until the proper type is installed or the program med sensor type changed.

V. Each sensor shall respond to Fire Alarm Panel scan for information with an analogy representation of measured fire related phenomena (smoke density, particles of combustion, temperature). Such response proves end-to-end sensor including the operation of the sensor electronics. Systems which only monitor the presence of a conventional detector in an addressable base shall not be acceptable.

VI. The detector should be of distributed intelligent type. i.e. It can take its own decision without depend on FACP and keep it log file store in its non-volatile memory.

4.1.4 **Addressable Analog Heat Detectors**

The heat detectors shall be capable of detecting rapid rise in temperature and/or fixed absolute temperatures.

The heat detectors shall employ two heat-sensing elements with different thermal characteristics to provide a rate of rise dependent response.

The detector should also incorporate a locking mechanism, so that the detector can only be removed with a special removal tool.

The heat detectors shall include RFI screening to minimise the effect of radiated and conducted electrical interference.

The manufacturer shall have available the following versions of heat detectors to meet different applications:

- Analogue addressable – Class P
- Conventional Fixed Temp./Rate of Rise – Class A and Class C
- Conventional – Intrinsically Safe – Grade 1

The heat detectors shall incorporate two LEDs, clearly visible from the outside, to provide an indication of alarm actuation.

As BS standard is acceptable EN-54 approved modes should be acceptable

4.1.5 **Addressable Analog Photo Electric Smoke Detectors**

i. The photoelectric smoke detectors shall be capable of detecting visible combustion gases emanating from fires and shall employ the forward light-scatter principle.

The photoelectric smoke chamber shall be equally sensitive to a wide range of combustible materials.

The detector should also incorporate a locking mechanism, so that the detector can only be removed with a special removal tool.

The design of the point-type photoelectric smoke detector sensing chamber shall be optimised to minimise the effect of dust deposit over a period. The chamber cover shall be removable for ease of cleaning or replacement.

The point-type photoelectric smoke detectors shall incorporate screens designed to prevent all but the very smallest of insects from entering the sensing chamber, (50 holes per square centimetre or more).

The photoelectric smoke detectors shall be designed to have high resistance to contamination and corrosion and shall include RFI screening to minimise the effect of radiated and conducted electrical interference.

The manufacturer shall have available the following versions of the point type photoelectric smoke detector to meet different applications:

- Analogue addressable
- Conventional
- Conventional – Intrinsically Safe
- Marine Approved

The photoelectric smoke detector shall incorporate two LEDs, clearly visible from the outside, to provide indication of alarm actuation.
In locations where the detector is not readily visible, remote indicator units shall be provided.

Note: EN-54 approved makes are acceptable for models of recommended makes.

4.1.6 **Addressable Ionisation Smoke Detectors**

I. The Addressable Analog Ionisation Smoke Detector shall have inner chamber surrounded by outer chamber. The signal is amplified and digitised for reception by the panel. Detector shall be completely solid state with 360-degree LED indication at the detector.

II. The coverage per Optical Smoke Detector shall be meet the requirement of standards. This coverage area will reduce depending upon structural configurations or partitions etc. It shall be possible to connect Ionisation, Smoke Detector with Heat Detector or Manual Call Point in the same circuit. The sensitivity of Detector shall be adjusted and set by the contractor to suit the site requirement.

III. It shall have in built safety device to monitor the removal and pilferage of the Detector. The Detector also must have facility for remote indication.

IV. The ionisation Detector shall be intelligent Analog Addressable Detector with its own manually set digital code and be able to give Analog output to the Fire Alarm Panel regarding any changed condition. It shall be able to communicate with the Fire Alarm Panel.

V. The Base of the Detector shall be interchangeable with other Smoke, Multi sensor or Heat Detectors. LED shall be provided to indicate locally alarm condition. The enclosure shall meet IP 44 protection grade.

VI. It shall be able to withstand operating temperature variations from -40^0 C to 70^0 C. Further, Relative Humidity (no Condensing type or Icing) up to 95% shall not hamper its performance. The voltage rating shall be from 17 V DC to 35 V DC, though the voltage may be changed depending upon the working voltages of a proprietary Fire Alarm Panel.

VII. The Detector shall meet the requirements of. It shall be possible to test the Detector's working both from the Panel as well as locally by means as designed by the contractor and approved by the Project Manager/Program mer.

VIII. Ionisation sensor shall be provided as indicated on the place. The sensitivity of the smoke detector should be 0.7 Y value and can be adjusted from 0.45Y to 1 Y depending on the site conditions by the operator.

IX. All mode of detector should be approved by VD Sand should have Drift compensation for all the modes. Detector having non-approved modes are not acceptable since they are not approved as per standards.

4.1.7 **Addressable Analog Multicriteria Smoke Detector.**

I. The multi-sensor should be capable of monitoring two different sensing elements:
- Photoelectric
- Thermal

The design of the point-type multi-sensor photoelectric smoke detector sensing chamber shall be optimised to minimise the effect of dust deposit over a period of time.

The detector should also incorporate a locking mechanism, so that the detector can only be removed with a special removal tool.

The point-type multi-sensors shall incorporate screens designed to prevent all but the very smallest of insects from entering the sensing chamber, (50 holes per square centimetre or more).

The multi-sensors shall be designed to have high resistance to contamination and corrosion and shall include RFI screening to minimise the effect of radiated and conducted electrical interference.

The sensor should be able to operate in the following modes:

Combined Mode

The sensor should be able to operate as a photoelectric sensor but when the ambient temperature reaches 40ºC or above, the thermal elements should be capable of sensing the 'Rate of Rise' and adjust the sensitivity of the photoelectric element automatically. The sensitivity of the photoelectric should be increased via an internal algorithm.

Photoelectric Mode

The sensor should be able to return the analogue value for the photoelectric element during a normal polling sequence.

The sensor should also be able to signal to the FACP if the thermal sensing element exceeds a fixed temperature threshold.

Thermal Mode

The sensor should be able to return the analogue value for the thermal element during a normal polling sequence. The sensor should also be able to signal to the FACP if the photoelectric sensing element exceeds a pre-defined threshold.

The multi-sensor shall incorporate two LEDs, clearly visible from the outside, to provide indication of alarm actuation. The LEDs should be controlled from the FACP if the LEDs flash during the normal polling sequence.

The modes of the multi-sensor should be controlled by the FACP, when the FACP changes from one mode to another the FACP should re-calibrate the multi-sensor.

In locations where the detector is not readily visible, remote indicator units shall be provided. The multi-sensor should have the capability of monitoring either sensing elements, if either or both of the elements fail it should be reported and displayed at the FACP.

4.1.8 **Strobe cum Alarm Hooters (Addressable)** The Loop Powered Wall Sounder Beacon shall be connected directly to the loops where required. The unit shall be fixed onto a sounder specific mounting base which will be red to match the sounder. A weatherproof kit should be available to increase the IP Rating of the wall sounder to IP66.

The beacon should utilise LED technology to reduce current consumption and maintenance.

The Wall Sounder Beacon sound output should be variable between 90 dB(A) and 102 dB(A) The sounder and beacon within the device should have the capability to be operated separately or together, this should be selected at the FACP.

Where recommended by the risk assessment, an EN54-23 compliant variant should be available for certain environments.

4.1.9 **Input Devices**

i. The addressable switch monitoring module shall be capable of monitoring one or two independent voltage free contacts, each normally open or normally closed, using a single loop address. The unit shall be powered directly from the addressable loop.

The addressable switch-monitoring module shall provide an LED indication when the FACP is polling it. The LED shall be continuously lit when an input is active.

4.1.10 **Control Switches**

The addressable relay interface module shall be capable of switching two independent relays; either normally open or normally closed, each rated at 30 V, 1 Amp.

A single input shall provide open and short circuit monitoring facilities, set locally at the unit.

The addressable relay interface module shall use a single loop address.

The unit shall be powered directly from the addressable loop.

The addressable relay interface module shall provide an LED indication when the FACP is polling it.

4.1.11 **Fault Isolator Device in base**

The short circuit isolator base shall provide protection on the addressable loop by automatically disconnecting the section of wiring between two isolators where a short circuit has occurred. The short circuit isolator base shall derive its power directly from the addressable loop.

Any Sensor or Beacon can be fitted to the isolator base; the isolator base is also ceiling or wall mountable.

4.1.12 **Response Indicator.**

i. Response indicator should be made up of polycarbonate material. It should be placed where the detectors are not easily accessible or visible.

ii. it should glow steady red when detector is in alarm condition.

4.2 **FIRE ALARM PANEL (FP)**

Fire Alarm Control Panel (FACP)

4.2.1 Functional Description

The fire alarm control panel (FACP) shall be the central processing unit of the system, receiving and analysing signals from fire sensors, providing audible and visual information to the user, initiating automatic alarm response sequences and providing the means by which the user interacts with the system.

User interaction with the system will be by means of an intuitive full colour 800 X480 LCD with resistive touch screen and automatic backlight dimming graphical display. User permissions to access the FACP panel menu and control options will be provided by means of a key switch or a 5- or 6-digit passcode.

The FACP shall be certified as meeting the requirements of EN54-2 and EN54-4 by a suitable, notified body. A certificate of product approval and certificate of constancy of performance shall be made available for inspection as evidence of certification.

The FACP shall be easily configurable to meet the exact detection zone and output mapping requirements of the building. 2000 detection zones shall be capable of being configured, each with an 80-character location message.

For networked systems, it will be possible to map any detection zone to more than one panel, to allow vertical risers (stairwells) to be easily configured and supported.

The FACP shall be microprocessor based. Operating programs and configuration data shall be contained in re-configurable non-volatile memory. Retention of the memory shall not rely on any form of battery or capacitor back-up device. The FACP shall incorporate separate processors for loop processing and central processing.

The detection loops will continue to work autonomously and will audibly and visually report a fire with the minimum requirements of EN54-2, in the event of a failure of the main display and user interface.

Up to 8 detection loops will be supported on a single panel, by means of a number of 2-loop plug in cards. Panel should support Wired and Wireless Devices on the same loop.

The FACP will have a comprehensive event log, which has a capacity of 10,000 events stored in non-volatile memory, with a time stamp of 1 second resolution. This log will be maintained in the event of a total loss of power and can be downloaded into csv file format using the panel configuration software.

Provision shall be made for each addressable loop to be sub-divided into geographical zones. The section of wiring corresponding to each zone circuit shall be protected from faults in other sections by line isolator modules.

In order to facilitate re-configuration and system extension, the allocation of addresses to devices shall be independent of their physical arrangement on the loops.

Up to 254 individually addressed standard devices shall be configured on each addressable loop. Loop powered sounders incorporated as a sensor bases shall be available.

The FACP shall have the capability to support sub-addressing of addressable. Inputs and Outputs should be controlled independently.

It shall be possible to fit a 40-column thermal printer to the FACP which will print system events automatically and logged data upon request.

The FACP shall incorporate a real-time clock to enable events to be referenced against time and date. In networked systems, a master clock panel will synchronise all panel clocks every 24 hours.

4.2.2 Additional Components

It shall be possible to fit the FACP with a network board to allow up to 128 control panels and repeater panels to communicate with each other. The network shall be fully fault tolerant and shall continue to function normally under any single fault condition.

It shall be possible to fit the FACP with plug-in communication board to allow remote monitoring of a network of control panels. This board will support IP, RS485 and RS232 interfaces and will act as a firewall, to prevent malicious attempts to remotely control the FACP and fire system.

This communication board will enable connectivity to the fire alarm PC based graphics system.

It shall be possible to fit up to thirty-two, sixteen-way input/output modules, relay modules, sounder modules or conventional zone modules or any combination thereof to each control panel. Modules will directly plug into available spare expansion slots within the panel, or via a remote boxed I/O enclosure with backplane assembly and optional power supply unit.

4.2.3 Configuration

It shall be possible to perform configuration updates on site using a portable personal computer and a Microsoft Windows® based configuration utility. This facility shall allow the following parameters to be set:

System

- Produce a configuration file which contains data for up to 128 panels or repeaters connected together as a network.
- Set cause and effect tables for any combination of devices or zones of devices to operate devices, zones of devices or functions on any panel or panels connected to the network.
- Upload and view graphically the configuration from a single panel or entire network of panels.

Control Panel

- Panel name (network identity, 30 characters minimum).
- Configure up to 64 user login accounts with up to 28 different profile variations
- Select sounder ringing mode as common, zonal or two stage
- Select the global first and second stage delay times for any delayed output to between 0 and 10 minutes.
- Set number of loops on panel as 2 through to 8, in increments of 2 loops
- Set number of zones on panel as 48 or 144
- Set the four onboard sounder outputs to either Class A (loop) or Class B (spur with end of line) operation.
- For each two-loop card
    - Set loop sounder volume globally
    - Select tone patterns for different event types
- Specify the daily calibration time for detection devices.
- Specify the master clock panel for networked systems.
- Set start and end times for day night mode for each day of the week.

Zones

- Allocate an 80-character zone location message

Detectors

- Allocate a zone (0-2000)
- Set a delay before the panel responds to a fire signal from (0-180 seconds)
- Indicate pre-alarm
- Bypass any output delays when activated to fire
- Set day sensitivity and night sensitivity separately.
- Address loop powered base sounders.
- Allocate an 80-character location text message.

Call points

- Allocate a zone (0-2000)
- Allocate an 80-character location text message

Switch units (input)

- Allocate a zone for each input and the device itself (0-2000)
- Define input action as fire, faulty, pre-alarm, evacuation, alert, security alarm, silence alarm, reset, transparent, disablement or test mode.
- Change the input action message from the default to any one of the above or to any one of a user defined library of 10 additional action messages.
- Set a delay before the panel responds to a fire signal (0-180 seconds)
- Select whether the input requires the control panel to be reset or is self-clearing upon removal of the input.
- Bypass any output delays when activated
- Allocate an 80-character location text message

Relay or sounder units (output)

- Allocate a zone for each input and the device itself (0-2000)
- Define whether the device responds to evacuate inputs, alert inputs, as a sounder (default ringing) and switches off when the Silence Alarms control is operated
- Permit the output to operate on any pre-alarm, technical alarm, security or fault event.
- Has a delay before operating (0 to 10 minutes in two stages)
- Allocate an 80-character location text message

Loop powered sounders

- Allocate a zone (0-2000)
- Permit the output to operate on any pre-alarm, technical alarm, security or fault event.
- Has a delay before operating (0 to 10 minutes in two stages)
- Allocate an 80-character location text message.

Cause and Effects

- 2000 cause and effect entries
- 40000 inputs or outputs can be allocated to these 2000 entries including
    - Zones
    - Input devices
    - Outputs devices
- All cause and effects operate network wide, allowing any combination of inputs across the network to control any combination of outputs on any panel.

Network

- Default to a “peer-to-peer” system, where all events are displayed and processed on all other panels on the network
- To permit each panel to be configured to display and process selected event types from any other panel on the network
- Permit each panel to be configured with sequential / unique loop numbers for instances where several panels protect a single building
- Support daily time synchronisation from a master clock panel, to ensure that all panels event logging information is accurate

4.2.4 Panel Construction

The housing containing the FACP shall be of metal construction and shall be capable of being surface or semi-flush mounted. It shall be complete with cable knocks-outs in sufficient quantity to accommodate all likely cabling requirements.

The housing shall afford a minimum ingress protection to IP30 and it shall not be possible to open the FACP without the use of a special tool or key.

The panel will be constructed in a way that ensures that any complex electronic circuit boards can easily be replaced without the need to disrupt the field wiring connections. All field cable terminations will be made into a passive backplane assembly.

The ability to support a family of plug-in addition cards will be provided, so that the product can easily be modified with additional sounder outputs, conventional zone interfaces, plant control relays or switch monitor/indicator driver interfaces.

4.2.5 Panel Indications

The FACP shall monitor the status of all devices on the addressable loops for fire, short-circuit fault, open-circuit fault, incorrect addressing, unauthorised device removal or exchange, pre-alarm condition and contaminated detector condition.

The FACP shall also monitor the status of internal connections and interfaces including charger and batteries.

The FACP shall provide the following discrete visual indications:

- FIRE — Red LED Indicator
- GENERAL FAULT — Yellow LED Indicator
- SYSTEM FAULT — Yellow LED Indicator
- GENERAL DISABLEMENT — Yellow LED Indicator
- FIRE PROTECTION ACTIVATED — Red LED Indicator

- FIRE PROTECTION FAULT Yellow LED Indicator
- FIRE ROUTING ON Red LED Indicator
- FIRE ROUTING FAULT/DISABLED Yellow LED Indicator
- TEST MODE ON Yellow LED Indicator
- DELAYS ACTIVE Yellow LED Indicator
- SOUNDER FAULT/DISABLED Yellow LED Indicator
- POWER ON Green LED Indicator

4.2.6 Display

In addition to the indications above, the FACP shall have an integral full colour 7" VGA display with resistive touch screen.

The display shall incorporate a backlight. An ambient light sensor will be provided to allow automatic adjustment of the display backlight to ensure clear visibility across variable light conditions. A configuration option will be available to maintain the light at maximum brightness unless the panel only being supplied from the standby batteries.

The display shall be capable of simultaneously sly indicating the number of outstanding events and their types as well as the current event.

4.2.7 Panel Controls

The panel shall be provided the following manual controls via the resistive touch screen:

- BUZZER SILENCE
- SILENCE ALARMS / RE-SOUND ALARMS
- RESET SYSTEM
- ACTIVATE CONTROLS / LOGOUT
- DELAYS CONTROL

Only the available controls will be displayed, depending on the panel state and login permissions Support for 24 user defined programmable soft buttons will be provided. These can be configured to be displayed only for selected user login accounts.

4.2.8 Remote Monitoring Signals

The FACP shall contain at least three programmable inputs to allow interconnection to other systems.

The FACP shall contain at least two programmable outputs to allow interconnection to other systems.

The FACP shall be capable of monitoring and controlling remote site devices, such as relays for the control of plants and dampers directly from the addressable loops.

The FACP shall be capable of monitoring fire doors such that, in the event of a fire alarm condition, an event is generated to warn of the failure of a fire door to close.

4.2.9 Output to Fire and Fault Routing

The FACP will provide monitored outputs to signal to Fire and Fault Routing equipment. Monitored inputs will be provided to signal receipt of the Fire/Fault routing signals from the

remote location. A Fire Routing indication will be provided by a separate LED indicator on the panel fascia when the fire routing signal has been operated.

4.2.10 Software

The FACP shall have, as a standard software enhancement, the ability to annunciate a pre-alarm condition designed to give the earliest possible warning of potential fire condition without raising the full alarm condition.

The FACP shall have, as a standard software enhancement, the ability to automatically adjust the alarm threshold levels to compensate for changes in detector sensitivity due to contamination over a period of time.

The FACP shall have, as a standard software enhancement, the ability to verify any alarm conditions in accordance with EN54-2 Clause 7.12 Dependency (Type A, B and C) requirements.

The FACP shall have, as a standard software enhancement, the ability to provide an indication that a detector is nearing a level of contamination, which requires that it be replaced or serviced.

The FACP shall have, as a standard software enhancement, the ability to provide automatic warning that a detector has reached a level of contamination, which requires that it be replaced or serviced.

The FACP shall have, as a standard software enhancement, the ability to synchronise loop data transmission to eliminate the possibility of data corruption due to cross-talk or similar effects.

3.11 Sounder Connections

The FACP shall provide the necessary outputs to separately operate a minimum of two monitored circuits of common system sounders. The sounder outputs can be configured as 2 x Class A (loop monitored), 4 x Class B (end of line monitored) or 1 x Class A and 2 x Class B combinations.

Each output shall be capable of driving a sounder load of up to 2.5A.

The FACP shall be capable of providing a two-stage alarm sounder facility that can be programmed, either on a zonal basis or common system basis, to meet the requirements of the fire authority.

Sounder outputs shall be available as follows:

- Alert, intermittent pulsed tone
- Evacuate, continuous tone

The FACP shall have the facility to change the tones of addressable sounders to provide different tones for different event types.

3.12 Fault Reporting

The FACP shall monitor all critical system components and interconnections, internal and external, such that a failure, which would prevent the correct operation of the alarm functions, causes the GENERAL FAULT indicator to light and a message to be given on the full colour touchscreen display within 100 seconds of occurrence.

The following faults shall be reported in the manner described above:

- Loop Short Circuit
- Loop Open Circuit
- Unexpected Device
- Disconnected Device
- Addressable Device Failure
- Incorrectly Configured Device Type
- Double Address Type
- System Fault (Processor)
- Low Battery
- Charger Failure
- Earth Fault Monitoring
- Battery Fault
- Mains Failure
- Sounder Wiring Open Circuit (Per Circuit)
- Sounder Wiring Short Circuit (Per Circuit)

To help fault finding and repair, the FACP shall provide text messages to indicate the location of where a fault has occurred in the system.

3.13 System Management

The FACP shall incorporate the following system management facilities:

- Isolate/re-connect individual outputs or inputs of addressable points
- Isolate/re-connect individual zones (include/exclude call points)
- Isolate/re-connect individual sounder circuits
- Isolate/re-connect all sounder devices
- Isolate/re-connect all volt-free contacts individually
- Isolate/re-connect any output defined as a plant control output
- Walk-test of a selected zone to verify detectors and sounders (silent and audible)
- System Information status information
- View the event log with filtering of
- Between dates
- Event types
- Selected zones, loops and addresses
- Print the selected event log on the panel printer
- View the addressable point status
- Set date and time

Access to the facilities describe above shall be restricted to authorised persons by means of a key switch or 5- or 6-digit passcode.

The FACP shall have an event log capable of storing the last 10,000 events that have occurred. It shall be possible to view the content of the log via the graphical display. Events shall be displayed in chronological order with the newest events first. It shall be possible to filter the event log by event type, between selected dates, by zone, loop and addresses.

The FACP shall be designed so that, for each type of analogue addressable detector, the overall response time including the sensor, the signal transmission system and the fire decision algorithm, meets the requirement of European Standards.

4.3.1 **Networking**

An additional output drive card must be provided to facilitate networking between two or more panels.

The panel to have provision for integration with PA (Public Address System) and override family of soft music that may be played in background. In addition, the panel must have a provision of integration of nurse calling system, if required in future.

4.3.2 **Wiring**

Writing shall be carried out with 2 core, 1.5 sq. mm. stranded copper conductor which shall be PVC insulated with Aluminium foil, screen 50% ABC braided and PVC sheathed.

4.4 DEFINITIONS

a. **Alarm Indicating Circuits**

Circuits to which alarm indicating devices are connected. Alarm indicating devices are audible or visual devices for warning building occupants. They include but are not limited to alarm bells, hooters and visual warning signal lights.

b. **Alarm Initiating Circuits**

Circuits to which automatic or manual alarm initiating devices are connected. Alarm initiating devices include manual call point, automatic fire (smoke and heat) detectors and other emergency reporting devices.

c. **Alarm Signal**

A signal which signifies a state of emergency requiring immediate notification of the fire services.

d. **Photo Electric Type Smoke Detector (Optical)**

A detector which detects smoke, works on light scattering principle and is Analog Addressable type with switches/codes etc. to define the Detector.

e. **Heat Detector**

A detector which detects heat and is Analog Addressable type with switches/codes etc. to define the Detector.

f. **Manual Call Point**

A device which shall be addressable type with switches/codes etc. to define the station.

g. **Strobe cum Hooter**

A device which shall be addressable and shall be able to give audible alarm through it and also give indication and controlled from the Fire Alarm Panel.

h. **Fault Isolator**

This equipment shall be placed in the electrical wiring and shall be able to isolate electrical short circuiting and loose wiring. The isolator shall be able to keep the part of the electrical circuit in operation that is connected directly to the Fire Alarm Panel.

i. **Fire Alarm Panel**

This refers to the microprocessor-based Panel that shall be connected to the various Detector loops. There shall be multiple looping/zoning as indicated on the drawing. The panel shall be able to watch individual Detectors for performance as well as to give pin point location of fire alarm. Hooter Alarm as well as facility for cutting off of AHUs and electrical power is also included in this panel.

j. **Loop**

A loop or a zone shall mean a 2-wire circuit connecting at least 126 addressable analogy devices.

k. **Control Switches**

Switches shall mean points from the Fire Alarm Panel with potential free contacts for tripping of AHUs power supply etc. as required. Any switch shall be able to trip an individual AHU.

5 TESTING AND COMMISSIONING

5.1 Photoelectric Type smoke Detector: -

The testing shall be carried out for each loop initially one detector in a loop and subsequently two or more disassociated detectors in each loop with time gap between the detectors for alarm acknowledge and reset.

An identified detector will be subjected to smoke aspiration from Smoke Detector Tester Kit (Solo or Specified as per the Make). The panel should indicate through sounder and hooter that alarm signal has been transmitted throughout the system.

This test shall be carried out in different loops as well as two loops simultaneously.

5.2 Heat Detector:

The same test in the same sequence shall be carried out for this type of detector but with the application of heat from a Heat Detector Tester Kit (Solo or Specified as per the Make).

5.3 **Multi-criteria Smoke Detector Test: -** The same test in the same sequence shall be carried out for this type of detector but with the application of heat and smoke from a Smoke &Heat Detector Tester Kit (Solo or Specified as per the Maker).

5.4 The panel shall be checked for basic tests, such as, visual checking of input voltage and amperage. All loops one by one, shall be D-wired to check for fault signal indication in the panel.

Subsequently, in every loop of panel, a detector shall be subjected to smoke or heat test and signals shall be checked on the panel.

The hooter shall sound automatically and the sounders shall also sound. It shall also be possible to check that the hooters of all panels sound automatically when the panels in Alarm Mode as per programming.

The power source shall be cut off and checked for standby supply from the batteries. After six hours the power source shall be switched on to check for auto switch over to mains mode. The trickle charger shall take over the charging of the battery to its maximum cut off level with auto cut off. A set of discharged batteries shall be connected to the panel in place of the new batteries and the trickle/boost switch checked for charging of the batteries.

Tests shall be conducted for AC failure, charger failure, battery disconnected or battery failure. In all such cases the relevant indication should come.

5.5 **Manual Call Point:**

The manual call point should be activated by manual push. The MCP shall instantaneously give a fire signal in the panel.

5.6 **Random Sample Testing:**

About 5% of all fire alarm components shall be subjected to random testing by connecting to the panels.

All smoke detectors shall be tested as given above and later cleaned with a vacuum cleaner.

5.7 **Testing of Earthlings system:**

The earth continuity conductor including metallic parts of the equipment's shall be tested for earth to electrical continuity. All tests shall be carried out as per IS 3043 and resistance of complete installation shall not be more than one ohm.

5.8 **COMMISSIONING AND ACCEPTANCE TESTS**

The commissioning and acceptance tests shall be apart from the standard or routine tests prescribed and normally conducted by the manufacturer /Design-Build Contractor and will be irrespective of the fact whether the same are covered by such tests or not.

a. Each sounder circuit shall be energized separately and the sound level reading taken to check for conformity with the minimum standards.

b. Mains failure performance.

c. Battery disconnection test.

d. Open circuit of each sounder circuit to be tested.

e. short circuit of each sounder circuit to be tested.

f. The results of the above tests either by fault warning or fire alarm shall be recorded in the log books which will be signed both by the Design-Build Contractor and the employer's Representative.

Technical Specification – Public Address

Voice Alarm System Amplifier 240W: - Digital microprocessor-controlled voice alarm compact amplifier for voice alarm, announcements and background music. Integrated audio

inputs, 8-level priority control, voice alarm control, power amplifier, circular dial and complete monitoring according to VDE 0828-1, EN 54-16 and VDE 0833-4 switchable and adjustable volume speaker outputs with a total of 240Watt nominal power output. Three microphone / audio carrier inputs with switchable sensitivity as well as two stereo audio carrier inputs with volume control and tone control on front panel, one input switchable sensitivity and volume control back to prevent an intentional or unintentional adjustment, two speaking bus lines for up to four external stations.

Front mounted acoustic and electronically monitored fire brigade microphone (fist microphone) with control panel for controlling the alarm: emergency one and out, range selection, selection of evacuation and warning text. Fault indication with plain text display of the occurred error, acoustic signal and reset button.

Password-protected setting the equalizer settings, language, password many more. and display relevant system information via menu on alphanumeric two-line display.
LAN connection for system programming and read out of the log with detailed event and error messages to diagnose locally or to remote diagnosis.

8 universally usable inputs and 8 universally usable control outputs; 6 separate inputs for alarm control of the BMZ with switchable monitoring, one with 24-volt control (polarity); three separate control outputs with relay contacts for feedback to the BMZ: collective fault signal (changeover contact), emergency (changeover contact) and activated CPU off (make contact). Each line output a switching relay for example external volume control in 3- and 4-wire technology.

An appropriate additional amplifier can be used as a rescue and announcement enhancer, in the second case, announcements are made without the interruption of background music in the chosen areas can be made. The monitoring of the additional amplifier is taken over by the compact amplifier. Extension of the system up to 60 areas with suitable extension amplifiers possible.

The user-friendly multilingual programming software on Windows® is included.
®: Windows is a registered trademark of Microsoft Corporation
Power supply: 230 V --, 24 V DC
Frequency response: 55Hz to 18kHz
Sensitivity inputs 1-4: 10 / -50 dBV or better
Receiver. Background music:-10 dBV or better
Noise ratio: 80 dB or better

480W Power Amplifier:- The booster amplifier shall operate on 100 - 240 V AC, 50/60Hz or 24 V DC power, and shall control and mix 1 balanced (screw terminal) Line in and 1 unbalanced (screw terminal) 100 V Line inputs. Outputs shall be balanced Loop out and balanced high and low impedance (floating) Speaker out. The amplifier shall meet the following performance criteria: Power output shall be 480 W at less than 1% THD (at 1 kHz, 1/3 rated power). Frequency response shall be 50 Hz to 20 kHz, with an S/N ratio of over 70 dB or better. Bass Tone Control shall be +/-10 dB at 100 Hz, and Treble Tone Control shall be +/-10 dB at 10 kHz. It shall be possible to bypass the master volume to make emergency announcements. Power, signal and peak indicators, and fan cooling ventilation shall be provided. The panel shall be ABS black resin, and the case black steel plate.

240W Power Amplifier - The booster amplifier shall operate on 220 – 240 V AC or 24 V DC power, and shall control and mix 1 balanced (screw terminal) Line in and 1 unbalanced (screw terminal) 100 V Line inputs. Outputs shall be balanced Loop out and balanced high and low impedance (floating) Speaker out. The amplifier shall meet the following performance criteria: Power output shall be 240 W at less than 1% THD (at 1 kHz, 1/3 rated power). Frequency response shall be 55 Hz to 18 kHz (+/-3 dB), with an S/N ratio of over 58

dB or better. Bass Tone Control shall be +/-10 dB at 100 Hz, and Treble Tone Control shall be +/-10 dB at 10 kHz. It shall be possible to bypass the master volume to make emergency announcements. Power, signal and peak indicators, and fan cooling ventilation shall be provided. The panel shall be ABS black resin, and the case black steel plate.

Paging Microphone:- Digital paging microphone with 15 programmable buttons with activation indicator led for area and text option from the text store.
Digital control signals, audio signals, and power supply via bus line. Input socket for external power supply, socket for connecting a headset speaking with preload for electret microphones.
Integrated Mic Preamps with switchable compressor and adjustable microphone sensitivity, floating balanced output.
Automatic triggering of a pre and/or post gongs from 4 different 1-4 sound effects by the talk button can be programmed, display by LED during the Gong.
Operational, engaged and talking advertisement for activation.
Intercom station without additional accessories as a built-in intercom can be used. The number of buttons can be increased through a keyboard extension.
Monitoring speaking points connecting to the ELA management amplifier. Indicator for connection failures to the ELA management system.
Output level: 0 dBV into 600 ohm
Frequency response: 100 Hz to 19kHz
Connection cable: Category 5 cable with
RJ45 connectors,
maximum length: 800m

Wall Mount Speaker:- The speaker shall be a 5" (12cm) cone type enclosure suitable for wall mounting with a supplied plug-in speaker receptacle accessory. The input connector shall be an M4 screw terminal, with an 11 mm distance between barriers.

The speaker impedance shall be 1.7kohm (6W) or 3.3kohm (3W) for a 100V line, and 1.7kohm (3W) or 3.3kohm (1.5W) for a 70V line. The output sound pressure level at a distance of 1m with a 1W input level applied shall be 90 dB SPL. The speaker shall have a frequency response of 120 – 18,000Hz (-20dB).

The speaker enclosure shall be constructed of fire-resistant HIPS resin. The grille shall be constructed of surface-treated steel plate net.

Ceiling Speaker:- The ceiling mount loudspeaker shall be an integrated cone driver, line transformer and baffle (grille) assembly. The driver shall be a 16cm (6") diameter cone type with 8ohm nominal impedance and a ferrite magnet. Power handling shall be 6 W (15 W program) with a frequency response from 65 – 18 KHz and sensitivity of 90 dB SPL at 1 W input measured at a distance of 1m. The line transformer shall accept 70 V and 100V inputs with taps for 1 W, 3 W and 6 W with an output impedance of 8 ohms. The baffle shall be made of polypropylene resin and grille shall be surface-treated steel plate net with an off-white color (RAL9010). With two spring clamps mounted at the opposite side of the baffle for easily assembly.

Horn Speakers:- Weather-resistant pressure chamber loudspeaker compliant with IP65 in 100 V design, oval horn made of powder-coated aluminium, driver cover made of ABS plastic, swivelling bracket made of stainless steel for precise alignment of the speaker, rear selector switch for power matching

Rated power: 15 W
Power matching: 15W, 10W, 5W, 3W
Degree of protection: IP65
Frequency response: 280 – 12,500 Hz
Sound pressure (1W/1m): 109 dB (Peak 112dB)

6W Attenuator (Volume controller):- The Attenuator is a flush-mounted wall attenuator and uses a transformer which allows connection of a wide range of loads (30 W or less). Volume can be adjusted in eight steps. Wall mounting back Box as required.

5.9 TESTS AT SITE

i) All commissioning tests at site will be done as per the manufacturers guidelines. Below points needs to be taken while the testing the devices.

a. Loop Checking.
b. Double address.
c. Short circuit
b. Checking of smoke detectors, Heat detectors etc. by simulation.
c. Functional tests for fire alarm panel.
d. The Mock trial of the complete Fire Detection and Alarm system.
e. Cause and effect matrix.

Technical Specification – Fire Doors

Type - Fire Resistant Double Leaf,

MOC - Metal, MS, Size of wall opening Width: 1500 mm, Height: 1800 mm (The contractor to take detailed measurement & opening pattern approval from client)

Door leaf Size - Includes both leaf Width: 1360 mm, Height: 1730 mm, Thickness - As per standard, 1.2 mm per sheet, Infill material - Resin bonded honeycomb paper core of 120 min. fire rating, Frame Profile - 120 x 70 mm, thickness 1.2 mm, Frame MOC - Fire rated MS, Fire Rating - 120 Minutes, Bearing & Hinges - SS-304,ball, bearing but hinges of size: 100 x 75 x 3 mm - 08 Nos. with 5 mm machine screw SS-304, Door Closure - STD Arm 65 Kg Capacity - 02 No. Make: Hilti/ Garg/ SS or equivalent, Panic Bar - Single point locking, touch bar type: DK 1000 - 02 Pc, Trim Lock - External trim lock with lever handle & lock cylinder: TMB - 02 Pc, Glass - Fire rated, Clear wired glass 200 x 300 x 11 mm - 02 No. , Fastener - Hilti HUD 10 x 70 x 95 mm - 12 Nos. - Fire Strip seal, Fire Strip seal 10 x 4 mm , Handle - SS-304,D-type, 22 x 250 mm - 04 No. with pull push back to back set , Dead Lock - Dead lock with 70 mm cylinder C EPC - 02 set, Flush tower bolt - Lever action flush tower bolt with 300 mm rode, Sign board - Emergency Exit sign board - 01 No., Colour of door - Red/ Beige / Grey as finalised by STL, Label Details : a) Name of the manufacturer, b) Type of fire door, c) Fire rating classification, d) Serial number of the door, e) Year of manufacture, and f) Certificate reference number., Miscellaneous : Door shall be tested and certified by any approved laboratory, the label shall specify the name of the agency and the certificate number, Warranty : 5 year post installation except physical damage

Certification & Test: According to IS: 3614, Report to be submitted as per Annex C of IS: 3614 along with Fire door test report

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LIST OF APPROVED MAKES

Sr. No	Specification	Make Type
1	G.I Pipe	Tata/ Zenith/ Jindal
2	G.I. Fitting	Zoloto/ Unik/ Safe & Secure
3	Branch Pipe	Greetech / Superex /safegaurd /Tulsi
4	Hydrant Valve	Arihant /Grap, Newage, Hiren / /Bhogilal (14 SWG sheet with powder coated)
5	Water Cum Foam Monitor	Newage/ Bhogilal/ KV Fire / Armour
6	Hose reel Drum	Arihant/Agg/Grap/ Newage, Hiren / /Bhogilal
7	RRL Hose Pipe	Tulsi/ Riya / Arihant
8	NRV	Kartar/Normex/Leader/ Advance/ Kirloskar/IVC/ Forbes/ M/s. Kamala Valves Manufacturing Concern.
9	CP GM Ball Valve	Zoloto / RB / Leader / Sant
10	Butterfly Valve/Check valve	L&T/ Audoco/ Zoloto / Kartar
11	Double Flange Sluice valve	L&T/ Audoco/ Zoloto / Kartar/ Sant
12	Air Release Valve	L&T/ Audoco/ Zoloto/ Kartar/ Sant
13	Pressure Gauge	H. Guru / Fie-big / Brc
14	Pressure switch	Indfoss / Danfoss / Switzer
15	Expansion Blow Valve	Neeta Enterprises / Safex / Cease Fire / Minimax
16	Y Stainer	Hawa / Leader / Zoloto
17	Hose Box FRP	Vilas Eng / Newage / Tulsi
18	Cables / wire	Finolex / RRK Cable/ Havells
19	Paint	Asian/ Jenson/Nicholson/ Opus
20	Wrapping Coating	Pypecoat / IWL / Coaltek Rustech
21	Fire Service Main Pump	Kirloskar / Maxflow /Platt/Texmo / Lubi Waterman
22	Jockey Pump	Kirloskar / Maxflow /Platt / Lubi Waterman
23	Booster Pump	Kirloskar / Maxflow /Platt/ Lubi Waterman
24	Diesel Engine	Kirloskar / Maxflow /Platt/ Lubi Waterman
25	Foot valve	Normex / C& R / Leader
26	Ceiling Mounted Automatic Fire Extinguishers / Auto Fire Ball	Brandsdady / Minimax / Armour
27	Sprinklers	HD / Viking / Fire Shield/ Honeywell
28	Cables / wire	Finolex / RRK Cable/ Polycab/Havells
29	PVC Copper wires FR/FRLS Grade	Finolex/ RRK Cable/ Polycab/Havells
30	LT PVC / XLPE / FRLS Armored Aluminium / Copper Cables	Finolex / RRK Cable/ Polycab / Havells
31	Fire Alarm Panel	Hochiki/ Bosch/ Esser/ Apollo/ Ravel/Aties
32	Modules / MCP	Hochiki/ Bosch/ Esser/ Apollo/ Ravel/Aties

33	Detectors	Hochiki/ Bosch/ Esser/ Apollo/ Ravel/Aties
34	Hooter with Strobe	Hochiki/ Bosch/ Esser/ Apollo/ Ravel/Aties
35	Response Indicator	MC Engineering / Maths / Mehta & Associates / STD or as approved by Santhan, PMC, Engineer – in-charge.
36	Detector Testing Kit	Detector Testor Testifier or Equivalent
37	Public Address System	TOA/ Aties/ TSG/ Honeywell
38	PVC Conduit	ISI Make as approved by Santhan, PMC, Engineer – in- charge.

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DRAFT AGREEMENT

ARTICLES OF AGREEMENT made at Shirdi on ---------- day of--------- 2025

BETWEEN

Shree Saibaba Sansthan Trust, Shirdi a religious and Charitable Public Trustre-constituted under the Shree Saibaba Sansthan Trust, Shirdi Act (Maharashtra Act No. XIV of 2004) having its office at P.O. Shirdi, Tal.- Rahata, Dist.-Ahilyanagar, Maharashtra - 423109, through its Chief Executive Officer , hereinafter referred to as "The SSST" (Which expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include the SSST or SSST for the time being of the Hospital and their successors and assigns) of the **One Part**.

AND

M/s. ----------, having its office at **----------,** hereinafter referred to as **"The Contractor"** (Which expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns) of **the Other Part.**

WHERE AS the Hospital was desirous of **TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM, SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT SHREE SAIBABA SANSTHAN HOSPITAL, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR.** from the Contractor with adequate capacity and experience for carrying out the aforesaid work.

WHERE AS the Contractor has submitted his competitive quotation / tender in accordance with the conditions and bill of quantities as mentioned in the tender document on dt. / /2025, which was accepted the Management Committee meeting dt. / /20.

WHERE AS the Contractor has agreed to complete the above work on the terms and conditions mentioned hereinafter.

WHERE AS the Hospital and the Contractor both are desirous of recording the terms and conditions agreed between themselves.

NOW THIS AGREEMENT WITNESSETH AND IT IS AGREED BY AND BETWEEN THE PARTIES HERETO AS UNDER:

1. In this agreement, words and expressions shall have the same meanings as are expressly assigned to them in the conditions of the Contract hereinafter referred to.

2. The following documents shall be deemed to form and be read as construed in this agreement viz.

a) Tender document here to.

b) Work Order issued to the Contractor by the letter of the Hospital, **NO. SSST/Fire/ /2025-26, dt. / /20** , which is accepted by the Contractor on **dt. / /20**

3. The SSST has accepted the **Percentages rate e-tender** submitted by the Contractor for **TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM, SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM SHREE SAIBABA SANSTHAN TRUST, SHIRDI (SSST), TQ.**

RAHATA, DIST. AHILYANAGAR. based on the rates agreed by the Contractor and subject to the terms and conditions mentioned herein.

4. Shree Saibaba Sansthan Hospital, Shirdi has accepted the Percentage rate e-tender submitted by you for the captioned work at the price of Rs. /- (----------only) The rates of items in CSR are inclusive of cess, insurance, overhead and transportation etc. but are excluding Goods and Service Tax (). However, SSST reserves the right to add or delete any item of work as may be found necessary.

5. This Contract is neither a fixed lump sum contract nor a piece work contract but is a contract to carry out the work in respect of **Providing fire-fighting system including fire hydrant at Shree Saibaba Hospital at Shirdi.** to be paid according to actual measured quantities and the rates contained in the schedule of items / quantities or as provided in the said conditions. All the explicitly stated and computed rates as mentioned above under this agreement shall be inclusive of cess, insurance, overhead and transportation etc. but are excluding Goods and Service Tax (GST). inclusive of all taxes, levies, duties etc. of whatever nature.

6. In consideration of the payments to be made by the Hospital to the Contractor as hereinafter mentioned, the Contractor hereby covenant with the Hospital to **Supply, Installation, testing and commissioning of Fire Hydrant System at Shree Saibaba Sansthan Trust, Shirdi (SSST), Tal. Rahata, Dist. Ahilyanagar (MH) 423109**, in conformity in all respect. The Hospital shall pay to Contractor in consideration of constructing, developing and handing over the said work, as per the contract value in the manner and in the instalments as prescribed by the said contract.

7. The owner reserves the right of altering the drawing and nature of the work, and adding to or omitting any condition of the work or part thereof, or having the portion of the same carried out by owner themselves or by others and such alterations and variations shall be carried out by the Contractor without prejudice to this contract. The owner will also have the right to modify or terminate the whole or part of this work without assigning any reason. In all such events, the Contractor shall be paid for the actual work completed and approved by the Sansthan.

8. It is agreed by and between the parties hereto that the date of commencement shall be **____/_____/ 2025**. As the stipulated period for completion is **Eighteen months (18 months),** the date of completion for the entire work shall be **____/_____/ 202__.**

9. It is agreed that all other agreed terms and conditions shall be as contained in the tender documents forming an integral part of this agreement including those mentioned herein above.

For the SSST, **For the Contractor,**

DATE:

PLACE: SHIRDI.

WITNESS: **WITNESS:**

xxxxx

On Stamp Paper (Rs-500)

AFFIDAVIT

I _____ Age _____ Years residing at _____ solemnly affirm that I am (Owner/ partner) of _____ and am submitting tender for "**TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE FIGHTING SYSTEM, SUCH AS FIRE HYDRANT SYSTEM, SPRINKLER SYSTEM AND ADDRESSABLE FIRE DETECTION & ALARM SYSTEM AT Shree SAIBABA SANSTHAN TRUST, SHIRDI (SSST), TQ. RAHATA, DIST. AHILYANAGAR.**". The documents uploaded and as prescribed in Envelop 1 are true, correct and complete. I state on oath that, there are no defaults or incorrect entries. I am aware that if any incorrect, false or incomplete information is provided by me, I shall be liable to face legal consequences thereof.

Signature of Contractor

xxxxx

INDEMNITY BOND

(On Stamp Paper Rs- 500)

In consideration of Shree Saibaba SSST Hospital, Shirdi a religious and charitable public Hospital re-constituted under the Shree Saibaba Sansthan Trust, Shirdi Act (Maharashtra Act No. XIV of 2004) having its office at P.O. Shirdi, Tal.- Rahata, Dist.- Ahilyanagar, Maharashtra – 423109, (hereinafter referred to as the 'Employer / Sansthan', which expression shall unless it be repugnant to the context or meaning thereof includes it's successors and assigns) having awarded the contract for the work of "_____" (Name of Work) at an awarded cost of_____ to M/s._____ (Name of Agency) a Partnership / Proprietorship / Private Limited / Public Limited firm carrying in such name and style the business of construction (hereinafter referred to as the 'Contractor' which expression shall, unless it be repugnant to the context or meaning thereof, includes its Proprietor/Partners/Directors for the time being or its surviving partner or his heirs and executors).

We, M/s. _____, being the Contractor do hereby agree and undertake and indemnify and save harmless the Employer in consequence of the manufacturing defect, latent manufacturing defect and construction defect found in the constructed works at any time in a period of Five (5) year commencing with the certified completion date certificate by the Employer to the Contractors in accordance with and subject to the provisions of the said contract.

It is hereby agreed and declared that the SSST of the Employer or any officer acting on his behalf shall be the Competent Authority to decide upon the question as to the defects in the construction of works and the remedy to be applied by the Contractor for their rectification at his cost and his decision shall be final, conclusive and binding upon both the Employer and the Contractor, provided that the SSST shall so decide after giving an opportunity to the Contractor to represent his case.

We hereby agree and undertake irrevocably and unconditionally to carry out duly each and every decision, order, direction or instruction as may be issued by the said SSST or as the case may be, the Officer of the Employer in this behalf and to rectify properly and promptly the defects found by him.

For & On behalf of
M/s._____ _____
Date : (Seal) Notary, Maharashtra State Before Me Notary,
Maharashtra State Notary and Registered
at Serial Number

Accepted by :

_____
(For & On behalf of Sansthan.)

xxxxx

On Stamp Paper(Rs-500)

AFFIDAVIT

(for Firm / Company has not been Blacklisted)

We, 1)……. …, 2)……, 3)…… Partners / Directors of M/s…… Our Business Premises at ……., hereby solemnly affirm and state on oath as follows :

That our Firm / Company has not been Blacklisted by any govt. Department or Organization or any other state.

Name and Signature of Director

1.
2.
3.

xxxxx

(On Stamp Paper) (Rs-500)

AFFIDAVIT

(FOR ARBITRATION / LITIGATION)

I/We, …… (Name of Proprietor / Partner /Director of the firm ……(Name of firm / Company), my /our business address is …… . I/We, hereby solemnly affirm and state on oath as follows :

I / We certify that, there is no Arbitration / Litigations are pending against our firm / company in any Court, Govt. Semi Govt, Public or Privet Sector / Department or Organization or any other state.

Name and Signature of Proprietor / Partner

/Director of the firm

1.
2.

Thanking You

(On Letterhead of Bidder)

Bio-Data / Details of Company

Sr. No.	Particulars	Details
1	Name of the Firm	
2	Address of firm	
3	Particulars of the firm (Proprietorship / Partnership / Company /J. V)	
4	Name of Proprietor/All Partners/ All Directors etc.	
5	Year of Establishment	
6	Registration No. (if any)	
7	Tele/ Fax No.	
8	E-mail ID:	
9	Website :	
10	GST Registration Number	
11	PAN Number	
12	PF Registration No.	
13	Name & Designation of Contact Person	
14	Contact No. of Contact Person with E-mail ID	

Note : Please Submit copy of Registration of Firm, Partnership Deed, J. V. Agreement, if Company then attach Certificate of Incorporation, Memorandum of Association, Article of Association, GPA etc.

Signature & Seal of Bidder

Drawing Index

Sr. No.	Drawing Name	Dwg No.
1	Hospital Gf, 1st & 2nd Floor (1)-Model	1
2	Hospital Gf, 1st & 2nd Floor-Model Shirdi	2
3	Hospital Model First	3
4	Hospital Model Ground Floor	4

Note : Auto Cad Files shall be made available against Purchase of Tender during Pre-Bid meeting.