

**COMSATS University Islamabad
Sahiwal Campus**

TENDER DOCUMENTS

**For
RO Plant at CUI Sahiwal Campus**

- a) Construction of Purpose-Built Room
b) Providing, Fixing and Installation of New Plant

(Tender No. CUI/SWL/Procurement/FY 2020-21/129)
(Single Stage One Envelope Procedure)

Submission and Opening Date for Tender:

March 05, 2021

Submission Time: 1430 hours

Opening Time: 1500 hours

Tender Issued to M/s _____

February 2021



Purchase and Store Department

COMSATS Road, Off G.T.Road, Sahiwal

Tel: 040-4305666-Ext-128 & 186

Web: <https://www.sahiwal.comsats.edu.pk/Tenders.aspx>

Signature & Stamp of Bidder

Invitation to Bid

(Tender No. CUI/SWL/Procurement/FY 20-21/129)

Construction of Purpose-Built Room and Installation of new RO Plant at CUI Sahiwal Campus

1. COMSATS University Islamabad, Sahiwal Campus, a public sector organization invites sealed bids from the **Contractors/reputed firms/original equipment manufacturers/authorized distributors** registered with income, sales tax departments, Pakistan Engineering Council (PEC) and who are on active taxpayers list (ATL) of FBR for the work titled “Construction of Purpose-Built Room and Providing, Fixing and Installation of new RO Plant at CUI Sahiwal Campus”.
2. The procedure of open competitive bidding is **Single Stage-One Envelope**.
3. Bidding documents, which are containing detailed terms and conditions, method of procurement, procedure for submission of bids, bid security, bid validity, opening of bid, evaluation criteria, clarification/rejection of bids, performance guarantee etc. are available for the interested bidders at “Purchase and Store Department, COMSATS Road, Off G.T.Road, Sahiwal”. The non-refundable fee of bidding document is **Rs. Rs. 1,000 (One Thousand Rupees Only)** in shape of pay order/Demand Draft in favor of CUI, Sahiwal.
4. The bidders are required to furnish in the form of Bank deposit / CDR / Pay order equivalent to 2% of the total bid price (refundable) as a Bid Security in favor of “COMSATS University Islamabad, Sahiwal Campus”. Any bid which is not accompanied along with bid security shall be rejected by the CUI, Sahiwal as non-responsive and without any right of appeal.
5. The bids, prepared in accordance with the instructions in the bidding documents, must reach Purchase and Store department, COMSATS Road, Off G.T.Road, Sahiwal on or before **1430** hours on **March 05, 2021 (Friday)**. Bids will be opened at **1500 hours** on the same day, in the presence of bidder’s representatives who choose to attend at the same address. This advertisement is also available on the PPRA website at www.ppra.org.pk and on the Campus Website at <https://www.sahiwal.comsats.edu.pk/Procurement/Tenders.aspx>.

GENERAL TERMS AND CONDITIONS OF THE TENDER

1. **Eligible Bidders.** - Bidding is open to all firms and persons meeting the following requirements:
 - a) Registered with Income and Sales Tax Departments, Government of Pakistan
 - b) and who are on Active Taxpayers List (ATL) of Federal Board of Revenue (FBR), Government of Pakistan.
 - c) For construction work, the vendors should be registered with Pakistan Engineering Council.
2. **Tender Document Fee (Non-Refundable).** - Bidding documents along with Pay Order / Demand Draft amounting to **Rs. 1,000/-** as a tender documents fee (Non-Refundable) shall be submitted in favor of COMSATS University Islamabad, Sahiwal Campus to the address given below. No bid will be accepted without tender documents' fee.
3. **Bid Security (Refundable).** - The bidder is required to furnish in the form of Deposit at Call (CDR) or a Bank Guarantee issued by a Scheduled Bank in Pakistan equivalent to 2% of the total bid price as a Bid Security in favor of "COMSATS University Islamabad, Sahiwal Campus". Any bid not accompanied by acceptable bid security shall be rejected by the Employer as non-responsive and without any right of appeal.
 - a. The bid securities of unsuccessful bidders will be returned upon award of contract/Issuance of Purchase Order to the successful bidder or expiry of the validity of Bid Security whichever is earlier. However, for construction work the bid security of a successful vendor will be retained as part of retention money.
 - b. The Bid Security may be forfeited:
 - i. If a bidder withdraws his bid during the period of bid validity
 - ii. If a bidder does not accept the correction of his bid price
 - iii. in case of a successful bidder, if he fails to sign the contract agreement or execute the work as specified in the bill of quantities (BoQ).
 - iv. in case of non-performance of the contract, delayed supply/installations or substandard supply/installation, short in quantity, the security deposited will be forfeited and the firm will be blacklisted.
4. **Bid validity.** - All prices should be valid for at least **60 days**. Withdrawal or any modification of the original offer within the validity period shall entitle CUI, Sahiwal Campus to forfeit the earnest money in favor of the CUI, Sahiwal Campus and / or put a ban on such vendor participation in CUI, Sahiwal Campus tenders / works.
5. The Purchase/Work Order will be awarded on Part-Wise Basis, the vendors can participate in one OR both parts subject to the meeting of eligibility criteria defined in the tender documents.

6. All prices should be quoted on F.O.R (Pak Rupees).
7. **Delivery time or Completion Schedule.** – The exact completion/delivery time from the date of the purchase / work order for part-a of the tender will be **90 days** and for part-b of the tender is **30 days**. The handing over / completion time for this contract is of critical importance.
8. The bid proposal should be inclusive of freight and all other taxes and we need delivery of items at COMSATS University Islamabad, **Sahiwal** Campus's premises.
9. All pages (BoQs & Terms & Conditions) are mandatory to be signed / stamped, failing which the bid may be rejected
10. Any addition, deletion or modification of any clause of the procurement terms & conditions of CUI by any vendor will not be accepted and may lead to rejection of the bid.
11. **Site Visits/Concerned Office.** - Before quoting, the bidder in his own interest can visit the **Store Section of CUI Sahiwal Campus/Concerned Office for sample/specifications/requirements of each item** and to know the full implications of the assignment. This will help him in proper assessment of the work. Failure to do so will not absolve the vendor of his responsibility to carry out the work as specified in the tender documents. The cost of visiting the site shall be borne by the vendor and shall be at his own responsibility and risk.
12. The bid form (BoQs) must be duly filled in, stamped and signed by the authorized representative of the bidder.
13. **Method of Procurement.** – The Procedure for this procurement opportunity is Open Competitive Bidding as it is widely being used as the principal method of procurement for the procurement of goods, services and works.
14. **Submission and Opening of bids.** - The bid should be submitted in a sealed envelope in such manner that the contents are fully enclosed and cannot be known until duly opened. The sealed bids must reach up to **March 05, 2021(Friday)** on or before **1430 hours** and will be opened on the same date **at 1500 hours** in the presence of available bidders. All bids submitted after the time prescribed shall be rejected and returned without being opened.

15. In case, the opening date is declared as a public holiday by the Government, the next working day shall be deemed the date for submission and opening of the tender at the same time and venue.
16. After the opening of bids, COMSATS University Islamabad, Sahiwal Campus will examine the bids for completeness as per tender document.
17. The envelope should be marked as under;
Secretary, Purchase Committee
COMSATS University Islamabad, Sahiwal Campus COMSATS Road, Off G.T Road, Sahiwal. Tel: 040-4305001-05, Ext: 128. The envelope shall also bear the word “CONFIDENTIAL” and following identification quotation of “**Construction of Purpose-Built Room and Providing, Fixing and Installation of New RO Plant at CUI Sahiwal Campus**”.
18. **Clarification of bids.** - After the opening of bids, bidders are not allowed to alter or modify his bid. However, the procuring agency may seek and accept clarifications to the bid that do not change the substance of the bid.
19. **Arithmetic Errors.** The Tender shall be checked for any arithmetic errors which shall be rectified. The Tender Price as determined after arithmetic corrections shall be termed as the Corrected Total Tender Price which shall be binding upon the Tenderer.
20. **Evaluation of bids.** - Bids will be evaluated in accordance with the evaluation criteria and other terms and conditions set forth in the bidding documents.
21. **Evaluation Criteria:** Financial bids will be evaluated on the basis of the following criteria:
- The Tender will be evaluated on **Part-Wise Basis**. One vendor can participate in one OR in both parts. After meeting the eligibility criteria, substantially responsive to the terms and conditions defined in the tender documents and lowest in their respective bid will be considered as the most advantageous bid.
 - The vendor must be the Original Equipment Manufacturers (OEM)/authorized distributors/reputed firms with wide experience in the field of RO Plant in Pakistan. Please provide company profile, detail of head office, sub-offices, detail of staff for evaluation purpose. The Purchase Committee can reject any bid if found non-responsive.
 - Experience of the firm for providing services regarding installation of RO Plant in Pakistan to any Federal or Provincial Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan. Please attach Purchase Orders/Work Orders with the proposal.

- The Tenderer is a bidder who has not been blacklisted by any Federal or Provincial Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan. The vendor will provide this undertaking on judicial stamp paper.

22. One Bid per Bidder. - Conditional or alternative bids are not allowed. Bidders are required to quote one bid/one brand. If bidders quote two bids/different brands then their bids are liable to be rejected. However, the alternative bids with separate bid security can be accepted.

23. COMSATS University Islamabad, Sahiwal Campus reserves the rights to reject the bid if;

- i. Received without earnest money
- ii. Received later than the date and time fixed for tender submission
- iii. The tender is unsigned/ unstamped
- iv. The offer is ambiguous
- v. The offer is conditional
- vi. Offer is made by the unauthorized agent/ supplier of the original equipment manufacturer.
- vii. The offer is from a firm, which is blacklisted by any Govt. Office.
- viii. The offer is received by telephone/telex/fax/telegram.
- ix. Any unsigned / ambiguous erasing, cutting / overwriting etc. are made.

24. The Employer will inspect the supplied and provided items to verify their conformity to the Technical Specifications given in BoQ. The inspection will be conducted at the final destination.

25. It is the sole responsibility of the agent / supplier / manufacturer to comply with the applicable laws, be national or international.

26. Purchase order (s) will be awarded to the lowest or technically recommended bidder (s) on the basis of item wise / subtotal wise / grand total wise according to the nature of BoQs.

27. Rejection of bids. - COMSATS University Islamabad, Sahiwal reserves all the rights to reject all bids or proposals at any time prior to the acceptance of a bid or proposals. CUI, Sahiwal Campus will communicate the grounds for rejection of bids upon request of any supplier or contractor but not liable to justify those grounds

28. The contract will be executed and handed over in satisfactory conditions up to the entire satisfaction of COMSATS University Islamabad, Sahiwal Campus.

29. Force Majeure. - The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failures to perform its obligations under the Contract is the result of an event of Force Majeure.

a) For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

b) If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practicable and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

30. Extensions of Time. - If at any time after issuance of Purchase Order, the Supplier should encounter conditions impeding timely delivery of the Items pursuant to tender Clause 07, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier’s notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier’s time for delivery, in which case the extension shall be ratified by the parties by amendment of the Contract.

a) Except in case of Force Majeure, as provided under Tender Clause 29, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to Tender Clause 31, unless an extension of time is agreed upon, pursuant to Tender Clause 30.

31. Liquidated Damages. If the vendor fails to deliver the goods / services to CUI-Sahiwal in time then the penalty will be charged as under: -

a. 0.5% per day of the Purchase Order for the first 10 working days.

b. 0.75% per day of the Purchase Order, after that, up to a maximum of 10% of the sum stated in the Purchase/Work Order. Once the maximum is reached, the Purchaser may terminate the contract pursuant to tender clause 35, earnest money and payment may be forfeited.

32. If the delivered goods / services are not according to the required quality standards / specifications, the same shall be liable to be rejected after inspection. The vendor would be required to supply as per requirements mentioned in our BoQs otherwise the purchase / work order will be cancelled after the due date with confiscation of earnest money.

33. On account payments. - Part / Advance payments are not allowed. Payment will be made on submission of Invoice in the name of “COMSATS University Islamabad, Sahiwal Campus” with a copy of delivery challan (s) after the complete order has been supplied, inspected and accepted which includes delivery / installation, and COMSATS acceptance / inspection thereof.

34. Blacklisting of Suppliers and Contractors. - A procuring agency can permanently or temporarily bar from participation in its respective procurement proceedings, the suppliers and contractors who either consistently failed to provide satisfactory performances or found to be indulging in corrupt or fraudulent practices.

35. Termination.

35.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by Notice of default sent to the Supplier may terminate the Contract in whole or in part:

- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to Tender Clause 30; or
- (ii) if the Supplier fails to perform any other obligation under the Contract.

(b) In the event, the Purchaser terminates the Contract in whole or in part, pursuant to Tender Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods. However, the Supplier shall continue performance of the Contract to the extent not terminated.

(c) if the Supplier, in the judgment of the Purchaser, has engaged in corrupt and fraudulent practices, in competing for or in executing the Contract.

35.2 Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving Notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such an event, the termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser.

35.3 Termination for Convenience

The Purchaser, by Notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The Notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of the Notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:

- (i) To have any portion completed and delivered at the Contract terms and prices; and/or
- (ii) To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

36. In case of any grievances, the matter will be redressed as per PPRA Rules.

37. Deduction of Income Tax and any other tax will be deducted at source according to Government prevailing rules.

38. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work executed and measured by the Bidder and verified by the Department/Concerned Office and valued at the rates and prices entered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Employer may fix as per the Contract.

39. The CUI, Sahiwal Campus reserves the right to modify the quantities of goods / services at any time before the award of purchase / work order.

40. In case of repeat orders fifteen per cent (15%) of the Original Procurement will be considered as the permissible limit to issue variation.

41. Special Conditions for Part-A-of the Tender (Construction of Purpose Built Room for RO Plant at CUI Sahiwal Campus

- 41.2** The contractor must have valid registration with Pakistan Engineering Council (PEC) in the appropriate category.
- 41.3** The Contractor shall be responsible for making his own arrangements for the adequate supply of electricity, water and gas required for the effective performance of his obligations under the Contract.
- 41.4** The work shall be measured for the units mentioned in the Schedule of Prices according to the Contract as determined by the Engineer from approved drawings, Specifications and Contract Documents.
- 41.5** After the Defects Liability Certificate has been issued, the contractor and the Employer shall remain liable for the fulfillment of any obligation, which remains unperformed at that time. For the purposes of determining the nature and extent of any obligation, the Contract shall be deemed to remain in force.
- 41.6** If for any reason, which does not entitle the contractor to an extension of time, the rate of progress of the Works or any Section is at any time, in the opinion of the Employer or his representative, too slow to comply with the Time for Completion, the Employer or his representative shall so notify the Contractor who shall thereupon take such steps as are necessary, subject to the consent of the Employer or his representative, to expedite progress so as to comply with the Time for completion. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Employer or his representative under this clause, the Contractor considers that it is necessary to do any work at night or on locally organized days of rest, he shall be entitled to seek the consent of the Employer or his Representative so to do. Provided that if any steps, taken by the Contractor in meeting his obligations under this clause, involve the Employer in additional supervision costs, such costs shall, after due consultations with the Employer and the contractor, be determined by the Engineer Incharge and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from moneys due or to become due to the contractor and the Engineer Incharge shall notify the Contractor accordingly, with a copy to the Employer.
- 41.7** If at any time any payment would fall due for Works or portions of Works and, if there shall be any defect in portion of such Works in respect of which such payment is proposed, the Employer may retain the whole or any portion of such payment.

Any sum retained by the Employer pursuant to the provisions of this Clause shall be paid to the Contractor after the said defects are removed.

41.8 In case of discrepancies between drawings, those of larger scale shall govern unless they are superseded by drawing(s) of a later date regardless of scale. All drawings and specifications shall be interpreted in conformity with the agreement and these conditions.

41.9 In order to provide for the safety, health and welfare of persons, and for provision of damage of any kind, all operations for the purpose so for in connection with the Contact shall be carried out in compliance with the safety requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorize or direct and the contractor shall take or cause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose.

41.10 If in an opinion of the Engineer Incharge an emergency occurs affecting the safety of life or the works or of adjoining property, the Engineer Incharge may, without recourse to provisions of Clause 41.11 below and without relieving the Contractor of any of his duties and responsibilities under the Contract instruct the Contractor to execute all such work or do all such things as may, in the opinion of the Engineer Incharge, be necessary to abate or reduce the risk. The contractor shall forthwith comply with any such instruction(s) of the Engineer.

41.11 The Engineer Incharge shall inform the Employer within reasonable time the nature of emergency and the results thereof with supporting documents, which shall form the basis of Variation(s) with the consent of the Employer.

41.12 The Contractor shall report to the Engineer Incharge details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition to appropriate action required under the law, the Engineer Incharge immediately by the quickest available means.

41.13

1. Amount of earnest money 2% (Two Percent) of the bid price)
2. Form of earnest money Either a pay order or bank draft from a scheduled bank in favour of the CUI Sahiwal Campus.
3. Earnest Money a) Successful Tenderer
To be retained as part of retention money

b) Unsuccessful Tenderer

To be returned on signing the agreement by the CUI with a successful tenderer but not later than 30 days from the date of opening of tenders.

4. Time of commencement of work. Within 07 (seven) days of the client's order to commence the work.
5. Time of completion of works 90-days
6. Period of maintenance 06 (Six) months from the date of final completion of work
7. Amount of Liquidated damages for non-completion of works within stipulated time. 0.05% per day of sum stated in the letter of acceptance.
8. Limit of Liquidated damages Upto a maximum of 10% (Ten Percent) of sum stated in the letter of acceptance.
9. Retention Money 10% (Ten Percent) of verified amount of running bills/interim payments made to the contractor
10. Limit of retention money 10% (Ten percent) of the contract price.
11. Release of retention money Six (06) months after completion of works.
12. Bid Validity 60-days

42. The bidder should furnish a certificate as worded below in token of acceptance of all the terms and conditions of the tender. Otherwise, the tender will not be considered under any circumstances.

43. I / We hereby confirm to have read carefully the terms and conditions of your Tender Enquiry dated for opening on..... for the purchase of

We agree to abide by all these terms and conditions/instructions.

44. Certified that the prices quoted by our firm are inclusive of G.S.T and all taxes as per rules and regulations.

Company / Vendor Name:.....

Name of Tenderer:.....

Postal Address:.....

Tel. / Mobile:.....**Email:**.....

NTN#:.....**GST#:**.....

C.N.I.C No:.....

Signature of Tenderer:.....

Date and Stamp:.....

- Please also attach the Certificate supporting being an Active Taxpayer as per the requirement of FBR.

Part-a of the tender
Bill of Quantities for Construction of R.O Plant Room & Water Collection
Area with plinth protection

Sr #	Description	Amount
1	Civil Works	
2	Electrical works	
3	Plumbing works	
	Total	
	Add 5% PST	
	Grand Total	

Part-a of the tender

Bill of Quantities for Construction of R.O Plant Room & Water Collection Area with plinth protection

Civil Works					
Sr #	Description	Quantity	Unit	Rate	Amount
1	Structural excavation in soil above sub-soil water level for levelling and grading of building, for foundations and other structures, and unsuitable excavated material dispose-off the site area as per Specifications and as per approval of the Engineer.	853.375	Cft		
2	Provide and Apply Spray of anti-termite liquid mixed with water in the ratio of 1:40 for protecting the building from pests approved liquid directed by engineer incharge.(biflex or ali akbar) with warranty certificate 10 year.	1187.25	Sft		
3	Dry rammed brick or stone ballast 1-12" to 2" gauge (40mm-50mm)	135.88	Cft		
4	Provide and lay first class brickwork masonry in foundations and plinth in 1:6 cement sand mortar using approved sand including raking out joints in the same mortar, curing, as Specified: -	579.09	Cft		
5	Provide and lay 1-1/2" thick horizontal DPC topped with two coats of specified quality hot bitumen (hot applied system) fully covering the surface, on dry surface; consisting of 1:2:4 cast in situ cement concrete including mixing, compacting, finishing smooth, curing, formwork and is removal etc., including 1 layer of 500-gauge polythene sheet as per Specifications and to the approval of the Engineer.	76.50	Sft		

Signature & Stamp of Bidder

6	Provide and lay 3/4" thick vertical DPC 1:3 cement sand mortar DPC applied with two coats of hot bitumen of specified quality on dry surface, including mixing, finishing smooth, curing etc, including 1 layer of polythene sheet 500 gauge with 3" overlaps over dried bitumen, as per Specifications, and to the approval of the Engineer.	96.00	Sft		
7	Filling watering ramming earth back fill in plinth protection with surplus earth, from excavation of foundation, etc.	568.92	Cft		
8	Compacted backfill in foundations and under floors and plinth protection with approved suitable excavated soil, including breaking clods, dressing, watering, compacting mechanically in layers not exceeding 9" thick depth from any lead and any lift as per Specification.	452.58	Cft		
9	Provide and lay first class brickwork masonry in superstructure, in 1:5 cement sand mortar using approved sand including scaffolding and its removal, raking out joints and making flush or groove joints and curing etc.as specified: -	577.03	Cft		
10	Providing and laying reinforces cement concrete 1:2:4 (i/c pre-stressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, i/c forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing.	137.24	Cft		
11	Fabrication of mild steel Ambrilly steel grade 60, reinforcement for cement concrete, i/c cutting, bending, laying in position, making joints and fastening, i/c cost of bending wire and labour charges for bending of steel reinforcement (also includes removal of rust from bars	330.00	Kg		

12	Single layer of tiles 9"x4½"x1½" (225x113x40 mm) laid over 4"(100 mm) earth and 1" (25 mm) mud plaster with Bhoosa, grouted with cement sand 1:3 on top of RCC roof slab, provided with 34 lbs. per %Sft. or 1.72 Kg/Sq.m bitumen coating sand blinded	216.00	Sft		
13	Making Khurra on roof making with Plain Cement Concrete 1:2:4	1	No		
14	P.V.C rain water down pipe fixed in position, including heads and shoes and clamps etc 4" dia (100 mm) D class Popular or Equivalent.	14	Rft		
15	Supply, make, apply and cure 1/2" thick smooth finished plaster in 1:4 cement sand mortar using approved sand for smooth finished with steel trowel on internal walls etc. including floating coat of cement, making edges, corners, complete in all respect as per Specifications and to the approval of the Engineer.	2103.00	Sft		
16	Cement Plaster 3/8" (10mm) thick under soffit of R.C.C roof slab only upto 20' height Ratio 1:3	234.00	Sft		
17	3 coats of plastic emulsion paint on internal walls of approved quality & color, including surface preparation by provision of a film with alkali resisting primer on internal plastered walls to form smooth base for emulsion paint of approved color, including dusting, rubbing with pumice stone, sand papering, filling, as per instructions of the manufacturer, complete in all respects and as approved by the Engineer.	693.00	Sft		
18	Provide and Compacted fill with Local sand approved by the Engineer, under floor etc. brought from outside, compacted as per Specifications.	87.94	Cft		
19	Provide and lay lean concrete in foundations, under floor and plinth protection etc., using sand and Bajar stone as coarse aggregate including formwork and its removal, levelling, compacting and curing etc., complete in all respects as per Specifications. Ratio (1:4:8)	87.94	Cft		

20	Provide and lay non-skid ceramic tiles flooring, including 1-1/2" thick P.C.C 1:2:4 screed, 3/4" thick 1:4 cement sand mortar bed undercoat and 1/4" thick (mat finish) "Master" make or approved equivalent, of light colour ceramic tiles, complete in all respect; as per drawings and Specifications, sample as approved by the Engineer.	219.75	Sft		
21	Provide and lay glazed ceramic tiles dado or Skirting, total 3/4" thick, comprising 1/2" thick 1:4 cement sand mortar under-coat, and 12" x 12" x 1/4" thick "Master" make or approved equivalent, of light colour ceramic tiles, complete in all respect; as per drawings and Specifications, sample as approved by the Engineer.	144.00	Sft		
22	Provide and lay PCC 1:2:4 flooring in alternate panels, including cost of marble strips of any shade (1-1/2"x 1/2") for making permanent division, and finishes smooth dust free.	276.00	Sft		
23	Provide and fix in position double leaf, single sheeted steel hinged door in 16 swg M.S. sheet with "Z" section 1-1/2"x1-1/2"x1/4" M.S. angle frame and 1/4" M.S. flat plate welded together to form "Z" section frame, including bracing 1-1/2"x1-1/2"x1/4" M.S. angle, 3 Nos. approved heavy duty hinges per shutter, 3 Nos. M.S.hold-fast for door frame on either side, embedded in P.C.C.(1:2:4) painting 2 coats of red oxide with min 2-3 coats of enamel paint (ICI or Burger), and all hardware complete in all respects as approved by the Engineer.	35.00	Sft		

24	Providing and fixing MS decorative window grill using 1"x3/4"x 16 SWG pipe for outer frame, 1"x 1"x 16 SWG pipe for vertical bars and 1/2" x 1/2" MS solid square bars for crosses, complete in all respect with anti-rust red oxide coating and three coats of enamel ICI approved paints, (as per relevant drawing) including the cost of all fixing accessories etc. The measurement shall be taken as the opening size between the walls, sill and lintels and not as per actual size of the grill. All pipe joints are to be carefully welded and sealed to ensure no water penetration to the inside of the pipes.	40.00	Sft		
25	Providing & fixing all types of glazed aluminum Ventilator windows of anodized bronze colour with aluminum wire jali gauge 24 SWG,12x12 meshes per square inch using deluxe sections of Pakistan Cables/Al-Cop or equivalent having frame size of 100x30 mm (4"x1.20") and leaf frame sections of 60x23mm (2.4"x0.92"), all of 1.60 mm thickness including 5 mm thick imported tinted glass with rubber gasket using approved standard latches, hardware etc as approved by Engineer Incharge.	40.00	Sft		
26	Provide and apply 3 coats of ICI dulux Weather Shield Paint make as per Specifications and approved shade by the Engineer.	819.00	Sft		
	TOTAL AMOUNT CIVIL WORKS RS.				
External Plumbing					
27	Construct of catch basin (12'x1') external size including steel cover grating made of 1/2" square bars 2" c/c welded with sub frame 1"x1"x1/4" thick including paint 3 coats complete and average 1'-9" deep consisting of all works item like P.C.C 1:4:8 sub-floor, Brick work 1:5 for making walls and base P.C.C 1:2:4 in bottom floor, as per direction of Engineer Incharge.	1	No		

28	Providing laying cutting jointing testing and disinfecting P.P.R.C. pipe line (Dadex or equivalent) in trenches with all special socket joint complete in all respect PN20 25mm	65	Rft		
29	Providing laying cutting jointing testing and disinfecting P.P.R.C. pipe line (Dadex or equivalent) in trenches with all special socket joint complete in all respect PN20 32mm	130	Rft		
30	Providing and fixing chromium plated bib cock: - i) 2 cm (3/4")	5	No		
31	Providing and fixing handle valve 3/4" dia complete	2	No		
32	Providing and fitting "P" trap: - ii) 10 cm (4") Glazed	4	No		
33	Providing and fitting Dura or Equivalent water storage tank 1000-gallon i/c inlet and outlet fitting complete in all respect and as approved by the Engineer Incharge.	2	No		
34	P/F Goldamatic pump 1-1/4"x1" Gujranwala 1 H.P motor 21 m suction & 30 m head (non automatic)single phase i/c boring upto 130' depth Lowering using Popular Pvc Pipe i/c foundation and carriage from market to site of work complete in all respect and as approved by the Engineer Incharge.	1	No		
35	Providing, laying, cutting, jointing, testing and disinfecting pipe line in trenches with P.V.C. pipes of B.S.S. with 'D' Class working pressure complete in all respects: - 4" i/d (100 mm)	50	Rft		
	TOTAL AMOUNT PLUMBING WORKS RS.				

Electrical Works					
36	Supply and erection of PVC pipe for wiring recessed in walls, including inspection boxes, pull boxes, hooks, cutting jharries, and repairing surface, etc., complete with all specials.				
	_____ do _____ 1" dia	100	Rft		
37	Supply and erection of single core PVC insulated copper conductor cables, in prelaid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only):- a) 250/440 volts, PVC insulated:				
	_____ do _____ 3/0.029"	600	Rft		
	_____ do _____ 7/0.029"	300	Rft		
	_____ do _____ 7/0.044"	600	Rft		
38	Supply and erection of PVC box, 10 cm (4") deep, for recessed wiring, including making holes for egulators, switches, plugs, etc.				
	_____ do _____ 3"x6"	2	No		
	_____ do _____ 3"x3"	6	No		
39	Supply and erection of 10-hole sheet (opal) with back box complete in all respects.				
	10 Hole sheet (8+2) opal	1	No		
	08 Hole sheet (6+2) opal	1	No		
40	Supply and erection of 3 pin light plug Opal with back box.	3	No		
41	Supply and erection of 3 pin Power Plug Opal with back box.	3	No		
42	Providing and fixing LED 13-watt (E 27) Philips made best quality complete in all respect.	3	No		
43	S/E of bulb holder large size E-27	3	No		
44	Providing and fixing SMD7 watt Philips 3" dia made best quality complete in all respect.	7	Rft		

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45	Supply of ceiling fan 56" sweep complete with regulator / dimmer of approved firm etc complete in all respect i/c fan box etc.	1	No		
46	Exhaust Fan 12" sweep capacitor type with all accessories etc.	2	No		
47	(DB 12x14) Lighting distribution Board Installation, testing, commissioning and connections of wires / cables of Lighting Board "Light/Power" concealed type MS sheet All DBs mentioned below shall 3 phase indication lamps transformer type of colour Red, Yellow, Blue and I-Voltmeter. Outgoing 3 pole bracker 63 Amp 2 Nos, 1 pole bracker 10 Amp 4 Nos, Slector switch for phase voltage 4 positions 01 Nos.	1	No		
	TOTAL AMOUNT ELECTRICAL WORKS RS.				

BoQ
Part-b of the tender-
Providing, Fixing and Installation of new RO Plant at CUI Sahiwal Campus

PLANT TYPE: DRINKING WATER RO PLANT WITH MINERAL DOSING	PLANT CAPACITY	1000 LTR/H R
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- MAIN FEATURES:**
- Auto Backwash
 - Auto Membrane Flushing
 - Mineral Dosing Station
 - Mineral Mixing Mechanism
 - High & Low Pressure Safties
 - Auto Integrated with Raw & Product Tank
 - TDS Monitoring (Raw, RO & Product)
 - Blending Option
 - CIP Mechanism
 - Flushing Line Bacteria Control
 - Consumables unit rate may kindly be provided separately also for future purchases.

Sr #	Item Name	Specification s	Reference Model/Brand	UoM	Qty	Quoted Brand	Unit price (Rs.)	Total price (Rs.)
1	Feed Pump	Flow: 2 m3/hr Pressure: 4 Bar Model: 2-40 III Phase CRN Series	CNP / Equivalent	Nos.	1			
2	Multimedia Vessel	Size: 16x65 MoC: FRP Max Pressure: 150 PSI	FroTec / Equivalent	Nos.	2			
3	Quarts Media	Fine Mesh Packing: 40 Kgs	Any	Bags	4			
4	Sand Media	Brown Sand Fine Mesh Packing: 25 Kgs	Any	Bags	8			

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5	Activated Carbon	Mesh Size: 1.2 - 4 mm Packing: 25 Kgs	Biocat / Equivalent	Bags	1			
6	Multiport Auto Valve	Auto 220V Operated	Rock / Equivalent	Nos.	2			
7	Jambo Filter Housing	MoC: Synthetic Polymer Max Pressure: 100 PSI	Any	Nos.	2			
8	Jambo Filters	MoC: PPF Rating: 5 Micron	Any	Nos.	2			
9	Jambo Filters	MoC: PPF Rating: 1 Micron	Any	Nos.	2			
10	Low Pressure Switch	7.5 Bar NO / NC Operated	Danfoss / Equivalent	Nos.	1			
11	High Pressure Pump	Flow: 2 m3/hr Pressure: 10 - 12 Bar Model: 2-11 III Phase CRN Series	CNP / Equivalent	Nos.	1			
12	High Pressure Switch	14 Bar NO / NC Operated	Danfoss / Equivalent	Nos.	1			
13	Pressure Gauges	100 PSI	Wika / Equivalent	Nos.	5			
14	Pressure Gauges	150 PSI	Wika / Equivalent	Nos.	2			

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15	Membrane Housing	MOC: FRP Max Pressure: 300 PSI	FroTec / Equivalent	Nos.	1			
16	RO Membrane	MoC: TFC Size: 8 x 40	FilmTec USA / Hydronautics USA	Nos.	1			
17	Reject Control Valve	Globe Valve Size: 1" MoC: Stainless Steel	Any	Nos.	1			
18	High Pressure Pump: Pressure Regulating Valve	Globe Valve Size: 1/2" MoC: Stainless Steel	Any	Nos.	1			
19	Flushing SOV	220V Operated Size: 1/2" MoC: Stainless Steel	SNS / Equivalent	Nos.	1			
20	Flow Meters	10 GPM Online Mounting Style	Any	Nos.	2			
21	Blending Valve	Globe Valve Size: 1/2" MoC: Stainless Steel	Any	Nos.	1			
22	UF Membrane	Bacteria Removal Efficiency Blending Line Bio Control Size: 4 x 40	FroTec / Equivalent	Nos.	1			
23	TDS Meters	220V Operated Online Sensor	Sunho / Creat / Equivalent	Nos.	3			

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24	UV Chamber	Single Rod Fitting Size: 33" / 36" MoC: Stainless Steel	Any	Nos.	1			
25	UV Rod with Complete Fitting	Size: 33" / 36"	Phillips / Atlantic	Nos.	1			
26	Ozonator	3 GPM	Any	Nos.	1			
27	Skid	Square Pipe Size: 1.5" x 1.5" MoC: SS304	Any	Nos.	1			
28	Electric Panel	Box Material: SS304 Auto / Manual Operation Phase Failure Main Breaker Control Breakers Emergency Switch	Schneider / Equivalent	Nos.	1			
29	Electrification	III Phase & I Phase	Any	Job	1			
30	Pipping & Fitting	uPVC 80 Schedule	ERA / Equivalent	Job	1			
31	Antiscallant Dosing Pump	Flow: 5 LTRs Pressure: 5 Bar	Etatron Italy / Equivalent	Nos.	1			
32	Calcium Mineral Dosing Pump	Flow: 5 LTRs Pressure: 5 Bar	Etatron Italy / Equivalent	Nos.	1			
33	Sodium Mineral Dosing Pump	Flow: 5 LTRs Pressure: 5 Bar	Etatron Italy / Equivalent	Nos.	1			

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34	Magnesium Mineral Dosing Pump	Flow: 5 LTRs Pressure: 5 Bar	Etatron Italy / Equivalent	Nos.	1			
35	Raw Water Storage Tank	Capacity: 500 GAL MoC: PE Food Grade	Any	Nos.	1			
36	Product Water Storage Tank	Capacity: 500 GAL MoC: PE Food Grade	Any	Nos.	1			
37	Dosing Tanks	Capacity: 80 LTRs MoC: PE Food Grade	Any	Nos.	4			
38	CIP Tank	Capacity: 80 LTRs MoC: PE Food Grade	Any	Nos.	1			
39	Level Switch	String Type NO/NC Operated	Any	Nos.	2			
40	Mineral Mixing Pump	Capacity: Min 100 L/H Submersible Type 220V Operated	Any	Nos.	3			
41	Antiscallant	Membrane Antiscallant Packing: 30 Kgs	Flocon 260 / Equivalent	Can	1			
42	Calcium Mineral	Ca ⁺⁺ Packing Size: 1 Kg	Honeywell / Equivalent	Kg	12			

43	Sodium Mineral	Na ⁺⁺ Packing Size: 1 Kg	Honeywell / Equivalent	Kg	8			
44	Magnesium Mineral	Mg ⁺⁺ Packing Size: 1 Kg	Honeywell / Equivalent	Kg	4			
45	Filling Station	Filling Tabs: 02 Nos. Pressure Washer: 01 Nos. 1.5L/600mL Filling Tabs: 04 Nos. Pipping & Fitting: 80 Schedule MoC: SS304	Any	Nos.	1			
46	Filling Station Pump	Flow: 2 m3/hr Pressure: 4 Bar Model: 2-40 I Phase CRN Series	CNP / Equivalent	Nos.	1			
47	Filling Tabs	Filling Station: 04 Nos. Wall Mounted SOV (1/2") Control uPVC Lines Auto Control	Any	Job	1			
Sub-Total Part a of the tender (Rs.) with delivery, fixing, installation, training and all applicable taxes as per Rules								

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Note:

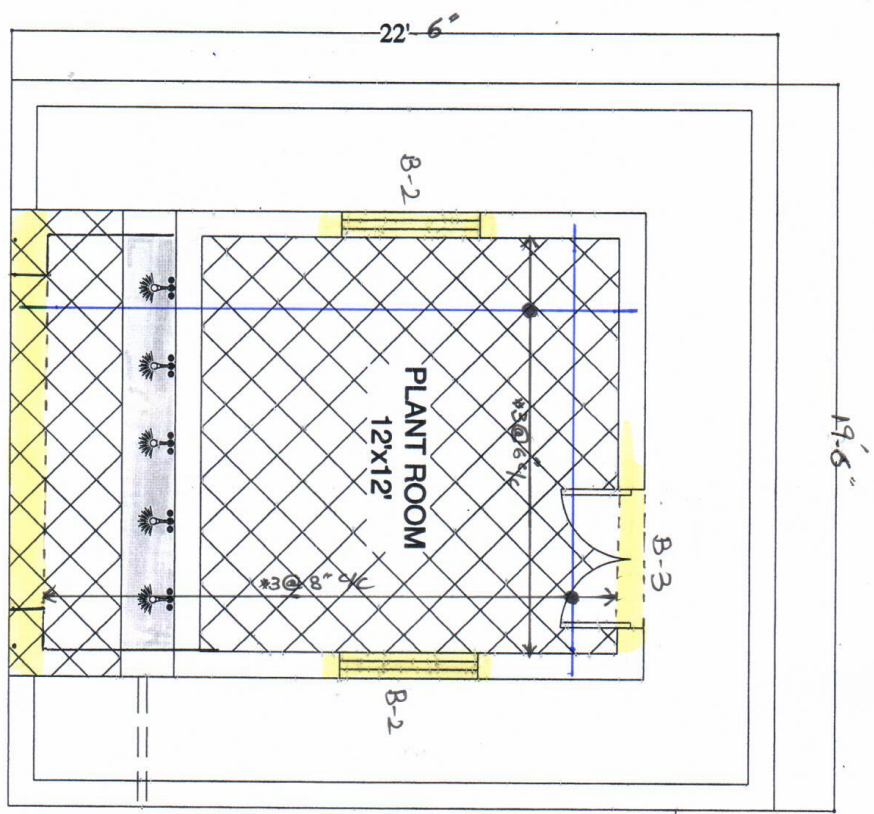
- The Purchase/Work order will be awarded on Part Wise Basis. The vendor can participate in both or in one part of the tender.
- Bidders shall price the Bill of Quantities in Pakistani Rupees only.
- For all the Brands mentioned in this tender (if any), the term “equivalent or higher” is hereby added and shall be considered as per PPRA rules.
- Multiple prices of an item may lead to rejection of the item/bid.
- In case of any inquiry regarding specifications of any item, please visit Store Section or Purchase Office, CUI, Sahiwal Campus during office hours from 08:30 am to 04:30 pm from Monday to Friday.

DRAWINGS

Plan For R.O Plant

Beam - B-1

Front Water Collection Point



3' Wide Fire Protection

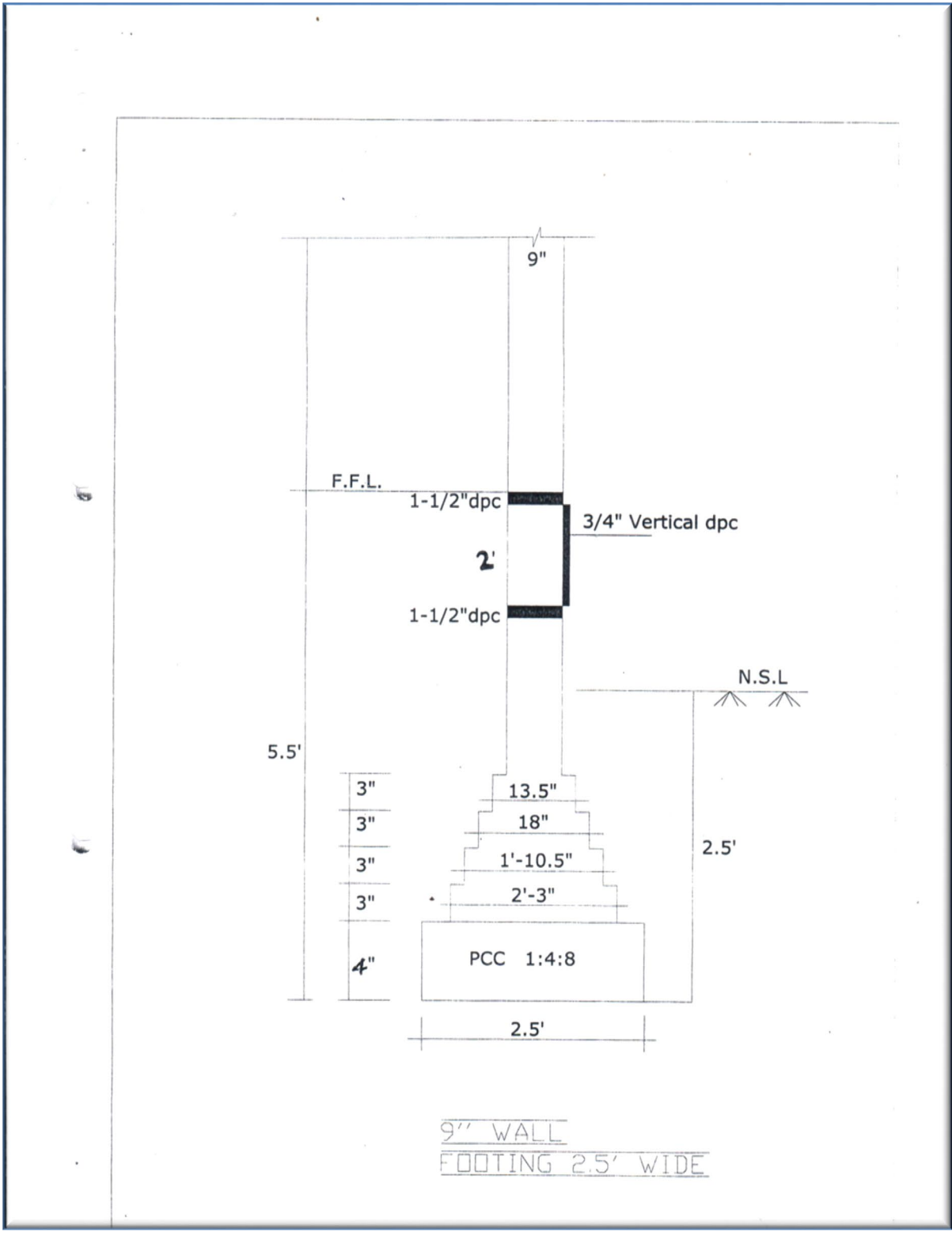
4" Dia uPVC Pipe

2x2 Man Hole

M.H.

M.H.

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SCHEDULE OF LINTELS		
S/No	CLEAR SPAN	CONFIGURATION
1	UPTO 4'-0"	
2	UPTO 6'-6"	
3	UPTO 8'-0"	
5	UPTO 12'-0"	

