

TENDER DOCUMENTS

FOR

D.A.V. PUBLIC AURANGABAD

BIHAR

PREPARED BY

HAPPY & ASSOCIATES

Near Hindustan Press, Cotton Mill
Gaya – 823001 (Bihar)
Mob – 7739269750, 7004657722

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D.A.V. PUBLIC SCHOOL,
D.A.V PUBLIC SCHOOL, AURANGABD, BIHAR
TENDER NOTICE

Sealed tenders are invited on behalf of DAV CMC, NEW DELHI, for D.A.V PUBLIC SCHOOL, AURANGABAD, BIHAR, on plinth area per square feet basis, from bona fide, approved and eligible contractors registered with Central Govt./ state Government/ DAV Public School or an agency of National repute for the following works including one year free maintenance from the date of handing over fully completed building.

1. Details of work:-

<u>S.NO</u>	<u>DESCRIPTION</u>	<u>AREA(sft)</u>	<u>EARNEST MONEY (Rs)</u>	<u>COST OF BOQ</u>	<u>COMPLETION PERIOD</u>
1	Foundation and plinth	6668			
2	Ground floor	6668			
3	First Floor	6668			
4	Second Floor	6668			
5	Third floor	6668			
6	Lift car				
7	Water tank				
8	Septic tank				
9	Dado Tiles Work				
10	Fire estimate (provided by fire consultant attached with report)				
	Total Project Cost				
say	Cost per sq. ft.	26672			

2. Contractors must have minimum 5 -7 years of experience in construction field.
3. Contractors must have completion certification of minimum 3 Crore for single project
4. Address of tendering authority/ Place of sale of B.O.Q. /Receipt of tender/Opening of financial DAV Aurangabad/School Office/ E-mail id- dav08231@gmail.com or By Hand/convey timely. Technical bid & Financial Bid will be available from School Office only.
5. Last date and time of B.O.Q.: - up to 12/05/2024 till 5:00 pm
6. Date and time of receiving technical bid:- 10/05/2024 through E-mail only
7. Date & time of receiving financial bid will be 12/05/2024 at 5:00 pm by registered post or by hand.
8. The scrutiny of technical bid will be on 11/05/2024. The information regarding selection and rejection of technical bid will be intimated through E-mail. The selected qualifying tenderers

will be communicated regarding date time and venue for opening and finalization bid can be intimated through E-mail.

9. Any other information can be obtained from office of afore mentioned D.A.V. Public School.
10. The tender will be received in two bid system i.e.
 - Technical bid
 - Financial bid, in sealed separate envelope.
11. Technical bid envelope will contain all the required documents except B.O.Q. Financial bid envelop will contain only the issued B.O.Q. mentioning the rate.
12. Tenderers must deposit earnest money by NEFT/RTGS or by Demand Draft in favour of afore mentioned D.A.V. Public School and produce scan document of bank receipt in technical bid.
13. The tenderers should also submit attested photo copies of PAN Card, TIN, VAT Registration, GST Registration, Labour license and Registration certificate with the technical bid.
14. The Quantity of work and area of construction may increase or decrease for which tenderer will have no claim. Construction cost of Mumty and water tank will be on the basis of per sqft rate.
15. Water and electricity for the construction work will be provided by the employer and of cost of construction will be deducted from the passed bill of contractor.
16. Tenderers are advised to visit the site to have acquainted with the site conditions before quoting their rates.
17. The undersigned reserves the right to accept or reject any or all the tenders without assigning any reason.
18. Any technical dispute arising out of the agreement shall be referred to the consultant or arbitration will be called and it will be binding on both the parties.
19. All payments by employer under the contract will be made by mutual understanding and bill approved by the architect M/s Happy & Associates, Near Hindustan Press, Cotton Mill, Gaya, Bihar – 823001
20. The defects liability period shall be 12 months after entire building has been fully completed and handed over 10% of the payment of contractor shall be retained up to 12 months from the date of handing over fully completed building.
21. All the parts of the tender have been fully read and understood.

INSTRUCTION TO TENDERERS

1. The tender will be received in two-bid system i.e (i) Technical bid, and (ii) Financial bid in sealed separate envelope. Technical bid envelope will contain all the required documents except B.O.Q. Financial bid envelope will contain only the issued B.O.Q. mentioning the rate. The tender documents shall be duly filled in and signed by the tenderer and shall be addressed in sealed cover. The full name and address of the Tenderer and name of the work shall be written on the cover.
2. All entries in the tender documents shall be clearly written and shall be in ink and in English. Correction if any, shall be clearly made and duly signed and dated by the tenderer. Erasures and over writing shall not be permitted and shall render the tender liable to rejection.
3. The tenderer shall sign each and every page of the tender documents including the drawings attached.
4. Unit rates shall be quoted in figure with reference to each item in the attached Bill of Quantities. These rates shall be for the finished work at the site.
5. Any error in description of terms in the Bill of Quantities or any omission there from shall not vitiate the contract or release the contractor from his obligations of the whole or any part of the work comprised therein or from any of his obligations under the contract. Any error in the rates in the Bill of Quantities shall be corrected in accordance with the following rules.
 - (i) All errors in totaling, in the amount, columns and carrying forward, total shall be corrected.
 - (ii) In case the amount in words and figure differ, the lowest will be taken as correct.
6. In coating the rates, the tenderer is advised to take into account all the taxes levied by Central or State Government, statutory or other local bodies. If any other tax is levied on works, this will also be allowed provided documentary record is produced.
7. Before tendering, the tenderer is advised to inspect the site of work and its environment and shall be acquainted with actual working and other prevalent conditions, position of materials and labour, condition of contracts, drawing and specifications and all other documents which form part of the agreement.
8. The contractor will himself make all the arrangements to obtain all materials required for the work. The owner will only make the applications to full-fill the formalities, if necessary, in procurement of any material for the work. The contractor will be responsible for collection of materials at his cost from dealers or suppliers against the release order, if any, furnished by the employer to the contractor.
9. The tenderer shall give his previous experience for having carried out works of similar nature in the last 5 years.

10. Tenderers will give the details of plant and machinery, details of technical staff and work in hand. These should be furnished in the pro forma in separate sheets.
11. Tenderers shall along with their tender submit the following :
 - (a) Earnest money deposit.
 - (b) Deviations if any from the tender specifications.
 - (c) Supplementary details required for the evaluation of the tender like drawings, technical detailing, etc.
 - (d) Certificate from the scheduled bank to prove their financial ability to undertake the work.
 - (e) Proof for technical and organization ability to execute the work in its various aspects.
 - (f) The organization pattern that will be employed and the names of the qualified Engineers who will be employed together with their qualifications and experience.
 - (g) Income-tax clearance certificate.
 - (h) Partnership deed/company profile.
 - (i) Power of Attorney.
12. Each tender shall be signed by the tenderer. Tender by partnership or joint family firm may be signed in the firm's name by one of the partners or manager as the case may be or any other duly authorized representative followed by the names and designation of the person so signing. An attested copy of the partnership deed must accompany the tender of any partnership. Tender by a company shall be signed with the name of the company by person authorized in this behalf and a power of attorney or other satisfactory proof showing the persons signing the tender document on behalf of the company duly authorized to do so shall accompany the tender.
13. Receipts of payment on behalf of work must be signed by authorized person of the firm or partners.
14. The owner inviting the tenders shall have full right to reject all or any tender without assigning any reason and shall not be bound to accept the lowest tender.
15. Earnest money shall be refunded to the unsuccessful tenderer.
16. The tenderer shall sign the declaration with the official for maintaining the secrecy of tender documents, drawings or any other record. The unsuccessful tenderer shall return all the drawings.

ARTICLES OF AGREEMENT

This AGREEMENT made at this _____ day of _____ 20__
between _____ (here in after called as “**Owner**”) of one part and
M/s. _____ having their registered office at _____

(herein after called “**the Contractor**”) of the other part.

WHEREAS the OWNER is desirous of constructing the school building _____
_____ and has caused the
drawings, specifications and the schedule of quantities, describing the work to be done
prepared by **M/s Happy & Associates**, 1st floor, Lalit Bhawan, Opp. Dhoop Factory, Rajendra
Path, New Godown, Bihar, pin-823001. (here in after referred as the “**Architect**”).

AND WHEREAS the said drawings, specifications and schedule of quantities and other
documents forming part of this contract have been signed by or on behalf of the parties here to.
WHEREAS the CONTRACTOR has agreed to execute and complete the works as per the drawings,
specifications and Schedule of Quantities at the square feet rate of Rs. _____
herein after referred to as “**the contract amount**” to the entire satisfaction of the
OWNER/ARCHITECT.

It is a contract to carry out the construction of the building for which payment will be made
according to the actual measured quantities and rates indicated in the attached BOQ/sqft. Rate.
The quantities mentioned in the attached schedule are only approximate and liable to variation.

1. The contractor hereby understands that time is the essence of contract and agrees to complete the construction of the building within _____ months, since commencement/taking over of the site. If any delay is caused beyond the control of the CONTRACTOR, the OWNER/ARCHITECT shall grant such extra time as may be necessary for the completion.
2. Penalty clause for the delay will be levied at Rs _____ per week or part thereof.
3. The progress of the work should be uniform and if the quantity of work or progress is not satisfactory, the OWNER can terminate the CONTRACTOR and settle his account for the work done. However, the CONTRACTOR is not eligible for any compensation for the unexpected works.
4. The CONTRACTOR is responsible for the welfare of the labourers engaged by him and any damage claimed by the labourers in case of any accident or otherwise is to be paid by the CONTRACTOR.
5. The OWNER/ARCHITECT deserves right to appoint another agency and proceed with the work whether or not the amount due to the CONTRACTOR is settled immediately, provided the measurements have been taken and accepted by both the parties. In settling the bill the OWNER deserves his right to deduct part of the above, if the workmanship is inferior or suffered damage on account of the lapse of the CONTRACTOR.

6. The OWNER has the power to award some of the items or part of the items of the works to other agencies.
7. The CONTRACTOR shall execute the works as per the plans approved by the OWNER/ARCHITECT and as per the specifications indicated in their quotations and in the schedule attached. In case of any discrepancy or ambiguity, the CONTRACTOR has to consult the OWNER/ARCHITECT before executing the work.
8. Any technical dispute arising out of the agreement shall be referred to the "ARCHITECT" M/S HAPPY & ASSOCIATES, Gaya or arbitration will be called and it will be binding on both the parties.
9. Water and electricity for the construction work will be provided by the employer and 1.0% of cost of construction will be deducted from the passed bill of CONTRACTOR.
10. All payments by OWNER under the contract will be made by mutual understanding and bill approved by the "ARCHITECT" M/S HAPPY & ASSOCIATES, Gaya.
11. The defects liability period shall be for 12 months after entire building has been fully completed and handed over. 10% of the payment of contractor shall be retained up to twelve months from the date of handing over fully completed building.
12. The CONTRACTOR should use only the best available materials and they should conform to Indian standard specifications. The quantities included in the schedule are only approximate and no extra rates will be allowed due to any changes in quantities.
13. The OWNER may arrange to supply the materials at site of works for which the cost will be recovered from the bills submitted by the CONTRACTOR.
14. The OWNER reserves the right of addition and alteration or omitting any item of works without prejudice of this contract.
15. All parts of the ARTICLE OF AGREEMENT has been fully read and understood.

OWNER'S SIGN

CONTRACTOR'S SIGN

WITNESSES

1. _____

2. _____

MEMORANDUM

To,
The Principal
D.A.V. Public School,
D.A.V PUBLIC SCHOOL, AURANGABAD, BIHAR

Subject: - Tender for construction at D.A.V PUBLIC SCHOOL, AURANGABAD, BIHAR

Respected Sir/Madam

We have thoroughly verified the tender documents related to construction of above mentioned work. We are hereby filling up tender for the construction of the entire work mentioned above as per specifications, drawings and design within specified time and rates specified in BOQ and in accordance with terms and conditions of contract as specified in memorandum.

MEMORANDUM

1. Name of Work -
2. Estimated cost (civil, electrical, PHE)-
3. Earnest money -
4. Security money - 5% of Estimated cost (from R. Bill deduction)
5. Retention Money - 10% of total certified bill up to 12 months from hand over
6. Construction time - _____ months from 15th day after finalization of tender

I hereby agree to abide by and fulfill all the terms and conditions of the said work as mentioned in the tender documents. In case of default, owner can forfeit the money as mentioned in the said conditions. A sum of Rs. Is hereby forwarded in DD drawn in favour of The Principal, D.A.V PUBLIC SCHOOL, AURANGABAD, BIHAR, payable at as earnest money.

If I/we fail to commence the work specified in the memorandum, owner can forfeit the earnest money without prejudice to any other right or remedy or the said earnest money can be retained as security deposit in both the case of full or partial acceptance of tender.

In the event of tender being accepted, I/We agree to enter into an agreement as and when required and execute the contract as per agreement and complete the work with the time limit. In case of default I hereby agree to forfeit my aforesaid deposit.

I/We agree hereby not to sublet the contract without the permission of owner/architect. I/We agree hereby to pay all the taxes to the government, insurance and other taxes as per prevailing from time to time which are included in rates quoted by me.

DECLARATION

I/We hereby declare that I/We shall treat the tender documents, drawings and other records as secret confidential documents. Failing so, I will bear punishment as decided by the owner.

Contractor's signature

Address

Place..... Date.....

Witness:-

1.

2.

The above tender is accepted hereby by me for sum of Rs.....

(Rupees.....)

Dated

Owner's signature

TERMS AND CONDITIONS FOR CONTRACT

Registration-

1. A person / firm shall have to be registered with Central Govt. / State Govt. / agency of National repute / concerned Zone of DAV Public School. Taken in this regard by concerned Zone will be full and final.

Qualifications :-

1. A persons / firm engaged in building construction activities.
2. A person or group of person having qualification of Civil Engineering / Architecture / Town planning.
3. A person / firm having update contract's license of building construction from concerned government department.
4. A person / firm having update valid Pan number from concerned government department.
5. A person / firm having updated Service tax number from concerned government department.
6. A person / firm having update TIN number from concerned government department.
7. A person / firm having update VAT number from concerned government department.
8. A person / firm having updated labour license form concerned government department.
9. A person / firm having updated GST number from concerned government department.

Duties and responsibilities to contractor :-

1. A person / firm shall appoint civil engineer at site to carry out the work as per approved drawings, design, specifications and agreement.
2. A person / firm shall not cause or allow any deviations from the approved drawings unit written permission from the concerned authority is obtained. A person / firm shall bear responsibility for any irregularity committed in the use and function of the building or its part during execution of the project.
3. A person / firm shall provided certificate for structural stability of construction along with adequate protection against fire hazards likely from
4. A person / firm shall hand over the fully constructed building to concerned one within agree time of construction, failing so shall be charged penalty as per agreement.
5. A person / firm shall be responsible for its own construction material at site for its safety.
6. A person / firm shall construct shed for storage of materials and labour at its own cost at allotted place by school.

Earnest Money :- Rs.

Commencement of work :

From the 15th day after acceptance of the tender the work will have to be started by the contractor.

Defects liability period – 12 months.

Security deposit - 5% of the value of work.

Agreed liquidated – 0.5% of the accepted damages for delay contract sum per week of delay subject to maximum of S.D. amount.

Final measurement time – 2 months.

Extension of time – Contractor will have to apply in writing within 30 days of any hindrance in the execution of work for extension of time to the Architect. Cause of hindrance will be discussed with owner and if he is convinced with the case, extension of time will be granted.

Completion certificate – Contractor will issue notice of completion within 10 days of completion of work to the owner. Within 30 days of such notice, Architect will verify the work, and if there is no defect in such work, certificate of completion will be issued to contractor, otherwise no completion or provisional certificate of completion will be issued. Also work will not be considered final. Payment will be made at reduced rate. After completion of work, contractor will have to remove all his belongings, rubbish, surplus materials, and clean the dirt on or before the completion date. Failing so, the Architect may at the expense of the contractor will get removed such scaffolding, surplus materials and rubbish etc. and the contractor will have no claim except for any sum actually realized by the sale of afore said.

Work standard – Contractor will execute the whole and every part of the work as per specification, drawing and design furnished.

Alteration in drawings and specification – The owner shall have the right to make any alteration, addition, omission, and substitution in drawing, design, instruction, and specification, which appears necessary. The contractor shall carry out the work in accordance with such instruction which may be given to him in writing signed by the Architect. Cost of such additional and alterations shall be decided on the actual work done or similar class of work done or on the rate of agreement on the basis of SOR Bihar. In case of non schedule items, market rate will be taken into account. For minor changes, no extra payment will be given to contractor. The extension of time of completion will be decided as per additions or alteration to be done.

Tools and plants – The contractor will provide all the tools, plants, appliances, ladder, mixer, vibrator, etc. related to construction work. The contractor will arrange his own labor with the means and materials for weighing, counting, setting out works and assisting in measurement. Failing so, the owner will provide for doing the same at the cost of contractor.

Damage control – In case any part of building, road, kerb, fence, water pipe, cable, drain, telephone wire, tree, shrub, grass, etc. gets damaged by the contractor's people or if any defect, shrinkage or other fault appear in the work within 12 months after completion, contractor will make the same at his own cost. Otherwise amount will be deducted from the security money or from the bank guarantee.

Measurement of work – Before taking any measurement related to bill, contractor will be given a week time notice. If the contractor fails to attend such measurement after such notice, then in such case the measurement taken by the Architect/ representative as the case may be, shall be final and binding on the contractor. Contractor will have no right to dispute the same.

Dismissal of workman – The contractor on the instruction of Owner/Architect will immediately remove his working person, who may in the opinion of the Owner/Architect be unsuitable or incompetent. For such loss no compensation will be given.

Insurance against fire, earthquake – The contractor shall insure the work till completion of work due to loss by fire, earthquake, flood, cyclone, riots, etc. The insurance will be placed with company in the joint name of the Owner and the Contractor, Owner being the first beneficiary. The amount of premium, renewal will be paid by the contractor and the receipt of the premium will be deposited within 21 days to the owner from the date of issue of work order. Failing so, the Owner will proceed for insurance and amount will be deducted from the contractor.

Sublet of work – The contractor shall not sublet or assign the contract without the written permission of Architect/Owner. In case the contractor is found doing so, or become insolvent or commence any insolvency proceedings, if any bribe, gratuity, gift, loan, reward, or any of his servants or agent promise or offer to any public officer or person in the employ of the Owners, contractor will be penalized for that and even he can be black listed by the owner.

Arbitration – All disputes related to drawing, specification, quality of workmanship, materials, bill etc. will be settled by the Architect or arbitration will be called by the Owner. Contractor is allowed for calling arbitration within 90 days of intimation related to payment ready from the owner. Decision taken by the arbitrator will be final and binding on both the parties.

Lump sum estimate – In case of lump sum based tender in respect to parts of the work, the contractor shall be entitled for payment for the work involved. If the part of the work in question is not to be measured, Architect at his discretion can pay the lump sum amount entered in the estimate.

Payment – Mode of payment for construction will be as per agreement depending on school. Contractor for payment, will be eligible only after verification of running bills/final bill of work done by concerned architect of the work.

Taxes –

1. Deduction of TDS and all the taxes will be applicable as per prevailing government rules and regulations.
2. GST is the liability of contractor. School will not make any payment for that.

Retention money – “Retention money” of 10% of the total amount of certified bill will be kept up to 12 months of defects liability period and shall be released only after making rectification of defects, if any, during this period. An equivalent amount of “Bank Guarantee” in approved format can also be accepted for the same period as “Retention money”.

Important notes –

DAV Public Schools may debar or black list the contractor depending upon quality of work done or performance.

TECHNICAL SPECIFICATION

All civil work materials shall be of good quality and ISI marks and execution of each and every item of works shall be carried out as per BIS, NBC & C.P. W.D. specifications.

1. HEIGHT

(i) Plinth Height :- Height of plinth will be 1'6" from existing ground level but in no case less than 3'-0" from existing Road level.

In case of plinth height more than 2'-0" extra payment will be made on the basis of actual cost of construction involved.

(ii) Roof Height :- 11'8" from Floor to Floor and overall building height is 48'2" (including plinth)

(iii) Parapet Wall Height - 3' from Roof level.

(iv) Railing Height - 3'-0" from floor level

2. STRUCTURE :- Framed structure earth quake proof with a group of under reamed pile foundation tied with beams. Footing shall be resting on firm / hard soil over 3" sand filling, brick flat soling and 3" PCC 1:3:6 and will tied with grade beams. Continuous plinth beam lintel beam shall be on 10" and 5" thick brick wall. R.C.C. roof slabs and beams shall be Casted monolithically.

3. R.C.C. / P.C.C. Work

All R.,C.C. work will be in M 20 and P.C.C. as per specification. Lab and filed test shall be carried out of each concrete and materials by competent person and shall be maintained in proper form by the site Engineer at site. It should be produced as and when desired by the Architects.

(i) **Silt test :-** There shall not be more than 8% silt.

(ii) **Bulkage test :-** It shall be carried out before mixing in proper proportion.

(iii) Sieve analysis :- Sieve analysis should be carried out by contractor using I.S. Sieve 80,63, 40, 20, 12.5 and 10 mm.

(iv) Compressive Strength of concrete :- The compressive strength at least three 150 mm cube test at 7 days & 28 days respectively should be 140 kg / cm² to 210 kg / cm² for M-15 mix and 175 kg / cm² to 265 kg / cm² for M-20 mix. The cube shall be prepared, cured and tested as per IS 516.

(v) Slump Test :- The quantity of water per 50 Kg of cement for M20 should be 27 litre and 30 litre for M-15 respectively. Suggested ranges of workability of concrete should be measured in accordance with IS 1199.

For mass concrete in R.C.C. foundation, wall & pavements. 10 to 25 mm

Beams, slab and columns simply reinforced 25 to 40 mm

Thi R.C.C. sections or sections with more steel. 40 to 50 mm

(vi) Water :- Water used in mixing and curing should be clean and free from injurious amounts of oils, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel. Potable water in generally considered satisfactory. The pH value of water shall be note less than 6. Mixing and curing of concrete with sea water is not recommended.

(vii) Batching :- Batching should be done by volume. The accuracy of measuring equipment should be within $\pm 2\%$ of the quantity of cement and within in $\pm 3\%$ of the quantity of aggregates.

(viii) Mixing :- Mixing shall be done by using mechanical mixer. The mixer should comply with IS 1791 and IS 12119. The mixing should continue at least 2 minutes or until there is a uniform distribution of materials and mass is uniform in colour and consistency.

(vix) Placing of concrete :- Placing of concrete should not be more than 1.5 m vertically. It is desirable to place the concrete without construction joint. While concreting precaution should be taken not to disturb the reinforcement.

(x) Compaction :- Compaction should be done using vibrator, plat vibrator before initial settling time of concrete i.e. 30 minutes in case of PPC.

(xi) Curing :- Concrete should be protected to dry after 1 hour laying of concrete by placing of moist gunny bags and sprinkling of water on gunny bags. After 24 hours of laying, concrete should be

flooded with water of minimum depth 40 mm by ponding system for a period of 18 days in R.C.C. work.

- (xii) Reinforcement :- All reinforcement shall be free from loose mill scales, rust, coat of paints, oil, mud or any other substances. All reinforcement should be of ISI mark, TATA, SAIL or JINDAL mark 500 SD.
- (xiii) Binding :- At the places of over lap and reinforcement crossing one – another should be tied up by using two standards of annealed steel wire 1.0 to 1.6 mm thickness.
- (xiv) Cover :- Reinforcement of column mortar 1:2 (1 cement :2 coarse aggregate sand) as NBC code.
- (xv) Over lap :- In no case over lap of bars should be more than 50% at one places. Minimum lap length of compression be 45 times dia of bar and in tension 60 times dia of bar.
- (xvi) Shuttering and centering :- Steel plate / 12 mm thk. Ply board supported by 50 mm dia M.S. or 100 mm dia of ballies is preferred for shuttering and centering. Spacing of ballies should not be more than 1.2 m centre to centre. Ballies should be properly supported on hard ground or wooden sole plat 40 mm thick bearing area of 0.10 sqm or on 40 x 40 cm brick masonry pillar in mud mortar of height not more than 40 cm.

Steel shuttering is must for column casting.

- (xvii) Camber :- Camber should be provide to check the effect of deflection. The camber beams and slabs shall be 4 mm per meter. For cantilever, the camber at free end shall be $1/50^{\text{th}}$ of the projected length.

4. BRICK WALL

- (i) In Foundations and plinth :- 10" thick brick work shall be made in C.M. 1:6 using bricks of class designation 100 A. Bricks should full fill the requirement of IS : 1077 (Latest edition).
- (ii) In Super Structure :- 10" thick brick wall in C.M. 1:6, and 5" thick brick wall in C.M. 1:4 using bricks of class designation 110A. 5" thick brick wall shall be reinforced at every 4th layer using 1 No. 6 mm dia rod.
- (iii) Brick bond :- unless otherwise specified English bond should be used.

5. CEMENT PLASTER & CEMENT PLASTER WITH FLOATING COAT OF NEAT CEMENT

- (i) 12 mm. cement plaster of mix 1:6 (1 cement :6 coarse sand) shall be made on single or half brick wall.
- (ii) 15 mm cement plaster on rough side of single or half brick of mix 1:6 (1 cement :6 coarse sand) shall be done.
- (iii) 6 mm cement plaster of mix 1:4 (1 cement : 4 coarse sand) on all R.C.C. surface and ceilings.
- (iv) 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement on plinth wall.

6. FLOORING.

Base of flooring :- All kinds of flooring shall be done after uprooting weeds, cleaning and removing all waste materials from the site and compacting soil to desired hard level. Sand filling up to plinth level, properly watered and rammed.

1st Class Brick flat soling.

4" thick P.C.C. 1:2:4 (1 cement ; 2 coarse sand ; 4 graded stone aggregate 20 mm nominal size)

- (i) Class room :- 25 mm thick Kota stone slab flooring over 20 mm (average) thick base of cement mortar 1:4 jointed with grey cement slurry mixed with pigment to match the shade including rubbing and polishing complete.
- (ii) Principal room, Waiting room :- Vitrified tiles of size 50 x 50 cm. confirming to IS : 15622 laid over 20 mm thick C.M. 1:4 (1cement ; 4 coarse sand) including pointing the joints with white cement and matching pigments etc.
- (iii) Common area, Stair, lobby, Verandah – 18 mm thick Rajnagar plain white marble above 0.20 Sqm up to 0.50 Sqm / 25 mm Kota over 20 mm thick base of cement mortar 1:4 (1 cement :4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete. The tolerance of ± 2 mm shall be allowed for thickness and ± 5 mm allowed for length & breadth.
- (iv) Toilets :- Good quality Marble / Ceramic tile of size 1'-0" x 1'-0" over 20 mm (average) thick base of cement mortar 1:4 (1 cement ; 4 coarse sand) including pointing the joints with white. Cement and matching pigments etc. Glaze tile should be of approved make as per IS :777-1970. The tolerance of facial dimension value shall be +1 mm & 0.5 mm.
- (v) Skirting :- Skirting shall be done of respective flooring type up to 6" height.

7. DADO - Ceramic glazed wall tiles confirming to IS :15622 over 12 mm. thick bed of C.M. 1:3 shall be done.

- (i) In Verandah – Up to 4'-0" height in all sides.

(ii) In Toilet :- Up to 7' – 0" height.

(iii) In Bathrooms :- Up to 7' -0" height.

8. DOORS :- 34 mm, thick flush door shutters of brand Greenply / Century / Mayur or 38 mm. thick paneled kiln seasoned and chemically treated hillock wood / gambhar wood as per design and details.

9. DOOR CHOUKHAT – 4" x 2.5" thick Sal wood or hollow section pressed sheet frame 18 guage to T- iron frame ISNT 50.

10. WINDOWS & OPENINGS: - M.S. Angle 50 x 50 x 6 mm. frame with 4 mm. thick clear glass of brand modiguard and metal beading to be used as fixing glass. Fix M.S. Gills in openings.

11. WATER PROOFING.

(i) Slab: - Terrace and toilet slab will be made water proof using brick tiles on terrace area in chemical coating in sunken portion as per C.P.W.D. specification.

(ii) Weathering of Terrace: - Khurras 45 x 45 cm gola 75x75 mm in cement concrete 1:2:4 and roof treatment with 4" thick. P.C.C. 1:2:4 / As per C.P.W.D. Specification, will be done with proper slope and draining with 100 mm dia P.V.C. Pipe to ground level.

12. PAINTING

(i) External surface and Verandah: - External surface, verandah and common area to be painted using Premium Acrylic smooth exterior paint with silicone additives of Nerolac / Asian of required shade.

(ii) Class Rooms: - Painting with Oil bound washable distemper of approved brand and manufacture to five an even shade (two or more coats over a priming coat of distemper primer).

(iii) Principal chamber, Waiting areas, Lobby, Entrance hall – 1st quality Acrylic distemper and plaster of Paris putty 2 mm thick (two or more coats over a priming coat of distemper primer)

(iv) Door & Windows: - Synthetic paint (two or more coats) over a coat of aluminum prime on wood works and zinc chromate yellow primer on still works.

(vi) Dado: - In class rooms, office, P. room, staff room etc up to 3' -0' height putty, primer and Deluxe Multi surface painting will be done.

13. PLINTH PROTECTION: - 1'6" wide and 2'-0" height all around the building with 50 mm thick P.C.C. 1:3:6 over 75 mm bed of dry brick ballast rammed, consolidated and grouted with fine sand including top smooth finish as per C.P.W.D. specification.

14. ROOFING

Asbestos/Aluminium corrugated / plane sheet: - Sheets shall be of ISI mark and full fill all necessities of ISI codes. The sheets shall be free from cracks or any kind of damage. The finished roof shall present a uniform slope and the line of corrugations shall be straight. The sheet shall be laid in such a way that the end lap shall not be less than 15 cm and the sides slab of sheets shall have a half corrugation. The free over hanging of sheets at the ends shall not exceed 30 cm in any case. The sheets shall be secured to the purlins and the other roof member by means of 8 mm dia J or L bolts nuts.

15. TOILETS.

- (i) Cinder filling :- The sunken slab shall be filled up using cinder and cement in proportion of 1:20. Full care shall be taken for pipe lines while filling the sunken slab.
- (ii) Water proofing :- Water proofing of sunken slab should be done using cement plaster and punning mixed with water proofing chemicals. 24 hours water test for leakage of slab is mandatory.
- (iii) Plumping Pipe :- All sewerage pipe lines will be properly connected at joints and fixed using chemicals or lead etc. Leakage test shall be conducted before filling the slab.

16. PLUMING & SANITARY :- The work will carried out as per I.S.I. codes 1996 , C.P.W.D. specifications with amendment up to date and as per rules of local bodies. Work will be carried out by qualified plumber registered with local government bodies as per drawing and design provided by Architect / Engineer.

All fixtures, fittings and pipe shall be selected as per recommended in specification. In case of missing, items will be selected with consultation of Architect and as per choice of school administration.

After completion of the work, contractor shall notify the school in writing to remain present with architect during its test of work. A date will be decided by school and information will be given both to contractor and architect and quality of work and its proper functioning will be verified with smoke and water as per IS code. In case of any defects, contractor will make all corrections and re verification of work will be judged by Architect in presence of school representative.

In case contractor deny of correct the defects with specified time, school may proceed to get the work correction at contractor's risk and expenses, but without prejudice to any other right which the owner may have against the contractor in respect of such defects.

All cost of repair / rectification will be bearded by contractor and after verification certificate will be issued by Architect.

It will be responsibility of the contractor to get all approval from local authority, C& D forms drainage line approval. The approval amount will be refunded by owner on production of receipt.

The plumbing & sanitary will included the following works. :-

- a. Sanitary fixtures.
- b. Soil, waste rain water and vent pipes.
- c. Septic tank, soak pit, gully trap, floor trap and inspection chamber.
- d. Sewerage system
- e. Storm water drainage system
- f. Rain water harvesting.
- g. Water supply lines including hot and cold.
- h. Miscellaneous work.

All fixture and fitting shall be of ISI marks and made of standard companies as mentioned below :-

- (i) Fixtures: - All Urinals, W.C., Wash basin to be of full size of Parry Ware / Hindustan / Cera.
- (ii) Pipe fitting: - All G.I. pipes to be Tata / Jindal

All M.S. Pipe to be a Tata.

All S.M. Pipes to be of Prince / Supreme / Finolex.

All R.W. pipes to be of Prince / Supreme / Finolex.

All C.P. fittings to be of Na / Essco / Jal

Septic tank & Soak pit :- Septic tank and soak pit to be made as per drawing and design provided by Consultant.

Cost of plumbing and sanitary: - The all sanitary :- The all sanitary and plumbing work can be done without extra cost up to 6% of cost of construction. Above 6% cost of construction, extra amount will be paid to contractor.

Miscellaneous requirements :-

- a. All pipe lines and fittings will be fixed in proper slope and truly verification of horizontal as per requirement.
- b. Pipe lines and access doors shall be fixed in a manner to make the repair and maintenance unobstructed.
- c. Pipe lines shall be fixed to be wall and ceiling by means of clamps at regular intervals of 1 m spacing.

17. WATER SUPPLY :- Complete water supply system from sources of different parts of the building will be installed as per drawing and specification. Pipe lines will be protected by painting.

The work will be carried out as per I.S.I. codes, C.P.W.D. specifications with amendment up to data and as per rules of local bodies. Work will be carried out by qualified plumber registered with local government bodies as per drawing and design provided by Architect / Engineer.

All fixtures fittings and pipe shall be selected as per recommended in specification. In case of missing, items will be selected with consultation of Architect and as per choice of school administration.

After completion of the work, contractor shall notify the school in writing to remain present with architect during its test of work. A date will be decided by school and information will be given both to contractor and architect and quality of work and its proper functioning will be verified by hydrostatic pressure of 7 Kg / sqcm and the pressure will be maintained for a period of 30 minutes without any drop. Test register will be maintained and all entries will be signed and dated by contractor and Engineer – in – charge. In case of any defects, contractor will make all corrections and re verification of work will be judged by Architect in presence of school representative.

In case contractor deny to correct the defects within specified time, school may proceed to get the work corrected at contractor's risk and expenses, but without prejudice to any other rights which the owner may have against the contractor in respect of such defects.

All costs of repair/rectification will be bearded by contractor and after verification certificate will be issued by Architect.

Miscellaneous requirements :-

- a. All pipe lines and fittings will be fixed in proper slope and truly vertical or horizontal as per requirement.
- b. Pipe lines shall be fixed in a manner to make the repair and maintenance un obstructed.
- c. Pipe lines shall be fixed to wall and ceiling by means of clamps at regular intervals of 1 m spacing.
- d. Valves and other fixture shall be located taking care the operation easier.

18. COLOURING OF PIPE LINES :- Coloring of pipe lines should be done as per IS : 2379-1983. Arrow lining should be used to indicate the direction of flow. Coloring of in general used pipe lines are explained below :

Pipe Lines	Ground colour	1st colour band	2nd colour band
Cooling water	Sea green	French blue	
Drinking water	Sea green	French blue	Signal red
Domestic hot water	Sea green	Light grey	
Drainage	Black		
Fire service	Fire red		
Medical gases			
Air Sky blue	White	Black	
Oxygen	Canary yellow	White	
Nitrogen Oxide	Canary yellow	French blue	
Vaccum	Sky blue	Black	

19. ELECTRICALS:-

The work will be carried out as per I.S.I. codes, C.P.W.D. specifications with amendment up to date. Work will be carried out by qualified electrician registered with local government bodies as per drawing and design provided by Architect / Engineer.

All fixtures, fittings and pipe shall be selected as per recommended in specification. In case of missing, items will be selected with consultation of Architect and as per choice of school administration.

- (i) Switches: - All switches fittings shall be of Anchor / Cona / HPL
- (ii) Wire – All wires to be Anchor / Finolax / RR / Malla.

Concealed wiring will be done for all electrical points.

- (iii) Panel Board: - Proper panel, D. Board, change over, switch fuse with safety device will be fabricated, MCB's will be fixed. MCB's will be provided according to proper loading system, The all external and internal cost of electrical work can be done without extra cost up to 6% of cost construction. Above 6% cost of construction, extra amount will be paid to contractor.
- (iv) Earthing and Lighting: - Earthing and lighting protection will be done on extra payment depending on site condition.

20. FIRE FITTING: - An arrangement of automatic fire doctors such as electronic device, alarm signals without manual intervention, fire exit must be provided at extra payment.

- (i) Fire Extinguishers:- Down comer, Dry riser, Dry Powder Fire Extinguishers must be provided at extra payment.

21. MATERIALS'S MANUFCTURE : - The contractor shall be required to get approval of the sample of materials and fittings form the Architect / Owner before utilizing. No extra payment shall be made to contractor for any damage of the materials and fitting during execution of work. He has to take care of his own materials and fittings.

- (i) Cement:- For all kinds of R.C.C., P.C.C. Brickwork and plastering PPC cement / PSC cement 33 / 43 grade. Lafarge/ACC/Birla Plus/ Ultratech/ Japyee / Bangur.
- (ii) Steel Rods:- Tata Tiscon SD / Sail / Jindal / ISI marked TMT 500 bars. The standard sectional weights should be referred as per para 5.3.3. in specifications for works, 1977 Vol. 1 to consider for conversion of length of various sizes of M.S. bars and Tor Steel Bars.

Size in mm	Weight in kg / m	Size in mm	Weight in kg / m
6	0.222	18	1.999
8	0.395	20	2.467
10	0.617	22	2.985

12	0.888	25	3.855
16	1.579	28	4.836

(iii) Ceramic glazed wall tiles :- 1st quality confirming to IS : 15622 of NITCO, ORIENT, SOMANY, KAJARIA, BAJAJ.

(v) Ceramic glazed floor tiles :- 1st quality confirming to IS :13755 of NITCO, ORIENT, SOMANY, KAJARIA, BAJAJ

(vi) Marble :-18 mm thick, Rajnagar Plain white marble.

(vii) Wall Putty :- J.K. D

(viii) Synthetic Enamel Paint :- Asian, Nerolac, Burger.

22. **CURING** :- Water used for mixing and curing shall be clean and free from oils, acids, alkalis, salts, Sugar and Organic materials. Potable water is generally considered satisfactory. Curing of brick works and plastering ot be done for 12 days and 5-6 times a day in winter and 8-10 times in summer. For all P.C.C., R.C.C. items Curing to be made up to 18 days by ponding system. Before using of bricks it must be cured completely for a period of 12 hours in tank.

23. **MODE OF PAYMENT** :-

(i) For Actual Height 11' – 0" :- Payment will be made as per DAV standards based on built up area. No payment shall be made for chajja projection.

(ii) For Height more than 11' – 0" :- Payment will be as per actual construction cost involved in construction of more height.

(iii) For Height less than 11'-0" :- Payment will be made less for lesser height on the basis of actual cost of construction.

(iv) For Extra work :- In case of any extra work done apart from drawing, actual cost of construction will be paid.

- (v) Deviation from drawing and specification: - Only difference of extra cost will be paid in comparison to actual work and specification.
- (vi) Plinth Height: - Up to 1'6" plinth height payment will be made as per DAV Standards, on the basis of plinth area basis.
- (vii) Deviation in Plinth Height :- Any kind of deviation from 1'6" plinth height, will be dealt with difference of cost of construction from actual height.
- (viii) Column supported floors :- In case of column supported floors, cost of construction of Brick wall, Lintel Plaster, Doors, Windows, Painting etc. will be deducted from payment based on plinth area basis.
- (ix) Canopy :- Payment for Canopy projection will be based on actual cost of construction.

24. MEASUREMENT OF PLINTH AREA :- This shall be as per DAV Standards, where the area upto the outer line of the Columns projections shall be measured, if the R.C.C. Roof extends to such areas, if not, only the actual footprint of the columns shall be added to the areas. Areas of chajjas, etc. SHALL NOT be added to the plinth areas. Canopy area will be paid actual cost of construction.

25. WATER & POWER :- For construction related activities, school shall make an arrangement for supply of water and power to the contractor and 1.0% of construction cost will be deducted from the bill passed to the contractor.

26. DEFECT LIABILITY :- 12 Months is the defects liability period, which will be counted after fully completed, occupied and handing over of the building 10% amount will be retained for 12 months and if any kind of defects occur during that, Contractor will be responsible to make correction free of cost otherwise amount will be deducted from 10% retained amount.

27. **DISINFECTION OF PIPING SYSTEM & STORAGE TANK:** - Before commissioning the water supply, the contractor shall make the water supply system disinfected. Thoroughly mixed sufficient chemical shall be used to give the water a dose of 50 parts of chlorine to one million parts of the water. In case of ordinary bleaching powder, to 1000 litres of water, the powder shall be mixed with water to creamy consistency before being added to water in storage tank. When the storage tank is full, the supply shall be stopped and all the taps on the distributing pipes will open successively.

All taps will be closed after chlorinated water is completely discharged. The same process will be repeated with adding more disinfecting chemicals and water will be discharged after 3 hours completely. Complete tank and pipe will be cleaned with water before using water for domestic purpose.

28. **MATERIAL:** -

(i) **Sand:** - Sand for various constructional purposes shall comply in all respects with IS : 2116. It shall be clean, coarse, hard and strong, sharp, durable, uncoated, free from any mixture of clay, salt, dust, vegetable matters, mica, iron impurities, soft flaky etc. Only good quality of sand from Sone, Batane, Ganga river will be acceptable.

(ii) **Water :-** For mixing and curing only good quality of potable water will be utilized for construction. Acid, alkalis, salty and impurity like sugar, organic matters water containing chemicals will not be utilized.

(iii) **Stone :-** The coarse aggregates shall be in accordance with IS : 383. It should be free from all impurities. The size of concrete shall of concrete shall be 20 mm down. It should be from Pakur, Karwandia, Sasaram.

(iv) **Bricks :** - Only 1st class Bricks of standard size and shape will be utilized. It will have uniform color, thoroughly burnt but not over burnt. Bricks should produce ringing sound when two bricks

are stuck. Bricks should not absorb more than 20% of water when immersed in water up to 24 hours.

- (v) Cement: - ISI Mark Good quality 33 / 43 grade PPC / PSC Cement of Lafarge, ACC, Birla Gold, Bangur, Prism will be used.
- (vi) Steel: - ISI Marks SD (Tata, sail, Jindal) TMT 500 bars will be used. Other ISI Mark Steel of proper dia will be used only in case of unavailability.
- (vii) Construction equipment: - Mixer, Vibrates, Cutter, drilling machine will be utilized for effective and good qualities of construction.
- (viii) Shuttering: - For columns casting steel shuttering is mandatory. For slabs and beams casting steel 14 gauge shuttering / 12 mm thick ply board shuttering will be utilized.
- (ix) Centering: - 3" dia Iron pipes / 4" dia abllies, slid bamboos will be used for centering with spacing of 1 to 1.2 meter.

26. GENERAL NOTES :-

- (i) Standard specifications will be followed and no extra payment will be given for minor changes as / site condition.
- (ii) Deviation from drawing and specification will not be accepted until and unless it is allowed and properly signed by competent authority.
- (iii) The rate for each items of work in BOQ, unless expressed, stated shall include the cost of :-
 - (a) All materials, labour accessories, appliances, tool, plant, transportation, loading unloading, lifting, handing / double handling, taxes, wastage disposal of debts, incidents if any, shuttering, centering and contractor's profit etc. complete to complete the item of works as per drawing and specifications.
 - (b) In case of item specifications, which is not mentioned, standard specification of C.P.W.D. shall be followed.

- (c) In case of conflict related to BOQ or any other documents etc. the interception of Architect shall be final and binding.
- (d) The quantities mentioned in the B.O.Q. are provisional. The employer / owner reserves the right to increase / decrease the quantity of work or totally omit the work and the contractor shall be paid for the actual quantity or work done as per contract rates.
- (e) The rates of all items will be filled up in ink.
- (f) All measurement shall be carried out in accordance with IS : 1200 (Latest edition)

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NOTICE FOR COMMENCEMENT OF WORK BY CONTRACTOR
OF D.A.V PUBLIC SCHOOL.

From.

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To,

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This is to certify that the building work of erection, re-erection or making additions and alternation of D.A.V. PUBLIC SCHOOL, located at Khata No. Plot ward No. Dist. Bihar, will be commenced on As per your permission vide No. dated..... under the supervision of Architect / Engineer and in accordance with plan approved.

With warm regards

Signature of contractor

Place :-

Name :-

Date :-

Designation :-

CERTIFICATE FOR EXECUTION OF WORK BY CONTRACTOR

OF D.A.V PUBLIC SCHOOL.

From.

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.....
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To,

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This is to certify that the building work of erection, re-erection or making additions and alteration of D.A.V. PUBLIC SCHOOL, located at Khata No. Plot No. Ward No..... Dist.....

Bihar has been constructed by us strictly in accordance with the norms and standards set by C.P.W.D. / P.W.D. specifications, BIS, N.B.C. Code and the drawings, design, supplied by the school / it's Architects / It's Engineers.

It is also certified that the workmanship, curing quality of materials like bricks, stone, sand, cement, steel etc. (type of grad) are of good quality and as per relevant codes / specifications.

It is also certified that at no places, neither learned mix of concrete / Cement mortar / Plaster etc. nor less or reinforcements has been utilized than specified.

It is also certified that at every stage our own Technically Qualified Engineers have supervised the construction work and are responsible for the entire work carried out as per the drawings, designs, specification supplied to us.

We also indemnify the School / it's Architects / It's Engineers against any damage caused due to any deficiencies on our parts.

With warm regards

Signature of contractor

Place :-

Name :

Date : -

Designation

STAGE OF PAYMENT GROUND TO 3RD FLOOR

1.	column casting	= 5%
2.	shuttering complete	= 10%
3.	steel binding + slab casting	= 15%
4.	brick work	= 10%
5.	head room + parapet + water tank	= 5%
6.	electrical + plumbing	= 10%
7.	door + window + grill along with fixing	= 5%
8.	plastering both interior and exterior	= 10%
9.	flooring and other tiles work	= 5%
10.	complete painting work	= 10%
11.	other miscellaneous up to and after completion (all works completed included site cleaning)	= 10%
12.	<u>hand over</u>	<u>= 5%</u>
	Total	= 100 %