

**RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS**  
– NID PG Campus, Gandhinagar



**National Institute of Design**

# **T e n d e r**

**RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS**  
at PG Campus, NID, Gandhinagar

Contractor:

**M/s KAPADIA + BANKER ARCHITECTS PLANNERS ENGINEERS**  
106, Andheri Industrial Estate, Off Veera Desai Road, Andheri, Mumbai 400 053  
18 Embassy Market, Near Dinesh Hall, Ahmedabad 380 009

## **Tender Notice**

### **RAIN RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS WITH PERCOLATING WELLS**

NID intends to provide RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS in its PG Campus at Gandhinagar. Sealed tenders for Design and execution are invited from experienced contractors . The offer will be submitted in two envelopes.

The envelope No. 1 shall contain

- Company profile with annual turnover of last three years
- List of works carried out for the last three years making special mention of works of similar nature
- List of plants and machinery
- The tenderer shall give detailed specs and technology if he offered as alternative design

The envelope No. 2 will contain the commercial/financial bid.

Name of Work	RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS at PG Campus for National Institute Design, Gandhinagar
Completion period	6 months
Tender Fee (Non refundable)	Rs. 500/-
Earnest Money Deposit EMD	Rs. 30,000 by D.D / Pay order in favour of National Institute of Design payable at Ahmedabad
Date of Issue of Tenders	5-11-2009
Date of Submission of Tender	16-11-2009

Blank Tender forms will be available from the NID account office on a payment of Rs. 500/- per copy (On cash payment only) –Non refundable. The tender can also be downloaded from the website of the Institute [www.nid.edu](http://www.nid.edu); however the tender fee of Rs. 500 must accompany the filled tender.

The tender, dully filled in, shall be submitted to the office of The Secretary and Head, General Administration ,National Institute of Design, Paldi, Ahmedabad 380 007 on or before 3.00 P.M. on 16-11-09

The Institute does not bind itself to accept the lowest tender and reserves the right to accept or reject any or all tenders without assigning any reason for doing so.

Tender

**RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS**  
at N.I.D. P.G. Campus, Gandhinagar

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**PROGRAMME SCHEDULE**

**A 1**

Name of Work	RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS at PG Campus for National Institute Design, Gandhinagar
Employer	National Institute of Design, Paldi, Ahmedabad 380 007
Authorised person from Employer	The Secretary & Head General Administration National Institute of Design, Paldi Ahmedabad 380 007
Architect	<b>M/s KAPADIA + BANKER</b> ARCHITECTS PLANNERS ENGINEERS  106, Andheri Industrial Estate, Off Veera Desai Road, Andheri, Mumbai 400 053 18 Embassy Market, Near Dinesh Hall, Ahmedabad 380 009
Completion period	6 months
Tender Fee (Non refundable)	Rs. 500/-
Earnest Money Deposit EMD	Rs.30,000 by D.D / Pay order in favour of National Institute of Design payable at Ahmedabad
Security Deposit SD	5% of the Contract value including EMD
Date of Issue of Tenders	5-11-2009
Date of Submission of Tender	16-11-2009

Letter from the Tenderer

The Secretary & Head  
General Administration  
National Institute of Design  
Paldi  
Ahmedabad 380 007

**Re:** Tender for RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS  
at PG Campus for National Institute Design, Gandhinagar

Dear Sir,

With reference to the tender invited by you for the above works, we are pleased to offer to execute the work under contract at the rates mentioned in the Schedule.

We have inspected the site of work, studied the drawings, read the Conditions of Contract, and we agree to complete the work to the specifications and satisfaction of the Employer / Architect.

We enclose herewith Earnest Money Deposit of Rs. 30,000/- by Pay Order / Draft No: \_\_\_\_\_ Drawn on \_\_\_\_\_, in favour of "National Institute of Design" payable at Ahmedabad

We hereby agree that this sum shall be forfeited by us if we fail to execute the contract when called upon to do so in the event of your accepting our tender.

We hereby also agree that you reserve the right to accept or reject any or all tender without assigning any reasons.

Yours Sincerely

Sign & Stamp of the Contractor

Sealed Tender to be submitted to the office of  
The Secretary & Head, General Administration  
National Institute of Design, Paldi, Ahmedabad 380 007

## GENERAL INSTRUCTIONS TO CONTRACTORS

1. The Scope of work is Designing, Supplying, Installation, testing & commissioning of RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS at PG Campus for National Institute Design, Gandhinagar.
2. Before tendering, the tenderer shall visit the site and also carefully examine the conditions of contract, the specifications, drawings and schedule of quantities and if there should appear any ambiguity or discrepancy in any of these documents, he should immediately refer the matter to the Institute/Architect.
2. The tenderer shall ascertain the locations, size and conditions of the area available for his use as working area, storage and stacking area of materials and all other information related to this tender.
3. The enclosed site plan show the locations of the proposed wells. A drawing showing the tentative section of the well is also enclosed for the reference, however the tenderer may give his own scheme but should meet with the requirement of GUDA.
4. The basic soil data like the soil Testing Report (up to a depth of 6m), the bore log (up to a depth of 200m) and the brief Report on Geo-Hydrological conditions and Feasibility Report for Tube well, which might form the basis of the design, may be inspected in the office of the Executive Engineer, NID or the Architects.  
  
Any clarifications required on the tender documents/ drawings / details may be obtained from the office of the Architect.
5. **The tender shall be made on the basis of the total cost of design to commissioning stage. The contractor shall also provide for all cost of liasoning and getting approvals of the appropriate authorities.**
6. Tenders shall remain open for acceptance by the Institute for a period of three months from the date of opening of the tender.
7. In exceptional circumstances, prior to the expiry of the original tender validity period, the Institute may request the tenderer for a specified extension in the period of validity. The request and the response thereto shall be made in writing. The tenderer may refuse the request without forfeiting his Earnest Money Deposit. A tenderer agreeing to the request shall not be permitted to modify his tender.
8. The Institute does not blind itself to accept the lowest or any tender and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part without assigning any reasons for doing so.
9. The tenderer shall pay an earnest money deposit, a sum as specified, by a Pay Order/ Demand Draft payable at Ahmedabad in favour of National Institute of Design. A tender which is not accompanied by earnest money deposit may not be considered. EMD will be returned to the tenderer within stipulated time period, if his tender is not accepted.
10. Under no circumstances, earnest money deposit will be accepted in the form of Cash, Fixed deposit receipts of Bank or Insurance Guarantee.
11. Sealed tenders should be addressed to The Secretary & Head, General Administration, National Institute of Design, Paldi, Ahmedabad 380 007 and super scribed “**RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS at Gandhinagar for National Institute of Design- Original / Duplicate** “ and sent so as to reach him not later than 3.00 PM on the date indicated in the tender invitation letter.

### MODE OF SUBMISSION OF TENDER

- a) Sealed tenders, consisting of two Envelopes viz. Envelope No: 1 and Envelope No: 2, shall be addressed to The Secretary & Head, General administration, National Institute of Design, and super scribed “ Tender for **RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS** for PG Campus for National Institute Design, Gandhinagar “ and sent so as to reach him not later than 3.00 p.m. on the date indicated in the letter of invitation to tender.
- b) No tender will be received after 3.00 p.m. on 16-11-2009 the date indicated in the letter of invitation to tender.
- c) Sealed Envelope no:1 shall contain the following:  
  
Company’s profile,  
Annual Turnover of last three years,  
List of SIMILAR works done with total amount for last three years  
Bio data of the key person in the Organisation and list of technical staff  
Earnest Money Deposit as specified  
The tenderer shall give detailed specs and technology if he offers alternative design,  
**however he must fill in his rates in the accompanying Bill of quantities.  
Tentative Programme.**  
  
**It should be importantly noted that the contents of Envelope No:1 must not in any way reveal rates of any item or the total tender amount quoted by the tenderer in Envelope No. 2.**
- d) Sealed envelope No:2 shall contain the commercial bid with price duly filled in and signed as specified.

### MODE OF OPENING OF TENDER

- a) Envelope No:1 of the tenders will be opened at 4.15 P.M. on the due date of submission in his office by The Secretary & Head, General administration, NID or any other officer designated for this purpose by him, in the presence of the Architect and the tenderers or their representatives, should they chose to remain present.
- b) Contents of envelope No: 1 will be examined by the Institute to ensure that the tenderer, in Institute's opinion, is competent to carry out the work as specified.
- c) After examination of the contents of the envelope No:1, the Institute may, if required, seek further clarifications from tenderer in a joint and/or separate meetings and / or by written communications.
- d) Envelope No:2 will be opened on due date in the office of The Secretary & Head, General administration, NID or any other officer designated for this purpose by him, in the presence of the Architect and the qualifying tenderers or their representatives, should they chose to remain present.; the time and date of the opening will be intimated to the qualifying tenderers.

**ARTICLES OF AGREEMENT** made at Ahmedabad this day the \_\_\_\_\_2009 between the National Institute of Design, Paldi, Ahmedabad 380 007 (hereinafter referred to as the Institute) on the one part and **M/s.** \_\_\_\_\_ registered under the Indian Company's Act and having its office at \_\_\_\_\_(hereinafter called the Contractors on the other part, which expression shall mean, unless the context so admits and include the partners or the partner for the time being of the firm and their respective heirs, executors and administrators)

and WHEREAS the Institute is desirous of having Work of **RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS** at PG Campus for National Institute Design, Gandhinagar for National Institute of Design at their PG Campus, Gandhinagar as specified in the Tender Document issued and whereas the Contractor has agreed with the Institute for the performance of the said works as a contract work of labour more clearly specified in the Tender Document upon certain terms and conditions hereinafter provided and whereas the parties are desirous of reducing to writing the terms and conditions of the contract on which the Contractor has agreed with the Institute for the performance of said work, now it is hereby agreed by and between the parties hereto as under:

- 1) The contractor shall duly perform and execute the said works as per description , quality, quantity and rates specified in the Tender Document in accordance and in all respects with the specifications, designs, drawings, and instructions in writing referred to in the Tender Document, and the Letter of Intent issued to the Contractor subsequently.
- 2) **Security Deposit:** The Contractor shall on or before the execution of this agreement deposit an earnest money with the Institute a sum of Rs.30,000 (Rupees Thirty thousand only). In addition of earnest money deposit paid along with the tender, the contractor, whose tender is accepted, will have to deposit an additional amount, by DD, with in two week's time from the date of accepting tender so that total sum including EMD will be equivalent to 2% of the his / their contract amount as security deposit. The amount will be held by the Institute as Security Deposit till the successful completion of the work. This amount shall not bear any interest. For further security for the due fulfillment of the contract by the contractor, 5% of the value of the work done will be deducted by the employer from each running bill towards retention money. On the Architect's issuing a certificate of the Virtual Completion of the Works, the contractor would be paid 50% of the security deposit and the remaining 50% will be released by the employer after rectification of the defects, if any, pointed out during the Defects Liability Period. The amount retained by the employer shall not bear any interest. This deposit will be forfeited by the Institute if the contractor does not complete the work. The Institute shall hold these amounts as security deposit as a guarantee for the timely and proper performance of this contract by the Contractor. The contractor agrees and authorises the Institute to deduct in part or in full all such security deposits and any other dues of the contractor for any work done or towards any damages suffered by the Institute either on account of or incidental to this agreement or as liquidity damages for breach of any clause of this agreement or for non compliance of the work entrusted to the Contractor as per this agreement read with the said Tender Document and Letter of Intent as per the stipulated time, quality and workmanship. In addition, the Contractor further agrees to compensate for any damages or on account of non-fulfillment or breach of any clause of this agreement and/or work order under this contract beyond the security deposit and retention money and other dues of the contractor in the event of unreasonably delayed postponement of the work or abandonment of the work, a sum as may be determined towards the damages by the Executive Director of the Institute. Nevertheless the total amount by way of

compensation / damages for the work remaining uncommenced or unfinished on the due date shall not exceed 10% of the amount of the estimated cost of the whole work)

- 3) **Manner and period in which the works are to be carried out :**  
The contractor agrees and undertakes to duly perform and complete the said works set forth in the Tender document and subsequent amendments, if any, issued in writing from time to time. The said works shall throughout the stipulated period of contract be proceeded with all due diligence, promptness, care and accuracy and in a work-man like manner to the satisfaction of the Institute and will be completed in accordance with the said specification, designs, drawings and instructions on or before the aforesaid due date, time being the essence of the contract on the part of the Contractor.
- 4) **Supervision of work:** The Contractor shall keep constantly at the work site a competent Engineer or such other competent Supervisor as may be required promptly to set the work and any direction or explanation given by the Institute's authorised representative to such person shall be held to have been given to the Contractor.
- 5) **Inspection of work:** Inspection will be made periodically during the progress of the work by the authorised representative of the Institute and all materials and workmanship must be of acceptable quality and efficiency to the said representative who will be the sole judge. If the progress of any particular portion of the work is unsatisfactory, the Institute shall notwithstanding the fact that the general progress of the work is satisfactory, be entitled to take action under Clause 35 of the Institute's General Conditions of Contract, after giving the Contractor 15 days' notice in writing and the Contractor will have no claim for compensation for any loss sustained by him owing to such action. All works under or in course of execution or executed in pursuance of this contract shall at all times be open to the inspection and supervision of the Institute and their authorised representative and Architect. The Contractor shall at all times during usual working hours and at all other times after having received reasonable notice, allow the Institute and their authorised representatives and Architect to visit the work and carry out the necessary orders and instruction.
- 6) **Measurement of the work:** As soon as the item of work is completed, notice thereof should be given forthwith by the Contractor to the Institute. A representative of the Institute will then measure the work completed and record the measurements in ink in his measurement book, which record in the measurement book will alone constitute the basis for payment for such work by the Institute to the Contractor.
- 7) **Provisional payments :** No payment shall be made for any works till after the whole of the works shall have been completed and a certificate of completion is given. The Institute may, however, at their option pay to the Contractor on their submitting a provisional bill thereof any amount proportionate to the part of the work then approved and passed by the Institute, less 5 percent of the said amount, and the certificate of such approval and passing of the sums so payable shall be final and conclusive against the Contractor. All such intermediate payments shall be regarded as payments by way of advance against the final payments only and not as payments for work actually done and completed and shall not preclude the Institute from requiring any bad, unsound, imperfect or unskilled work to be removed and taken away and reconstructed or reerected, nor shall any payment be considered as an admission of the due performance of the contractor or any part thereof.

- 8) **Final payment :** The final bills shall be submitted by the Contractor within 3 months of the date fixed for completion of the work, along with the Institute Engineer's/Architect's/Consultant's certificate of the measurements and of the total amount payable by the Institute, shall be final and binding on all parties.
- 9) **Receipts for payments from partnership firms :**  
Receipts for payments made on account of a work when executed by a firm of partnership, must also be signed by the several partners, except where the contractors are described on their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having authority to give effectual receipts for and on behalf of the firm.
- 10) The Contractor shall ensure that his men deputed for the above work at the Institute premises are insured against all risks. The Contractor undertakes the liability and hereby indemnifies the Institute in respect of all causes of actions, claims, damages, compensation of costs, charges and expenses arising out of any accident or injury sustained by the Institute or any staff member or guest of the Institute or the workmen and guest of the Contractor whether in employment of the Contractor or not while in or upon the said work or area, arising out of any act, default or negligence, error in judgment on the part of the Contractor or on the part of his workmen and agents.
- 11) The contractor agrees to obtain necessary license under the Contract Labour ( Abolition and Regulations Act) from the competent authority for engaging contract labour for the work under this agreement and also to comply with various rules and provisions<sup>2</sup> under the said Act. The contractor also undertakes to comply with all other labour legislation and Acts such as Minimum Wages Act, Workmen's Compensation Act, Payment of Wages Act, Provident Fund Act, ESIS etc. and indemnifies the Institute against any liability arising on account of breach of any provisions of such acts/rules as applicable to the Contractor for its personnel on duty in the campus in connection with and incidental to the said work under this agreement.
- 12) The contractor shall ensure that his engineers / representatives / staff/ workers coming to the campus in connection with and incidental to the work under this agreement conduct themselves properly and obey all security and safety regulations of the Institute. They will ensure that they will carry necessary identity cards and also give a list of such persons coming to the campus and engaged on the work under this agreement to the said engineer/authorised representative of the Institute.
- 13) The Institute shall be entitled to determine this agreement and discharge the contract, without prejudice to other rights and remedies available to him, if the Contractor shall become insolvent or fails and/or neglects to carry out instructions on his behalf or to complete the work or suspend the same or delay the progress thereof without reasonable cause or suffers or allows any execution or attachment levied on the properties at the site or refuse or persistently neglects to make good the site or refuse or persistently neglects to make good the defective work, if any, or if, without the written consent of the Institute, the contractor shall assign or sublet his contract.

- 14) In case of termination of this agreement and/or discharge of the contractor as herein above stipulated, the Institute shall be entitled to appoint a new contractor or contractors to continue and complete the said work given to the said contractor, or additions to the said work, if any, according to the said plans and specifications or any deviations there from and authorise him to use any plans, materials/tools and property of the contractor left upon the site and the contractor shall in such case lose and forfeit all his interest whatsoever under this contract except his claim from moneys unpaid on settlement of account between the parties or difference of all his bills, less damages payable to the Institute as mentioned at clause 2 above.
- 15) **Bill to be in the Institute's prescribed forms :**  
The Contractor shall submit their bills only in the form prescribed by the Institute as per specimen given in the Annexure to the Institute's General Conditions of Contract. These forms can be had on application from the Institute representatives.
- 16) **Agreement to be subject the Institute's General Conditions of Contract:** This agreement is subject to the Institute's General Conditions of contract in so far as the same is not in consistent with the above clauses, a copy of which general conditions would be deemed to have been studied and agreed to by the contractor before their signing this agreement.
- 17) This agreement is subject to the special conditions stipulated in our Tender Document letter of Intent and subsequent amendment, if any issued from time to time, in so far they are not inconsistent with the terms and conditions of this agreement.
- 18) In case of any disputes or difference between the parties during the progress or after completion or abandonment of the work mentioned above, courts in Ahmedabad alone will have jurisdiction.

Signed this the \_\_\_\_\_ day of \_\_\_\_\_ 2009

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Institute

\_\_\_\_\_  
Witness:

\_\_\_\_\_  
Witness:

**CONDITIONS OF CONTRACT**

**B 5**

1. The Scope of work is Designing, Supplying, Installation, testing & commissioning of RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS at PG Campus for National Institute Design, Gandhinagar.
2. National Institute of Design reserves the right to reject any or all tenders without assigning any reasons whatsoever.
3. The tender shall be valid for a period of three months from the date of acceptance of the tender.
4. The contractor is expected to have carefully examined the tender documents including technical specifications and to visit and inspect the work site to acquire necessary information and acquaint himself with working conditions.
5. The contractor, whose tender is accepted, shall within one week's time of the receipt at acceptance deposit the Security Deposit and enter into a contract with the Institute for the due execution of the works by entering to an agreement; but the written acceptance by the Institute, directly or through their Architect will constitute a binding agreement between the Institute and the contractor, whose tender is accepted.
6. The earnest money deposit will be returned within one month to the other contractors whose tender is not accepted by Institute.
7. The contract will be an item-rate contract. The rates shall be firm and shall not be subject to any variations. The rates quoted for the execution of the work in accordance with the standard specifications and of the standard to produce first quality of work.

The Technical Specs are approximate and meant to provide uniform basis of tendering. The supplier should give full specifications of the system offered by him with minimum details given in the accompanying proforma.

8. The contractor will not be entitled to any compensation for any loss suffered by him on account of delays in commencing of executing the work whatever the cause of such delays, may be, including delays in procurement of the materials by the Institute.
9. The contractor shall ensure compliance of provisions of Minimum Wages Act, Payment of Wages Act, Provident Fund Act etc, as are applicable
10. The selected contractor will have to obtain necessary license under the provisions of Contract Labour ( Regulation and Abolition) Act, for the workers debuted by him for the work at NID. The Contractor will comply with all rules and regulations under this Act during the duration of the Contract assignment with NID.
11. The Contractor, on receiving instruction from the Architect/Consultant, shall remove his representative or any Labour found unskilled for the work in opinion of the Architect or Engineer-in-Charge or he is found misbehaving on site.

12. The Architect shall have right to remove the work executed on site which, in his opinion is either not in accordance with the specifications or not as per the standard quality required by him.
13. After the completion of the work, the contractor shall within a period of week's time clear the site of all waste materials, debris etc from the construction site and shall also assist the Institute for the same.
14. The contractor is expected to have carefully examined the tender document including tender drawings, technical specifications and to have visited and inspect the work site to acquire necessary information and acquaint himself with working conditions.
15. The contract will be an item-rate contract. The rates shall be firm and shall not be subject to any variations. The rates quoted by the contractor shall include all materials and labour directly used in the work, tools, plants, accessories etc to complete the item. The rate shall also include all government taxes including sales tax, turn-over tax, service tax, VAT etc and all levies and duties levied by local bodies like octroi etc. The rates quoted for the execution of the work in accordance with the Indian standard specifications / BIS and of the standard to produce quality of work.
16. The rates quoted in the tender shall also include all charges for clearing of site before commencement as well as after completion of the work.
17. The contractor shall include in his rates all cost of liabilities of implementing various labour laws including minimum wages, worker's provident fund, labour welfare, workman's compensation insurance, CAR policy etc. He shall keep the owners indemnified against all such responsibilities.
18. The contractor, whose tender is accepted, shall enter into a contract with the Institute for the due execution of the works by entering to an agreement; but the written acceptance by the Institute, directly or through their Architect will constitute a binding agreement between the employer and the contractor/s, whose tender is accepted.
19. The contractor will not be entitled to any compensation for any loss suffered by him on account of delay in commencing of executing the work whatever the cause of such delays. No escalation shall be given in rates for such reason.
20. The selected contractor will have to obtain necessary license under the provisions of Contract Labour (Regulation and Abolition) Act, for the workers engaged by him for the work. The contractor will comply with all rules and regulations under this act during the duration of the Contract assignment with Institute.
21. The contractor, during the work, shall make provisions for the safety in all respect.
22. The contractor, on receiving instruction from the Architect, shall remove his representative or any Labour found unskilled for the work in opinion of the Architect or Resident Engineer or he is found misbehaving on site.
23. The Architect shall have right to remove the work executed on site which, in his opinion is either not in accordance with the specifications or not as per the standard quality required by him.

24. The contractor shall co-operate with other contractors appointed by the Institute so that the work proceeds smoothly.
25. Completion of the work in given time is the essence of the work. The contractor shall be required to complete the work within the stipulated time limit as given in the appendix; the penalty clause will be operated in case of delay.
26. After the completion of the work, the contractor shall within a period of six months time clear the site of all waste materials, debris etc and cart them to, out of the campus of Institute as directed by the Institute / Architect from the construction site. No extra payment shall be given on this account.

**Special Notes :**

1. While carrying out the work all safety precautions shall be taken by the Contractor
2. The supplier specify the details of the equipment offered by them.
3. The rate shall include all necessary material & labour including plants, tools and equipment etc
4. The rate shall also include all taxes, duties and transportation at work site.
5. All standard accessories and fittings shall conform to the relevant ISI.
6. All auxiliaries: Equipment and hardware used should meet the relevant Indian Standards. All equipment used to manufacture the panel should carry minimum one year guarantee from the date of commissioning of pump.
7. The supplier will do all necessary to commission including making erection of and electrical connection to the control panel and/or starter.

**Guarantee**

1. The supplier will stand guarantee for performance of out put of the total installation and will guarantee all equipment and hardware supplied and installed by him for a period of one year from the date of successful commissioning of the system.

The work bears the guarantee of one year from the date of completion of the RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS. Any mishap or fault occurring because of poor quality of material, the contractor shall have to bear the entire cost.

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Contractor

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Institute

**APPENDIX**

- |   |                                  |  |
|---|----------------------------------|--|
| 1 | Date of Commencement:            | : 15th day from date of work order   |
| 2 | Date of Completion               | : 6 Month  |
| 3 | Defects liability period         | : 12 months from the date of virtual completion Certificate                      |
| 4 | Payment Terms                    | : 75% on Delivery of Equipment<br>20% on Commissioning & testing<br>5% Retention |
| 5 | Retention percentage             | : 5% of the value of the work done   |
| 6 | Release of Retention money & EMD | : After 12 months of defects liability period                                    |
| 7 | Insurance                        | : CAR Policy   |

TECHNICAL SPECIFICATION

C1

1. Drilling 600mm dia bore in alluviye sand strata including cost of bentonite powder carting of rig etc comp. Drilling shall be done by mud flush rotary equipment, bore hole should with stand uncased atleast 72 hours incl. development of bore by compressor of required capacity as directed.

The contractor shall have to drill first a pilot bore of required diameter. The contractor shall employ direct rotary drilling rig fitted with a heavy duty reciprocating mud pump. All water bearing strata shall be tapped the contractor shall have to use fresh quality of Bentonite so that the mud salinity should be maintained. Bore hole shall be drilled freely in plum and vertical bore hole shall be lowered as per required length and development of bore by compressor of required capacity.

All drilling and pipe lowering shall be in plum and vertical use for a practicable with in permissible limits.

The water tank for work of drilling and developing for the bore hole shall be arranged by contractors at its own cost.

The rate also includes making required bore hole pit for doing required size of bore.

In general the work shall be carried out as per instruction of Engineer-in-charge and nothing extra shall be paid.

2. Providing & lowering laying & jointing PVC stainer pipe 250mm dia H.D.P. of I.S.I mark (IS:4985; of approved quality with working pressure of 6kg/cm<sup>2</sup> including cost of required coupler, outer cap, solution, etc complete as directed.

This item relates to supply, lowering, laying and jointing P.V.C. strainer pipe H.D.P. of I.S.I mark (IS:4985) and approved quality with working pressure of 6kg/cm<sup>2</sup>. The strainer type P.V.C pipe shall have 250mm. internal diameter. The rate includes, jointing of pipe in line and level and in required length as directed upto 40mm in depth.

In general the work shall be carried out as per instruction of engineer-in-charge or his authorized agent.

The mode of measurement shall be on running meter basis of pipe lowered in bore hole.

3. Supplying and packing of gravel of approved quality 5mm to 40mm size as directed.

This item relates to supply of approved quality of gravel of 5mm to 40mm size. The Gravel shall be cleaned and free from dust. This item also relates to placing and packing of gravel around stainer pipe. After successful completion of lowering of PVC pipe in line and level successively gravel packing operation should be carried out to the full bore depth the packing shall be done carefully so that stainer pipe may not get dislocated shifted from its position. The placing shall be done uniformly around P.V.C. strainer, pipe and masonry as per detail drawings.

The general work shall be carried out as per instruction of Engineer-in-charge or his authorized agent.

The mode of measurement in Cmt basis.

**RAIN WATER HARVESTING SYSTEM WITH PERCOLATING WELLS**  
– NID PG Campus, Gandhinagar

**Bills of Quantities**

**D**

	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>RATE</b>	<b>AMOUNT</b>
1	Erecting at site 2m x 2m chambers for filter media, built with brick masonry including necessary excavation, 15cm thick PCC 1:4:8, brick masonry as per design, in c.m. 1:6, plaster (C.M. 1:4) on both sides, 50mm thick CC 1:2:4 IPS at bottom. The rate to include cost of providing and fixing necessary inter connecting, 200mm dia PVC pipes.	3	no		
2	Boring and sinking pilot bore hole suitable for 250mm dia pipes, upto the required depth including transporting, drilling machine, equipment, plants, tools etc to the site, erecting the boring equipment, cleaning of site and preparing mud pit, channels etc complete as directed.	1200	Rmt.		
3	Supplying, and lowering 250mm dia UPVC pipe CN or approved equivalent make with sockets, specials complete with cutting,, jointing as directed	1200	Rmt.		
4	Labour charges for slotting the pipe for strainer. The size of slots shall be 1/8" x 3," or as directed	800	Rmt.		
5	Providing and laying 250mm dia UPVC pipe incl necessary sockets and specials as required in ground and between the chambers incl necessary excavation, refilling and fixing in the walls of the chamber	1200	Rmt		
	<b>Total</b>				<b>Rs.</b>