Project Cell
O/o the Engineer-in-Chief
Public Health Engineering Department, M.P.

No.10369/PC/EnC/PHED/2014 Bhopal, Dated.5/11/14

NOTICE INVITING TENDER

NIT No- 03/PC/EnC/2014-15; dated 28/10/2014

The Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) invites sealed Tenders on behalf of Governor of Madhya Pradesh in Form 'B' from empanelled Consultants under Category – "B and above" in MP JAL NIGAM for following work on or before 19.11.2014 up to 03.00 pm. Tenders will be opened on 19.11.2014 at 04:30 pm at the address given below. Tenderers or their authorized representatives may remain present during the opening of the tenders.

1. Name of work:- Preparation of Detailed Project Reports and Tender Documents for Sakri Morchaghat Group Water Supply Schemes for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.

2. Earnest Money Deposit (EMD) :-Rs 19,400/- (Rs. Nineteen Thousand Four Hundred Only).

3. Cost of Tender Form:- Rs. 2,000.00 (Rupees Two Thousand Only).

4. Period of completion: - Four months (120 Days) including rainy season.

Terms:-

1. Detailed NIT for proposed group water supply scheme can be seen in the office hours from 10.30 a.m. to 5.30 p.m.
2. EMD of required amount to be submitted in form of FDR, drawn in favour of "Executive Engineer, Public Health Engineering Division, Seoni" payable at Seoni (M.P.)", is mandatory, otherwise tender will not be entertained.
3. This notice is also available at website http://www.mpphed.gov.in
4. A complete set of tender documents can be downloaded from the website http://www.mpphed.gov.in and the cost of tender document shall be deposited in the form of Demand Draft/Bankers cheque in favour of "Executive Engineer, Public Health Engineering Division, Seoni" payable at Seoni (M.P.).
5. Bids shall remain valid for a period of 180 Days (One Hundred Eighty Days) from the date of opening of financial bid. The Employer can reject a bid valid for a shorter period.
6. Any bid not accompanied by acceptable Cost of tender document and Earnest money as indicated in NIT as above will be rejected by the Employer as non-responsive.
7. Due to unforeseen condition, if any scheduled date is declared holiday, then in that case action on bids will be taken on next working day at the same time and place.
8. This office will not be responsible for any delay in receiving the Bid Documents.

9. Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders bid.
10. The Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

Address for Communication:

Superintending Engineer
"Project Cell"
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004
Phone No. :- 0755 2552116, 2552130,
Fax:- 0755 2556990, 2675469
Website :-www.mpphed.gov.in
Email: prcphed@mp.gov.in

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief

Government of Madhya Pradesh

PUBLIC HEALTH ENGINEERING DEPARTMENT

Standard Tender Document

Form 'B'

Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete

NIT No.03/PC/EnC/2014-15 , dt. 28.10.2014

Empanelled Consultants under Category – "B and Above"

Cost of Work :- Rs. 9.68 Lacs

Cost of Tender Document. :- 2,000/-

"Superintending Engineer, Project Cell"
Office of the Engineer-in-Chief
Public Health Engineering Department
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I N D E X

Superintending Engineer "Project Cell"
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004
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NOTICE INVITING TENDER

NIT No- 03/PC/EnC/2014-15; dated 28.10.2014

The Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) invites sealed Tenders on behalf of Governor of Madhya Pradesh in Form 'B' from empanelled Consultants under Category – "B and Above" in MP JAL NIGAM for following work on or before 26.11.2014 up to 03.00 pm. Tenders will be opened on 26.11.2014 at 4:30 pm at the address given below. Tenderers or their authorized representatives may remain present during the opening of the tenders.

1. Name of work:- Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.
2. Earnest Money Deposit (EMD):- Rs. 19,400/-. (Rs. Nineteen Thousand Four Hundred Only)
3. Cost of Tender Form:- Rs. 2,000.00 (Rupees Two Thousand Only)
4. Period of completion: - Four months (120 Days) including rainy season.

Terms:-

1. Detailed NIT for proposed group water supply schemes can be seen in the office hours 10.30 a.m. to 5.30 p.m.

2. EMD of required amount to be submitted in form of FDR, drawn in favour of "Executive Engineer, Public Health Engineering Division, Seoni" payable at Seoni (M.P.), is mandatory, otherwise tender will not be entertained.

3. This notice is also available at website http://www.mpphed.gov.in

4. A complete set of tender documents can be downloaded from the website http://www.mpphed.gov.in and the cost of tender document shall be deposited in the form of Demand Draft/Bankers cheque in favour of "Executive Engineer, Public Health Engineering Division, Seoni, (M.P.)" payable at Seoni.

5. Bids shall remain valid for a period of 180 Days (One Hundred Eighty Days) from the date of opening of financial bid. The Employer can reject a bid valid for a shorter period.

6. Any bid not accompanied by acceptable Cost of tender document and Earnest money as indicated in NIT as above will be rejected by the Employer as non-responsive.

7. Due to unforeseen condition, if any scheduled date is declared holiday, then in that case action on bids will be taken on next working day at the same time and place.

8. This office will not be responsible for any delay in receiving the Bid Documents.
9. Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders bid.
10. The Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

Address for Communication:
Superintending Engineer
"Project Cell"
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004
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Sd/-
Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004

Important points for guidance of the consultants

1. The address for the submission of tender document is given on previous page.

2. The entire tendering process is for Preparation of DPR & Tender Document through the Consultant/Consultancy firms therefore, any mention of the term "Contractor" in the tender document is correspondingly read as "Consultant" in this particular tender.

3. Any mention of the term "Online" in the tender document is correspondingly read as "Off line" in this particular tender.

4. Any mention of the term "Executive Engineer Public Health Engineering Division……..," in the tender document is correspondingly read as "Executive Engineer Public Health Engineering Division, Seoni" in this particular tender.

5. A complete set of tender documents can be downloaded from the website and the cost of tender document shall be deposited as mentioned above, in the form of Demand Draft/Bankers cheque in favour of "Executive Engineer Public Health Engineering Division, Seoni, (M.P.)" payable at Seoni at the time of submission of tender document. If the cost of tender document is not deposited, the tender document will not be entertained and returned to the consultants, unopened.

6. On receiving the cost of tender document, the envelope of Earnest money will be opened, and if EMD found as per the NIT conditions, then only the envelope of Financial Bid shall be opened. Tenders not accompanied by either Cost of Tender document or Earnest money shall be liable for rejection.

7. The Engineer-in-Charge in this tender is "Superintending Engineer (Project Cell)". The agreement of work will be signed between Engineer-in-Charge or his authorized representative and successful bidder or his authorized representative.

8. Consultant has to submit the name of technical staff with their qualification & experience proposed for the execution of the works along with NIT.

   Selection Criteria - The selection criteria for the consultants shall be as follows, on the basis of the rates offered by them-

   If more than one consultant has offered same lowest rates, then these consultants will be asked to give their offer (lower than the previous offer) in sealed envelope on such a date as decided by the Authority and the work shall be awarded to the lowest bidder. But if in second trial, the rates are found same, and then this process will be continued until a clear-cut lowest offer is received.

8. The selected villages, towns and their numbers and the source are tentative; the consultants shall be responsible to prepare a sustainable and economical scheme. In case of any change in source and number of villages.

The consultant is required to submit the DPR as per the following schedule-

1	Submission of Pre Feasibility Report	:	15 day from the work order
2	Submission of draft DPR	:	55 days from the date of approval of Pre Feasibility Report
3	Submission of Final DPR	:	20 days from the date of approval of draft DPR
4	Submission of draft Tender Document	:	20 days from the date of approval of Final DPR
5	Submission of Final Tender Document	:	10 days from the date of approval of draft Tender Document

9. The terms of payment shall be as follows-

1	Submission of Pre Feasibility Report		10% of the fee payable, as derived on prorata basis from the offered rates on the basis of the estimated cost.
2	After submission of Draft DPR	:	30% of the fee payable, as derived on prorata basis from the offered rates on the basis of cost of draft DPR.
3	Submission of Final DPR	:	30% of the fee payable, as derived from the offered rates on the basis of cost of final DPR.
4	Clearance/Approval of DPR from State Technical Agency (STA)	:	10% of the fee payable, as derived from the offered rates on the basis of cost of Final DPR
5	Submission of draft Tender Document	:	10% of the fee payable, as derived from the offered rates on the basis of cost of Final DPR
6	Submission of Final Tender Document	:	10% of the fee payable, as derived from the offered rates on the basis of cost of Final DPR

Note: 1. The difference in the fee payable based on the costs of tender (estimated cost), approved draft and final DPRs shall be adjusted with the cost of "finally approved DPRs".

2. The items having lump sum provisions and contingencies work like survey, investigation, supervision. POL, land acquisition, etc. considered in the DPRs shall not be taken into account for the purpose of fee payable to Consultant.

10. Hydraulic design of the structures should be done to work out the estimated cost of works. Consultant has to submit general arrangement drawings along with drawings of each component of the scheme for estimation purpose only. The estimates should not be merely based on per MLD basis or per Liter basis.

11. In "Annexure – F" estimated present population as per 2011 census is given, but it will be the responsibility of the Consultant to collect the village population of previous decades and verify the census-2011 population & other data from the respective department.

12. If any urban area (town) is falling in the route of the Group Water Supply Scheme, then the guidelines as per Latest CPHEEO Manual on Water Supply and Treatment will be followed for the urban body, but internal water supply system of that town is not in the scope of this work, however, common components up to its bifurcation point should be designed for such cumulative capacity.

13. Land acquisition will be done after the approval of the scheme by the department, but it will be the responsibility of the Consultant to identify the land required, and its area with location. The respective cost of the land acquisition for various sites may be worked out as per Collector's rate.

14. The latest SORs can be downloaded from the respective Web sites of the concerned department or may be purchased by the consultant at his cost, from the concerned agency/market, wherever it is available.

15. The payment of service tax shall be payable extra. The payment of service tax to the respective Govt. agency shall be done by the consultant and same shall be reimbursed to the consultant by the department on the production of payment receipt/challan.

16. State Technical Agency (STA) consultation fee will be borne by the Department.

17. All other deductions e.g. Income Tax, Security Deposit etc. as per rules and terms of NIT shall be deducted from the running bills of the consultants.

18. Taxes and duties paid by the consultant for this work, for which consultant was not responsible on the day of submission of his financial bid, will be reimbursed on production of proof of deposit of such claim on account of taxes.

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004

APPENDIX 2.10
(See paragraph 2.079)

DETAILED NOTICE INVITING TENDERS
(in Form -B)

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004

1. N.I.T form issued to ……
2. Tender invited from : Category- "B and Above" Consultants empanelled in MP JAL NIGAM
3. Due date of tender - 26.11.2014
4. Name of Work- Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.
5. Amount of estimate - Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)
6. Probable Amount of contract - Rs. 9,68,000.00.(Rs.Nine Lakhs Sixty Eight thousand only)
7. Amount of earnest money - Rs. 19,400.00(Rs. Nineteen Thousand Four Hundred only)
8. Cost of tender - Rs. 2000/- .(Rs. Two Thousand only)
9. Time allowed for completion - 4 months (120 days) including rainy season
10. Works to be done on schedule of rates issued by - Not Applicable -
11. Following materials will be supplied by the department: -
    1. No material will be supplied by department
12. The following clauses of this N.I.T. are not applicable for this work –
    as mentioned on respective page

Dated.....

Signature of officer issuing N.I.T.

APPENDIX 2.10

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal – 462004

DETAILED NOTICE INVITING TENDERS

(IN FORM – B)

Date of issue of N.I.T. : NIT No- 03/PC/EnC/2014-15 dated 28.10.2014

Date of Receipt of Tender : ……

1. INTRODUCTION

1.1 Sealed tenders are invited by Superintending Engineer (Project Cell) on behalf of the Governor, Madhya Pradesh for the following works in Form-B and will be received at the office of the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) on or before 26.11.2014 up to 3.00 PM from empanelled Consultants under Category – "B and Above" in Jal Nigam Maryadit, M.P.

Name of Work : Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.

Amount of estimate - Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)

Probable Amount of contract - Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)

Amount of earnest money (EMD) - Rs. 19,400.00 (Rs. Nineteen Thousand Four Hundred only)

1.2 Time allowed for completion will be 4 months (120 days) including rainy season from date of written order to commence the work.

1.3 The electrical work shall be executed only through the contractors, who possess proper valid electric license from the chief Electrical Examiner to the Government. He should also attach a copy of the license.

DELETED

1.4 Not more than one tender shall be submitted by a contractor or by a firm of contractors.

1.5 No two or more concerns in which an individual is interested as proprietor and/or partner shall tender for the execution of the same work if they do so all such tenders shall be liable to be rejected.

1.6 The Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) or the Engineer/Officer authorized by him shall be accepting offer hereinafter referred to as such for the purpose of this contract.

1.7 Applications for issue of tender documents shall be submitted to Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) so as to reach this office not later than 26.11.2014 up to 2:00 pm.

1.8 Tender documents consisting of plans specifications of quantities of the various classes of works to be done, the conditions of the contract and other necessary documents, together with addressed envelopes to be used for return of forms and other documents, will be open for inspection and issued for sale on payment of Rs……. on or before …… up to 05.30 pm (As per NIT).

1.9 The copies of other drawings and documents pertaining to the work signed for the purpose of identification by the accepting officer or his accredited representative and samples of materials to be arranged by the contractor will be open for inspection by tenderers at the following office during working hours between the dates mentioned in clause-1.7 above.

2.0 RATES

2.1 The schedule of items: The schedule of main items of work to be executed is enclosed as Annexure (E).

2.2 Percentage rate tender in form "A".

2.2.1 In respect of percentage rate tenders, contractor should quote his separate tender percentage rate above or below the following schedules of rates:

(a) Building Work - The current schedule of rates issued by the ……..… inforce from …….. and its amendments issued up to date of N.I.T.

(b) Electric Fittings – The current schedule of rates issued by the ……..… inforce with effect from ……... and its amendments issued up to date of N.I.T.

(c) Water Supply and Sanitary Fittings – The current schedule for rates issued by the ……..… in-force with effect from …….. and its amendments issued up to date of issue of N.I.T.

(d) Road Works The current schedule for rates issued by the ……..… inforce with effect from ……. and its amendments issued up to date of issue of N.I.T.

2.2.2 (For Form – "A" only) The percentage of tender above/ below or at par with the relevant schedule rates including of amendments and correction slips issued up to the date of the notice inviting tenders should be expressed on the tender form itself both in words and figures in such a way that interpolation is not possible and all over writings should be neatly scored out and rewritten and the corrections should be duly attested prior to the submission of tender. Tenders not specifying percentage in words will summarily be rejected. Any amendments to the schedule of rates after the date of issue of this tender notice or the date of issue of any amendments to the N.I.T. specifically notifying the said amendment to the current schedule of rates, shall not apply to this tender.

2.2.3 The percentage tendered by the contractor will apply to those rates which find place in the current schedule of rates mentioned in clause-2.2.1 or have been derived from the said current schedule of rates and not to other items of work.

2.2.4 The percentage quoted by the contractor shall not be altered by the contractor during the terms of contract. The deduction or addition as the case may be of percentage will be calculated on the amount of the bill for work done, after deducting the cost of materials supplied departmentally at rates specified in the agreement.

2.3 Items rate tender in form "B"

2.3.1. In respect of item rate tenders, contractor should quote his rates for the items mentioned in the schedule of item in **MEMORANDUM of APPENDIX 2.14** of this N.I.T. Only rate quoted shall be considered. The rates should be expressed in figures as well as words and the unit should be as given by the Department. The contractor will not have the freedom to change the unit. No percentage above or below the schedule be quoted.

2.3.2. The rates quoted in the tender for the various items of work will not be altered by the contractor during the term of contract.

2.4 Lead and Lift of water - No lead and lift for carting of water will be paid.

2.5 **Lead and Lift of materials -** No lead and lift for carting of materials shall be payable to the contractor except in case of such items for which specific lead and lift are provided in the current schedule of rates mentioned in clause-2.2.1 of the NIT or in the schedule of items in respect of item rate tenders.

2.6 **Non-Schedule Items of Works -** During the execution of the work there is likelihood of such items of work, which do not find place in the current schedule of rates, referred to above in respect to percentage rate contracts or such items which are given in the schedule of items in respect of item rate contracts, for which contractor has not quoted his rates. Contractor will have to carry out these items of work.

Rates of such items of work which do not find place in the current schedule of rates referred to above, in respect of percentage rate contracts or such items in respect of item rate contracts shall be decided by the Executive Engineer, Public Health Engineering Division ..... and the decision of the Executive Engineer, Public Health Engineering Division ....., ... shall be binding on the contractor. The quantum of such work will not exceed 10% of amount of contract unless accepted by the department and the contractor.

3.0 SUBMISSION OF TENDER

3.1 **Earnest Money:** No tender will be received without deposit of earnest money of R**s. 19,400/-** which will be returned to the unsuccessful tenderers on rejection of their, tender or earlier as may be, decided by the competent authority and on producing of a certificate of Engineer-in-Charge, that all tender documents have been returned, and will be retained from the successful tenderers as part of the security deposit.

3.2 **Form of Earnest Money:**

3.2.1 Where the amount of Earnest Money is more than Rs. 500/- the same shall be accepted only in the shape of Bank drafts or Bankers cheque or FDR in favour of **Executive Engineer, Public Health Engineering Division, Seoni (M.P.) payable at Seoni.**

3.2.2 The intending tenderers from other state may remit E.M. in the form of the Bank draft / FDR of any schedule bank to the **Executive Engineer, Public Health Engineering Division, Seoni (M.P.) payable at Seoni.**

3.3 **Earnest Money in separate cover:** The Earnest Money in one of the prescribed form should be kept in the Envelope 'A' in the outer covers containing the tender and if the earnest money is not found in accordance with the prescribed mode the tender will be returned unopened to the tenderer.

3.4 **Adjustment of Earnest Money:** Earnest Money which has been deposited for a particular work, will not, ordinarily be adjusted towards the earnest money for another work, but if the tender of contractor for a work in the office of Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) has been rejected and the earnest money has not been refunded to him due to any reason, it may be so adjusted by the Superintending Engineer or by the Engineer authorized by him.

3.5 **Security Deposit :**

(a) The Security Deposit shall be recovered from the running bills @ 5 percent as per clause 1 of the agreement.

(b) The amount of the E.M. shall not be adjusted when value of work done reaches the limit of the amount of contract or exceeds the probable amount of the contract.

3.6 **Implication of submission of Tender:** Tenderers are advised to visit sites sufficiently in advance of date fixed for submission of the tender. A tenderer shall be deemed to have full knowledge of the relevant documents samples, site, etc., whether he inspects them or not.

3.7 The submission of a tender by a contractor implies that he has read the notice conditions of tender and all other contract documents, and made himself aware of the standards and procedure in this respect laid down in the National Building Code of India/Indian Standards (latest). The scope and specification of the work to be done and the Conditions and rates at which stores, tools and plants etc. will be issued to him by the DEPTT, has seen the quarries with their approaches to site of work etc., and satisfied himself regarding the suitability and availability of site of work etc. and regarding the suitability and availability of the materials at the quarries. The responsibility of opening new quarries and construction and maintenance of approaches there shall lie wholly with the contractor.

3.8 **Income Tax Clearance Certificate** – A tenderer purchasing tender documents for the works exceeding Rs. 2.00 lakh shall submit valid Income Tax Clearance Certificate in form printed as Annexure-D or a Certificate from the Income Tax Authority that the assessment is under consideration. No tender documents can be issued / sold to him unless such certificate is submitted.

3.9 **List of works in progress:** Tenders must be accompanied by a list of Contracts already held by the tenderer at the time of submitting the tender, in the Department and elsewhere showing there in:

(i) The amount of each contract.

(ii) Balance of work remaining to be done and

(iii) The amount of solvency - Certificate produced by him at the time of enrolment in the Departm DELETED

3.10 **Relationship :** The contractor shall not be permitted to tender for works in the Division (responsible for Execution of contracts) in which his near relative is posted as Divisional Accountant. He shall, intimate the names of his near relative working in M.P.P.H.E.D. Secretariat and M.P.P.H.E.D. Division. He shall also intimate the name of persons who are working with him in any capacity or subsequently employed by him and who are near relatives to any gazetted officer in the P.H.E.D. Secretariat. Any breach of this condition by the contractor would render himself liable to be removed from the approved list of contractors of the M.P. P.H.E. Department.

Note: By the term near relative is meant, wife, husband, parent and son, grandson, brothers, sisters, brother in-laws, father in-law and mother in law.

3.11 The tender for the works shall be witnessed by a contractor. Failure to observe this condition shall render the tender of the contractor liable to rejection.

4.0 OPENING AND ACCEPTANCE OF TENDER

4.1 **Place and Time of Opening :** The tenders shall be opened at time and place stated in para – 1of NIT by the Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) in the presence of the tenderers or their duly authorised agent who may choose to attend. The Superintending Engineer, under unavoidable circumstances may depute another officer in his absence to receive and open tenders on his behalf.

4.2 **Powers of Executive Engineer -** He does not bind himself to accept or recommend for the acceptance the lowest or any tender or to give any reasons for his decision.

4.3 **Conditional Tender:** Conditional tenders are liable to be rejected.

4.4 **Canvassing:** Canvassing for support in any form for the acceptance of any tender is strictly prohibited any tenderer doing so will tender himself liable to penalties which may include removal of his name from the register of approved contractors or penal action under section 8 of the M.P. Vinirdistha Bhrasta Acharan Nivaran Adhiniyam 1982.

4.5 **Unsealed Tender :** The tenders shall be rejected, if not properly sealed.

4.6 **Authority of Executive Engineer :** The Authority competent to accept a tender, reserve the right of accepting the tender for the whole works or for a district part of it or by distributing the work between one or more tenders.

4.7 **Validity of Offer :** Tender shall remain valid up to 180 days from the date of receipt of Tender and in the event of the tenderer withdrawing the offer before the aforesaid date, for any reason whatsoever, earnest money deposited with tender shall be forfeited by the Executive Engineer, Public Health Engineering Division .....

5.0 SPECIFICATION

5.1 **Brief Specification:** A brief note on construction and specifications of the work is enclosed as Annexure-E.

5.2 **Material of Construction :** The materials of construction to be used in the work shall be Governed by the provision of part-V of the National Building Code of India, 1970 and the relevant Indian Standard specification with amendments and revisions issued upto the date of tender notice.

5.3 **Workman-Ship:** The work shall be carried out in according to the specification referred to hereinafter and according to sound engineering practice. The decision of the Executive Engineer, in respect of workmanship will be final.

5.4 **Specification for Building Works:** (Including water supply and sanitary fittings).

5.4.1 The contractor shall execute the work strictly in conformity with the standards and procedure Laid down in the National Building Code of India 1970 and as per Central P.W.D. specification or specifications in force or special specification whenever enclosed separately, and in accordance with the approved drawings.

5.4.2 **Concrete :** All concrete shall be mixed in concrete mixers and compacted by mechanical vibrators slump test shall be carried out during concreting and sample test cubes prepared and tested in due course. The testing will be carried out by the contractor at his own cost.

The results of tests shall conform with required standards and if the Engineer-in-Charge considers that a structural test is necessary, the same shall be carried out-as instructed by the Engineer-in-Charge at the contractors expense and should if the result of this be unsatisfactory the contractor will be bound to reconstruct the particular, portion of work which has given unsatisfactory test results.

5.4.3 **Bricks :** The contractor should use the Bricks manufactured on the metric measures as far as possible.

5.4.4 All timber used in the wood work for all such works as must be properly seasoned in case of important building mechanical seasoning should be done in good seasoning plant. In case the contractor does not procure good seasoned wood he may be asked to get it seasoned in plant at his own expense but no certificate required where no additional rate is paid.

5.4.5 DELETED.

5.5 Specification of Electrical Works

5.5.1 The work will be carried out as per the approved drawing and as directed by the Engineer-in-charge. The work will be governed by "General Specifications" for the Electrical Works in Government buildings in Madhya Pradesh in force from 1972.

5.5.2 All samples of Electrical accessories should be got approved from the Engineer-in-charge. Contractor will have to arrange and afford all facilities for their inspection and rectify the defects pointed out by them. A list of accessories is enclosed as Annexure-E.

5.5.3 The period of testing and refund of deposit will be 6 months after completion of work.

5.5.4 In case of supply of ceiling fan, table fan, exhaust fan, cabin fan, tube light fixtures will be made by the ISI or as mentioned in the C.S.R. As such labour rates only as per C.S.R. will be paid for fitting such items in position as per C.S.R.

5.5.5 The contractor should submit wiring diagram on tracing cloth showing the point position of switch length, joint, position of D.B. and main switch circuit No. in which points fall at the time of final bill. Otherwise deduction of ½ percent (Half percent) will be made from the bill.

5.6 Specification for Works

(Excluding bridges and culverts)

The road works and collection of materials for the works shall be carried out according to Maharashtra P.W.D. specifications, as adopted for Madhya Pradesh or specifications in-force, or special specifications wherever enclosed separately, of the relevant specifications published by the Indian Road Congress 5.6.

5.7 **Contradictions or Amendments:** In the event of contradictions between the stipulations of the schedule of rates (vide part of this N.I.T.) and aforesaid specification (vide part of this N.I.T.). The stipulations of the schedule of rates shall gain precedence. In the event to contradiction, if any between different specifications and or code of practice referred to above, the decision of the Executive Engineer, Public Health Engineering Division ..... shall be final subject of appeal in case of dispute before the **Chief Engineer** as deputed by the department for this particular tender within one months of Executive Engineer's decision.

6.0 SUPPLY OF MATERIALS: DELETED.

6.1 (a) DELETED.

6.1.1 DELETED.

6.2 DELETED.

6.3 DELETED.

6.4 DELETED.

6.5 Delay in Supply**:** DELETED.

7.0 MISCELLANEOUS CONDITIONS :

7.1 **Subletting :** The contractor shall not, without the prior approval of the competent authority in writing sublet or assign to any other party or parties, the whole or any portion of the work under the contract. Where such approval is granted, the contractor shall not be relieved of any obligation or duty or responsibility which he undertakes under the contract.

7.2 **Taxes :** All dues regarding taxes including the sales tax other duties etc. levied in the contractors work by the Government and local bodies or private individuals will be payable by the contractor. The Executive Engineer, Public Health Engineering Division ..... will grant a certificate for the quantities actually used on the work but will not entertain any claim on this account.

7.3 Deleted.

7.4 **Rules of Labour Camps :** The contractor will be bound to follow the Madhya Pradesh Model Rule relating to layout, water supply and sanitation on labour camps (vide Annexure-A) and the provisions of the national Building Code of India, in regard to constructions and safety.

7.5 **Fair wages :** The contractor shall pay not less than fair wages to labourers engaged by him on the works (rules enclosed vide Annexure-B).

7.6 **Works in the Vicinity :** The Executive Engineer reserves the right to take up departmental work or to award work on contract in the vicinity without prejudice to the terms of contract.

7.7 **Best quality of construction materials:** Materials of the best quality will be used as approved by the Executive Engine **Deleted**

7.8 **Removal of undesired persons :** The contractor shall on receipt of the requisition from the Engineer-in-charge at once remove any person employed by him on the work who, if in the opinion of the Executive Engineer is unsuitable or undesirable.

7.9 **Amount due from Contractor :** Any amount due to Executive Engineer, Public Health Engineering Division ..... from the contractor on any account concerning work may be recovered from him as arrear of land revenue.

7.10 **Tools and Plants :** The contractor shall arrange at his own cost tools and plant required for the proper execution of the work.

7.11 **Right to increase or decrease work :** The Competent Authority reserves the right to increase or decrease work.

The competent authority reserves the right to increase or decrease any item of the work during the execution of the contract and the contractor will be bound to comply with the order of the competent authority without any claim for compensation.

7.12 **Time Schedule :** The work shall be done by the contractor according to the time schedule fixed by the competent authority.

7.13 **Time of Contract :** Time allowed for carrying out the work as entered in the N.I.T. shall be strictly observed by the contractor and shall be reckoned from the date of work order to commence the work.

7.14 **Payment by Cheques :** The payment will be made by cheques or by e-payment only . No Bank commission charges on realizing such payments will be borne by the Department.

7.15 **Transport of Material :** The contractor shall make his own arrangement for transport of all materials. The department is not bound to arrange for priority in getting wagon or any other materials though all possible assistance by way of recommendation will be given if it is found necessary in the operation by the Engineer-in-Charge if it proves to be in effective the contractor shall have no claim for any compensation on that account.

8.0 SPECIAL CONDITIONS:

8.1 **Agreement :**

8.1.1 **Execution of Agreement :** The tenderer whose tender has been accepted herein after referred to as the contractor, shall produce appropriate solvency certificate, if so required by the Executive Engineer or Officer Authorized by him and will execute the agreement in the prescribed form within a fortnight of the date of communication of the acceptance of his tender by competent authority. Failure to do so will result in the earnest money being forfeited to Department and tender being cancelled.

8.1.2 (a) The contractor shall employ the following Technical staff during the Execution of work :

(i) One Graduate Engineer when the work to be executed is more than Rs. 5 Lakhs.

(ii) One Diploma Holder, Sub-Engineer when the cost of work to be executed is from Rs. 2 Lakhs or more but not more than Rs. 5 Lakhs.

(b) The Technical staff should be available at site whenever required by the Engineer-in-charge to take instructions.

(c) In case the contractor fails to employ the technical staff as aforesaid the Engineer shall have the right to take suitable remedial measures.

(d) The contractor should give the names and other detail of the Graduate Engineer/Diploma Holder, Sub-Engineer whom he intends to employ or who is under employment on the work at the time he commences the work.

(e) The contractor should give certificate to the effect that the Engineer/Diploma Holder Sub-Engineer is exclusively in his employment.

Provided that:

(i) A Graduate Engineer or Sub-Engineer may look after more than one work in the same locality but the total value of such work under him should not exceed Rs. 25 lakhs in the case of an Engineer and Rs. 5 lakhs in the case of Sub-Engineer.

(ii) It is not necessary of the contractor's partner in case of firm/company, who is himself an Engineer, Sub-Engineer to employ another Engineer, Sub-Engineer for the supervision of work.

(iii) The Retired Sub-engineer who is holding a Diploma may be treated at par with a Graduate for the operation of the above clause.

In case the contractor fails to employ the Technical staff as proposed in the bid he shall be liable to replace the person of equivalent qualification (Educational and experience) with the permission of Executive Engineer, Public Health Engineering Division .....

8.2 **Conditions applicable for contract :** All the conditions of tender notice will be binding on the contractors in addition to the conditions of the contract in the prescribed form:

Following document annexed with this N.I.T. shall form a part of the contract.

Annexure "A"	Model Rules relating to labour water supply etc.
Annexure "B"	Contractor's labour regulations.
Annexure "C"	Statement showing the lead of materials.
Annexure "D"	Form of Income Tax Clearance Certificate.
Annexure-"E":	Detailed technical specifications.
Annexure-"F":	Salient Features of scheme and List of Villages.
Annexure-"G"	Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes"

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Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004

APPENDIX 2.14
(See paragraph 2.091)

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal – 462004

DETAILED NOTICE INVITING TENDERS

(IN FORM - B)

Issued to Shri/Mr/Ms. .....

Name of work:- Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.

Amount of Contract – Rs. Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)

Amount of E.M.D - Rs. 19,400.00 (Rs. Nineteen Thousand Four Hundred Only)

Cost of Tender Form- Rs.2,000/- Vide M.R. No. & Date .....

Time allowed for completion- 4 Calendar Months (120 DAYS) including rainy season

Date of Opening Tender - 26.11.2014

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal – 462004

ITEM RATE TENDER AND CONTRACT FOR WORKS

General Rules and Direction for the Guidance Contractors

1. The agreement of work will be signed between Superintending Engineer (Project Cell), O/o the Engineer-in-Chief, Public Health Engineering Department, Satpura Bhawan, Bhopal (M.P.) or his authorized representative and successful bidder or his authorized representative.

This form will state the work to be carried out as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender and the amount of the security deposit to be deposited by the successful tenderer and the percentage if any, to be deducted from bills. It will also state whether refund of quarry fees. Royalty, octrai, duties and ground rents will be granted. Copies of the specifications, drawing and schedule of quantities and rates of the various descriptions of work and any other documents required in connection with the work signed for the purpose of identification by the Sub-Divisional Officer / Divisional Officer shall also be open for inspection by the contractor at the office of the Sub-Divisional Officer/ Divisional Officer during office hours.

2. In the event of the tender being submitted by a firm it must be signed separately by each member thereof, or in the event of the absence of any partner, it must signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney should be produced with the tender and it must disclose that the firm is duly registered under the Indian partnership Act.

3. Any person who submits a tender shall fill up the usual printed form stating at what rate he is willing to undertake each items of work. Tender which propose any alteration in the work specified, in the said form of invitation to tender or in the time allowed for carrying out the work, or which contain any other conditions of any sort will be liable to rejection no single tender shall include more than one work, but contractors, who wish to tender for two or more works shall submit a separate tender for each. Tender shall have the name and number of the work to which they refer written outside the envelope.

4. Divisional Officer/Sub-Divisional Officer or his duly authorized assistant, will open tenders in the presence of any intending contractors who may be present at the time and will enter the amount of the several tenders in a comparative statement in a suitable form. Receipts for earnest money will be given to all tenderers except those whose tenders are rejected, and whose earnest money is refunded on the day the tenders are opened.

5. The Officer competent to dispose of the tenders shall have the right rejecting all or any of the tenders.

6. The receipt of a clerk for any money paid by the contractor will not be considered as any acknowledgement of payment to Sub-Divisional Officer / Divisional Officer and the contractor

shall be responsible for seeing that he procures a receipt signed by the Sub-Divisional Officer / Divisional Officer or any other person duly authorized by him.

7. The memorandum of work tendered for the schedule of materials to be supplied by the Department and their issue rates shall be filled in and completed in the office of the Sub-Divisional Officer / Divisional Officer before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and completed he shall request the office to have this done before he completes and delivers his tender.

TENDER FOR WORKS

I/We hereby tender for the execution for the Governor of Madhya Pradesh of the Works specified in the underwritten memorandum within the time specified in such memorandum at the rate specified therein and in accordance in all respect with specifications, designs, drawings, and instructions in writing referred to in rule 1 hereof and in clause 12 of the annexed conditions, and with such materials as are provided for by an in all other respect in accordance with such conditions as far as applicable.

MEMORANDUM

(a) General description - Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.

1. Amount of estimate - Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)
2. Probable Amount of contract - Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)
3. Amount of earnest money - Rs. 19,400.00.(Rs. Ninteen Thousand Four Hundred only)
4. Cost of tender - Rs. 2000/- .(Rs. Two Thousand only)

(b) Estimated cost - Rs. 9,68,000.00.(Rs. Nine Lakhs Sixty Eight thousand only)

(c) Amount of E.M.D. - Rs. 19,400.00.(Rs. Ninteen Thousand Four Hundred only)

(d) Security Deposit (including earnest money) - 5%

(e) Percentage if any to be deducted from bills - Taxes etc as per rules

(f) Time allowed for the work from the date of written order- 4 months (120 days) including rainy season

S.No.	Name of Scheme	Approximate Estimated cost	Tendered Rate in percent of cost of finally approved DPR	
		(Rs. in Lakh)	in Figures	in Words
1	Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.	9.68		

Should this tender be accepted. I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract annexed here to so far as applicable or in default thereof to forfeit and pay to the Governor of the Madhya Pradesh or his successors in office the sum of money mentioned in the said conditions.

The sum of Rs. 19,400.00 is here with, forwarded in currency notes as earnest money (a) 2 the full value of which is to be absolutely forfeited to the Governor of Madhya Pradesh or his successors in office, should I/We not deposit the full amount of security deposit specified in the above memorandum, in accordance with clause 1 of the said condition of contract, otherwise the sum of Rs. ..... shall be retained by Government as of account such security deposit as aforesaid, or full value of which shall be retained by the Government on account of the security deposit specified in clause 1of the said conditions of the contract.

Dated the……..day of ……20….

Signature of contractor
before submission of Tender

Name and Address .....
.....

Witness .....
Occupation .....
Address .....

The above tender is hereby accepted by me on behalf of the Governor of Madhya Pradesh Dated the ..... day of ..... 20…..

Signature of Officer by whom accepted

CONDITIONS OF CONTRACT

Security Deposit

Clause 1 : The person/persons whose tender may be accepted (here in after called the contractor which expression shall unless excluded by or repugnant to the contract include his heirs, executors, administrators, representatives and assigns) shall permit government at the time of making any payment to him of work done under the contract to deduct such sum as will (with the earnest money deposited by him) amount to FIVE percent of all moneys so payable, such deductions, be held by Government by way of security deposit, provided always that in the event of the contractor depositing a lump sum by way of security deposit as contemplated above, then and in such case if the sum so deposited shall not amount to 5 percent of the total estimated cost of the work, it shall be lawful for Government at the time of making any payment to the contractor for work done under the contract to make up the full percentage of 5% percent by deducting a sufficient sum from every such payment as last aforesaid. All compensation or other sums of money payable by the contractor to Government under the terms of this contract may be deducted from or paid by the sale of a sufficient part of his security deposit, or from the interest arising there from, or from any sums which may be due or may come due to the contractor by Executive Engineer, Public Health Engineering Division ..... on any account whatsoever, and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid. The contractor shall within ten days thereafter make good in cash or Government securities endorsed as aforesaid any sum or sums which may have been deducted from or raised by sale of his security deposit or any part thereof. The security deposit referred to, when paid in cash, may, at the cost of the depositor, be converted into interest bearing securities provided that the depositor has expressly desired this in writing.

The security deposit would also be converted in the shape of Bank Guarantee in recognized form with prior approval of the authority sanctioning the contract.

Compensation for Delay

Clause 2 : The time allowed for carrying out the work, as entered in the tender shall be strictly observed by the contractor and shall be reckoned from the date on which the order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceed with all due diligence (time being deemed to be of the essence of the contract on the part of contractor) and the contractor shall pay as compensation an amount equal to one perecent or such smaller amount as the engineer may decide, on the amount of the estimated cost of the whole work as shown by the tender for every day that the work remains un-commenced, or unfinished after the proper dates. And further, to ensure good progress during the execution of the work, the contractor shall be bound in all cases in which the time allowed for any work exceeds one month, to complete one fourth of the whole of work before one fourth of the whole time allowed under the contract has elapsed one half of the work, before one half of such time has elapsed and three fourth of work before three forth of such time has elapsed. In the event of the contractor failing to comply with this condition he shall be liable to pay compensation an amount equal to one percent or such small amount as the Executive Engineer/Superintending Engineer may decide on the said estimated cost of the whole work for every day that the due quantity of work remains incomplete provided always that the entire amount of compensation be paid under the provisions of the clause shall not exceed eight percent on the estimated cost of the work as shown in the tender.

Action when the contractors become liable for levy Penalty

Clause 3 : In any case in which under any clause or clauses of this contract the contractor shall have rendered himself liable to pay compensation amounting to the whole of security deposit (whether paid in one sum or deducted by installments) or committed a breach of any terms contained in clause 24 or in the case of abandonment of the work owing to the serious illness or death of the contractor or any other cause Divisional Officer on behalf of Governor of Madhya Pradesh shall have power to adopt any one of the following courses, as he may deem best suited to the interest of the government

(a) To rescind the contract (of which recession notice in writing to the contractor under the hand of the Executive Engineer shall be conclusive) and in which case the security deposit of the contractor shall stand forfeited and be absolutely at the deposal of government.

(b) The employ labour paid in P.W.D./W.R.D./PHED. Department or by employing departmental machinery and to supply materials to carry out work or any part of the work debiting the contractor with the cost of the labour or hire charge of departmental machinery and price of materials (of the amount of which cost and price a certificate of the Divisional Officer shall be final and conclusive against the contractor) and crediting hi[illegible] w[illegible] value of the work done, in all respects in the same manner and the same rates as [illegible] been carried out by the contractor under the terms of this contract, or the co[illegible] th[illegible] labour and the price of the materials as certified by the Divisional Officer whichever is less. The certificate of the Divisional Officer as to the value of work done sh[illegible] be final and conclusive against the contractor. This does not qualify the contractor to any re[illegible] if the work is carried out at lower rates than the rates quoted by the contractor. S[illegible]vin[illegible] an[illegible] ill go to the government.

(c) To measure up the work of the contractor an[illegible] to [illegible]ke such part there of as shall be unexecuted out of his hands and to give it to another [illegible]n[illegible]ct[illegible] to complete in which case any expenses which may be incurred in excess of th[illegible] u[illegible] which would have been paid to the original contractor, if the whole work had b[illegible]e[illegible]ted by him (of the amount of which excess certificate in writing of the Divisional Officer shall be final and conclusive) shall borne and paid by the original contractor and [illegible] be deducted from any money due to him by government under the contract or [illegible]is[illegible] or from his security deposit or the proceeds of the sale thereof, a sufficient pa[illegible] thereof. If the work is carried out at lower rates the contractor shall not be entitled for any refund on the account saving, if any which shall go to the government

In the event [illegible]a[illegible]y of the above courses being adopted by the Divisional Officer the contractor shall [illegible]n[illegible]n to compensation for any loss sustained by him reason of his having purchased [illegible]p[illegible]ured any materials or entered into any agreements or made any advance on account o[illegible]or with a view to the execution of the work or the performance of the contract And in case the contract shall be rescinded under the provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum for any work there to for actually performed under this contract unless and until the Sub-Divisional Officer / Divisional Officer will have certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Contractor remains liable to pay compensation if action not taken clause 3

Clause 4 : In any case in which any of the powers conferred upon the Divisional Officer by clause 3 hereof shall have become exercisable and the same shall not constitute a waiver of any of conditions

hereof and such power shall notwithstanding be exercisable in the event of any further case of default by the contractor for which by any clause or clauses here of he is declared liable to pay compensation amounting to the whole of his security deposit, and the liability of the contractor for past and future compensation shall remain unaffected.

In the event of Divisional Officer putting in force either of the power under clause (a) or (c) vested in him under the preceding clause he may, if he so desires, take possession of all or any tools, plant materials, and stores in or upon the work or the site thereof, or belonging to the contractor or procured by him and intended to be used for the execution of the work or any part there of paying or allowing for the same in account at the contract rates, or in case of these not being applicable; at current market rates, to be certified by the Divisional Officer, whose certificate thereof shall be final otherwise he may by notice in writing to the contractor or his clerk of the works, foreman or other authorized agent require him to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice).

Clause 5 : Extension of time : If the contractor shall desire an extension of the time for completion of the work on the grounds of his having been unavoidably hindered in its execution or any other ground, he shall apply in writing to the Sub-Divisional Officer / Divisional Officer within thirty days of the date of the hindrance on account of which he desires such extension as aforesaid, and the Divisional Officer / Sub-Divisional Officer shall, if in his opinion (which shall be final) reasonable grounds be shown therefore, authorize such extension for a period not exceeding one month any further extension of time shall be subjected to the previous sanction of the Superintending Engineer.

Final Certificate

Clause 6 : On completion of the work the contractor shall be furnished with a certificate by Sub-Divisional Officer (hereinafter called the Engineer in charge) of such completion but no such certificate shall be given, nor shall the work be considered to be completed until the contractor shall have removed from the premises on which the work shall be executed all scaffolding surplus materials and rubbish and cleaned of the dirt from all wood work, doors, windows, walls, floors or other part of any building or structure in upon or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof nor until the work shall have been measured by the Engineer-in-charge/ Executive Engineer whose measurements shall be binding and conclusive against the contractor if the contractor shall fail to comply with the requirements of this clause as to removal of scaffolding surplus material and rubbish and cleaning of dirt on or before the date fixed for the completion of the work the Engineer-in-charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

Payment of Intermediate Certificate to be Regarded as Advances

Clause 7 : No payment shall ordinarily be made for work estimated to cost less than Rs. 1,000 (Rs. One thousand) till after the whole of the works shall have been completed and a certificate of completion given but it intermediate payment during the course of the execution of works is considered desirable in the interest of works the contractor may be paid at the discretion of the Engineer-in-charge.

But in the case of works estimated to cost more than rupees one thousand the contractor shall on submitting the bills therefore be entitled to receive a monthly payment proportionate to the part thereof then approved and passed by the Engineer-in-Charge, whose certificate of such approval and passing of the sum so payable be final and conclusive against the contractor But 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 requiring of bad, unsound and imperfect or unskillful work, to be removed and taken away and reconstructed or re-erected, or be considered as an admission of the due performance of the contract, or any part thereof in, any respect or the accruing of any claim, nor shall it conclude determine, or effect in any way the powers of the Engineer-in-Charge under these conditions or any them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract. The final bill shall be submitted by the contractor within one month of the date fixed for completion of the work otherwise the Engineer-in-Charge certificate of the measurement and of the total amount payable for the work, accordingly shall be final and binding on all parties.

Bill to be Submitted Monthly

Clause 8 : A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-Charge for all work executed in the previous month and the Engineer-in-Charge shall take or cause, to be taken the requisite measurement for the purpose of having the same verified and the claim, as for as admissible, adjusted if possible before expiry of ten day from the presentation of the bill, if the contractor does not submit the bill within the time fixed as aforesaid the Engineer-in-charge may depute a subordinate to measure up the said work in the presence of the contractor whose countersignature to the measurement list, will be sufficient warrant and the Engineer-in-Charge may prepared a bill from such list which shall be binding on the contractor in all respects.

Bill to be in Printed Forms

Clause 9 : The contractor shall submit all bills on printed form to be had on application at the office of the Engineer-in-Charge and the charges in the bills shall always be entered at the rates specified in the tender or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the tender at the rates hereinafter provided for such work.

Receipt to be signed by Partners or Persons having Authority to do so

Clause 10 : Receipts for payments made on account of a work when executed by a firm must also be signed by the several partners, except where the contractors are described in 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 firm.

Stores Supplied by Government

Clause 11 : If the specification or estimate of the work provides for the use of any special description of materials to be supplied from the Engineer-in-Charge store or if it is required that the contractor shall use certain stores to be provided by the Engineer-in-Charge (Such materials and stores and the prices to be charged therefore as hereinafter mentioned being so far as practicable for the convenience of the contractor but not so as in any way to control the meaning or effect of this contract specified in

the schedule of memorandum hereto annexed) the contractor shall be supplied with such materials and stores as required for time to time to be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores so supplied at the rates specified in the said schedule or memorandum may be set off or deducted from any sums then due or thereafter to become due to the contractor under the contract or otherwise, or against or from the security deposit or the proceeds of sale thereof, if the same is held in Government securities the same or sufficient portion thereof being in this case sold for purpose.

All materials supplied to the contractor shall remain the absolute property of the government and shall not on any account be removed from the site of the work, and shall at all times be open to inspection by the Engineer-in-Charge. And such materials unused and imperfectly good condition at the time of the completion or determination of the contract shall be returned to the Engineer-in-Charge's store if by a notice in writing under his hands he shall so require, but the contractor shall not be entitled to return any such materials supplied to him as aforesaid being unused by him, or for any wastage in or damage to any such materials.

Works to be Executed in Accordance with Specifications, Drawings Orders etc.

Clause 12 : The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly fully and faithfully to the designs, drawings and instructions in writing relating to the work signed by the Engineer-in-Charge and lodged in his office and to which the contractor shall be entitled to have access at such office or the site of the work for the purpose of inspection of during office hours and the contractor shall if he so requires by entitled at his own expense to make or cause to be made copies of the specifications, and of all such designs, drawings instruction as aforesaid.

Alteration in Specification and Designs

Clause 13 : The Engineer-in-Charge shall have power to make any alterations in omissions from additions to or substitutions for the original specifications, drawing, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the contractor shall be bound to carry out work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge and such alteration omissions additions, or substitutions shall not invalidate the contract and any altered additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work and at the same rates as per specified in the tender for the main work.

Extension of Time in Consequence of Alterations

The time for the completion of the work shall be extended in the proportion that the altered, additional of substituted work bears to the original contract work and the certificate of the Engineer-in-Charge shall be conclusive as to such proportion.

Rates for works not in estimate of schedule of rate to the district

All if the altered additional or substituted work includes any class of work for which no rate is specified in this contract, then such class of work shall be carried out at the rates entered in the schedule of rates of the district which was in force at the time of acceptance of the contract, and if such class of work is not entered in the said schedule the contractor shall within seven days of the date of his receipt of the order to carry out the work forward to the Engineer-in-Charge of the rate which it is his intention to charge for such class of work and if the Engineer-in-Charge does not agree to this rate he shall by notice in writing be entitled to cancel his order to carry out as he may consider advisable provided always that the contractor shall not commence work or incur any expenditure in regard there to before the rates have been determined as lastly herein before mentioned then and in such case he shall only be entitled to be paid in respect of the work carried out on expenditure incurred by him prior to the date of the determination of the rates as aforesaid according to such rate or rates as shall be fixed by the Engineer-in-Charge in the event of a dispute the decision of the S.E. of the circle shall be final.

No Claim to Any Payment or Compensation for Alteration in or Restriction of Work

Clause 14 : If at any time after execution of the contract documents the Engineer-in-Charge shall for any reason whatsoever require the whole or any part of the work as specified in the tender to be stopped for any period or shall not require the whole or part of the work to be carried out at all or to be carried out by the contractor, he shall give notice in writing of the fact to the contractor who shall there upon suspend or stop the work totally, or partially, as the case may be, in any such case, except as provided hereunder the contractor shall have no claim to any payment or compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not so derive in consequence of the full amount of the work not having been carried out or on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not so derive in consequence of the full amount of the work not having been carried out or on account of any loss that he may be put to on account of materials purchased or agreed to be purchased or for unemployment of labour recruited by him. He shall not also have any claim for compensation by reason of any alterations having been made in the original specifications, drawings, designs and instructions, which may involve any curtailment of the work as originally contemplated. Where, however materials have already been purchased or agreed to be purchased by the contractor before receipt by him of the said notice the contractor shall be paid for such materials at the rates determined by the Engineer-in-Charge, provided they are not in excess of requirements and are of approved quality and/or shall be compensated for the loss if any. That he may be put to in respect of materials agreed to be purchased by him the amount of such compensation to be determined by the Engineer-in-Charge whose decision shall be final if the contractor suffers any loss on account of his having to pay labour charges during the period during which the stoppage of work has been ordered under this clause the contractor shall, on application be entitled to such compensation on account of labour charges as the Engineer-in-Charge. Whose decision shall be final may consider reasonable provided that the contractor shall not be entitled to any compensation on account of labour charges. If in the opinion of the Engineer-in-Charge the labour could have been employed by the contractor elsewhere for the whole or part of the period during which the stoppage of the work has been ordered as aforesaid.

Time Limit for Unforeseen Claims

Clause 15 : Under no circumstance whatsoever shall be contractor be entitled to any compensation from Government on any account unless the contractor shall have submitted a claim in writing to the Engineer-in-Charge within one month of the cause of such claim occurring.

Action and Compensation Payable in Case of Bad Work

Clause 16 : If at any time before the security is refunded to the contractor it shall appear to the Engineer-in-Charge or his subordinate in charge or work that any work has been executed with unsound imperfect, or unskillful workmanship or with materials of interior quality or that any materials or articles provided by him for the execution of the work are unsound, or of a quality interior to the contractor for or are otherwise not in accordance with the contractor it shall be lawful for the Engineer-in-Charge to intimate this fact in writing to the contractor and then notwithstanding the fact that the work, materials or articles complained of may have been inadvertently passed certified and paid for the contractor shall be bound forthwith to rectify remove and reconstruct the works so specified in whole or in part as the case may required or if so required, shall remove the materials or articles so specified and provide other proper and suitable materials or articles at his own proper charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in the written intimation aforesaid the contractor shall be liable to pay compensation at the rate of one percent. On the amount of the estimate for every day not exceeding ten days, during which the failure so continues and in the case of any such failure the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace the materials articles complained of as the case may be at the risk and expense in all respects of the contractor should the Engineer-in-Charge consider that any such interior work or materials as described above may be accepted or made use of it shall be within his discretion to accept the same at such reduced rates as he may fix thereof.

Contractor liable for damage done and for imperfections for three months after Certificate

Clause 17 : If the contractor or his work people or servants shall break, deface, injure or destroy any part of building in which they may be working or any building, road curbs fences enclosures, water pipes, cables, drains, electric or telephone posts, wires, trees, grass or grass-land or cultivated ground contiguous, the premises on which the work or any part of it is being executed or if any damage shall happen to the months (six months in the case of the road work) after a certificate final or otherwise or its completion shall have been given by the Engineer-in-Charge as aforesaid the contractor shall make the same good at his own expense or in default the Engineer-in-Charge may cause the same to be made good by other work-men and deduct the expense (of which the certificate of the Engineer-in-Charge shall be final) from any sums that may be then or at any time thereafter may become, due to the contractor or from his security deposit of the proceeds of sale thereof or of a sufficient portion thereof.

The contractor hereby also covenants that the shall be his responsibility to see that the buildings constructed under this contract do not leak during the period of two consecutive rainy seasons after its (their completion) and if any defects are pointed out to him by the Engineer-in-Charge during the said periods the same shall be removed by him at his own expenses or in default the Engineer-in-Charge may get them removed and deduct the expenses thereof from any sum that may be then due or may become due to the contractor or from the security deposit or the contractor an amount equal to 20% cost of the roof shall not withstanding anything contained in this clause be retained till the roofs are

tested during two consecutive rainy seasons as aforesaid and the defects are fully removed if any amount still remains due to this account after making deductions as aforesaid the same may be recovered from him as an arrear of land revenue/cash security. The security deposit of the contractor to the extent of 50% shall be refunded on his getting the completion certificate provided that all the recoveries outstanding against him or realized 25% of the amount shall be refunded on maintenance period being over even if the final bill is not passed balance 25% shall be refunded after the final bill is passed.

Works to be open for inspection Contractor or Responsible Agent to be present

Clause 18 : All works under or in course of executed or execution in pursuance of the contract shall at all time open to the inspection and supervision of the Engineer-in-Charge and his subordinates and they shall at all times during the usual working hours and at all other time at which reasonable notice of the intention of the Engineer-in-Charge or his subordinate to visit the works shall have been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing percent for that purpose. Orders given to the contractors agent shall be considered to have the same force as if they had been, given to the contractor himself.

Notice to be given before works is Covered Up

Clause 19 : The contractor shall given not less than five day notice in writing to the Engineer-in-Charge or his subordinate in-Charge of the works before covering up or otherwise placing beyond the reach of measurement, any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up placed beyond the reach of measurement, any work without the consent in writing of the Engineer-in-Charge or his subordinate in charge of the work and if any work shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the contractor's expenses or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Contractor to Supply Plant Ladders, Scaffolding Etc.

Clause 20 : The contractor shall supply at his own cost materials (except such/special materials if any as may in accordance with the contract be supplied from the Engineer-in-Charge's Stores) plant, tools, appliances, implements, ladders, cordage tackle scaffolding and temporary works, requisite of the proper execution of the work, whether original altered or substitute, and whether including in the specification or other documents forming part of the contract, referred to in these conditions or not or which may be necessary for the purpose of satisfying or complying with the requirement of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge requisite number of persons with the means and materials necessary for the purpose of setting out works and counting, weighting and assisting in the measurement or examination at any time and from time to time of the work, or materials. Failing his so doing the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted from the money due to the contractor under the contract, under the contract, or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof.

Compensation under Section 12 Sub-Section (1) of the workman's Compensation Act, 1923

Clause 21 : In every case in which by virtue of the provisions of section 12, Subsection (1) of the workman's compensation Act, 1923 Government is obliged to pay compensation to a workman employed by the contractor in execution of the works. Government will recover from the contractor the amount of compensation so paid and without prejudice to the rights of Government under section (1) subsection (2) of the said Act, Government shall be at liberty to recover the amount or any sum due by Government to the contractor whether under this contract or otherwise government may not be bound to contest any claim made against them under section 12 subsection (1) of the said Act except on the written requisite of the contractor and upon his giving to Government full security for all cases for which Government might become liable in consequence contesting such claim.

Labour

Clause 22 : No female labour shall be employed within the limits of a cantonment.

Labourers below the Age of Twelve Years

Clause 23 : No labourer below the age of eighteen years shall be employed on the work.

Fair Wages

Clause 24 : The contractor shall pay not less then fair wage to labours engaged by him on the work :

Explanation

(a) "Fair Wage" means wage whether for time or piece work notified at the time of inviting tenders for the work and where such wages have not been so notified, the wages prescribed by the work Department for the division in which the work is done.

(b) The Contractor shall not withstanding the provisions of any contract to the contrary cause to be paid a fair, wage to labourers indirectly engaged on the work including any labour engaged by his subcontractor in connection with the said works, as if the labourers had been immediately employed by him.

(c) In respect of labour directly or indirectly employed on the work for the performance of the contractor's part of this agreement the contractor shall comply with or cause to be complied with the labour Act in-force.

(d) The Sub-Divisional Officer / Divisional Officer shall have the right to deduct, from the moneys due to the contractor, any sum required or estimated to be required for making good the loss suffered by a worker or workers by reasons of non-fulfillment to the conditions of the contract, for the benefit of the workers, nonpayment of wages or deductions made from his or their wages, which are not justified by the terms of the contract or non-observance of the regulations.

(e) The contractor shall be primarily liable for all payments to be made under and for the observance of the regulations aforesaid without prejudice to his right to claim indemnity from his subcontractors.

(f) The regulations aforesaid shall be deemed to be a part of this contract and any breach there of shall be deemed to be a breach of this contract.

Work not to be sublet

Clause 25 : The contractor shall not assign or sublet without the written approval of the Divisional Officer. And if the contractor shall assign or sublet his contract, or attempt, so to do, or become insolvent commence any insolvency proceedings or make any composition with his creditors, or attempt so to do, or if any bribe, gratuity, gift, loan, perquisite, reward of advantage pecuniary or otherwise, shall either directly or indirectly be given, promised or offered by the contractor, or any of his servants or agents to any public officer or person in the employee of Government any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Divisional Officer may there up on by notice in writing rescind the contract, and the security deposit of contractor shall there upon stand forfeited and be absolutely at the disposal of government and same consequences shall ensure as if the contract had been rescinded under clause 3 hereof, and in addition the contractor shall not be entitled to recover or be paid for any work there to for actually performed under the contract.

Sum Payable by Way of Compensation to be Considered as Reasonable Compensation with out Reference to Actual Loss

Clause 26 : All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

Changes in the Constitution of Firm

Clause 27 : In the case of a tender by partners any change in the constitution of the firm shall be forthwith notified by the contractor to the Engineer-in-Charge for his information.

Work to be under the Direction of Executive Engineer /Superintending Engineer

Clause 28 : All works to be executed under the contract shall be executed under the direction and subject to the approval in all respect of the Executive Engineer /S.E. of the division/Circle for the time being who shall be entitled to direct at what point or points and in what manner they are to be commenced and from time to time carried on.

Disputes Relating to Specifications, Designs etc.

Clause 29 : Except where otherwise specified in the contract the decision of the Superintending Engineer for time being shall be final, conclusive and binding on all parties to the contract upon all question relating to the meaning of the specifications, designs, drawings and instructions here in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right matter, or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution of failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof provided that the Superintending Engineer shall before giving the decision in the matter give an opportunity of being heard to the contractors.

Stores of European or American Manufacture to be Obtained from Government

Clause 30 : The contractor shall obtain from the stores of the Engineer-in-Charge all stores and articles of European or American manufacture which may be required for the work or any part thereof or in making up articles required therefore or in connection therewith unless he has obtained permission in writing from the Engineer-in-Charge to obtain such stores and articles elsewhere. The value of such stores and articles as may be supplied to the contractor by the Engineer-in-Charge will be debited to the contractor in his account at the rates shown in the schedule attached to the contract and if they are not entered in the schedule, they will be debited at cost price which for the purpose of this contract shall include the cost of carriage and all other expense whatsoever, which shall have been incurred in obtaining delivery of the same at the stores aforesaid.

Lump Sums in Estimate

Clause 31 : When the estimate on which a tender is made includes lump sums in respect of parts of the work, the contractor shall be entitled to payment in respect of items of work involved or the part of the work in question at the same rates as are payable for like items in this contract for such items, or if the part of the work in question in not in the opinion of the Engineer-in-charge capable of measurement. The Engineer-in-Charge may at his option pay the lump sum amount entered in the estimates and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor, with regard to all such lump sums payable to him under the provisions of this clause.

Action where no Specification

Clause 32 : In the case of any class of work for which there is no such specification as in mentioned in Rule, such work shall be carried out in accordance with the specification approved by Superintending Engineer/Chief Engineer, for application to works in the district and in the event of there being no such specification then in such case the work shall be carried out in all respects in accordance with the instructions and requirement of Engineer-in-Charge.

Definition of work

Clause 33 : The expression work or works where used in these conditions, shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent and whether original altered, substituted or additional.

Claim for Quantities Entered in the Tender or Estimate :

Clause 34 : Quantities shown in the tender are approximate and no claim shall be entertained for quantities of work executed being either more or less than those entered in the tender or estimates.

Clause 35 : No compensation shall be allowed for any delay caused in the Starting of the work on account of acquisition of land, or in the case of clearance works, on account of any delay in according sanction to estimates.

Employment of Scarcity Labour

Clause 36 : If Government declare a state of scarcity of famine to exist in any village situated within 16 km. of the work the contractor, shall employ upon such parts of the work, as are suitable for unskilled labour, any person certified to him by the Executive Engineer or by any person to whom the Executive Engineer may have delegated this duty in writing to be in need of relief and shall be bound to pay such person wages not below the minimum which Government may have fixed in this behalf. Any dispute which may arise in connection with the implementation of this clause shall be decided by the Executive Engineer whose decision shall be final and binding on the contractor.

Refund of Quarry Fees and Royalties

Clause 37 : All quarry fees, royalties, octroi dues and ground rent for stacking materials, if any should be paid by the contractor, who will however be entitled to a refund of such of the charges as are permissible under the rules on production of a certificate from the Engineer-in-Charge that the materials were required for use of government work.

Royalty for Breach of Contract

Clause 38 : On the breach of any term or conditions of this contact by the contractor the Governor shall be entitled to forfeit the security deposit or the balance thereof that may at that time be remaining, and realize and retain the same as damages and compensation for the said breach, but without prejudice to the right of the Governor to recover any further sum as damages, from any sums due or which may become due to the contractor by government or otherwise howsoever.

Note: If there is any difference between the amount of words and figures written in the tender forms by the contractor the lesser amount will be treated as valid if the contractor is not ready to accept the amount so fixed in the above manner and declines to do the work earnest money deposit of the contractor shall be forfeited.

Notice to the Contractor to Start work

Your contract for the ..... has been accepted by me/ Superintending Engineer/ Chief Engineer on behalf of the Governor of Madhya Pradesh on the ..... day of ..... 20….. and you are hereby ordered to commence the work.

Superintending Engineer (Project Cell)

The notice to the contractor(s) to start work from the ..... date of ..... 20….. was issued vide this office memorandum no. ..... date ..... 20……

COMPLETION CERTIFICATE

In pursuance of clause 6 of the agreement in Form B dated the ..... between the contractor Shri ..... and the Governor of Madhya Pradesh. It is hereby Certified that the said Contractor has duly completed the execution of the work undertaken by him the tender on the ..... day of .....

Signature of Contractor **Signature of Engineer-in-Charge**

SCHEDULE

Showing (approximately) materials to be supplied by the Department under clauses 11 and 30 for works contracted to be executed at the rates at which they are to be charged for.

Particulars	Rates at which the materials will be charged to the Contractor	Place of Delivery
(1)	(2)	(3)
	Not Applicable	

Note: The person or firm submitting the tender should see that the rates in the above schedule, filled up by the Engineer-in-Charge on the issue of the form prior to the submission of the tender.

Signature of Contractor **Signature of Sub-Divisional Officer / Divisional Officer**

ANNEXURE-"A"

Model Rules relating to Labour, Water Supply and Sanitation in Labour Camps

Note.- These model rules are intended primarily for labour camps which are not of a permanent nature. They lay down the minimum desirable standard which should be adhered to Standards in permanent or semi permanent labour camps should not obviously be lower than those for temporary camps.

1. **Location.-** The camp should be located in elevated and well drained ground in the locality.
2. **Labour huts** to be constructed for one family of 5 persons each. The lay out to be shown in the prescribed sketch.
3. **Hutting.-** The huts to be built of local materials. Each hut should provide at least 20 sq. metres of living space.
4. **Sanitary facilities.-** Latrines and urinals shall be provided at least 15 metres away from the nearest quarters separately for men and women and specially so marked on the following scale.
5. **Latrine.-** Pit provided at the rate of 10 users or two families per seat, separate urinals as required as the privy can also be used for this purpose.
6. **Drinking water.-** Adequate arrangements shall be made for the supply of drinking water. If practicable filtered and chlorinated supplies shall be arranged, when supplies are from intermittent sources overhead storage tank shall be provided with a capacity of five litres a person per day. where the supply is to be made from a well it shall confirm to the sanitary standard laid down in the report of the Rural Sanitation Committee. The well should be at least 30 metres away from any latrine or other source of pollution. If possible hand pump should be installed for drawing the water from well. The well should be effectively disinfected once every month and the quality of the water should be got tested at the Public Health Institution between each work of disinfecting.
7. **Bathing and washing.-** Separate bathing and washing place shall be provided for men and women for every 25 persons in the camp. There shall be one gap and space of 2 sq. metres for washing and bathing. Proper drainage for the waste water should be provided.
8. **Waste disposal.-** Dustbin shall be provided at suitable places in camp and the residents shall be directed to throw all rubbish into those dustbins. The Dustbins shall be provided with cover. The contents shall be removed every day and disposed off by trenching.
9. **Medical facilities.-**

(A) Every camp where 1,000 or more persons reside shall be provided with whole time doctor and dispensary. If there are women in the camp a whole time nurse shall be employed.

(B) Every camp where less than 1,000, but more than 250 persons reside shall be provided with a dispensary and a part time nurse/midwife.

(C) If there are less than 250 persons in any camp a first aid kit shall be maintained in charge of whole time persons, trained in first aid. All the medical facilities mentioned above shall be for all residents in the camp including a dependent of the worker, if any, free of cost.

Sanitary Staff.- For each labour camp there should be qualified sanitary inspector and sweepers should be provided in the following scales:-

(1) For camps with strength over 200 but not exceeding 500 persons-one sweeper for every 75 persons above the first 200 for which 3 sweepers shall be provided.

(2) For camps with a strength over 500 persons one sweeper for every 100 persons above first 500 for which 6 sweepers should be provided.

ANNEXURE-"B"

Contractor's Labour Regulations

The Contractor shall pay not less than fair wage to labourers engaged by him in the work.

Explanation.-

(a) "Fair wages" means wages whether for time or piece work as notified on the date of inviting tenders and where such wages have not been so notified the wages prescribed by the labour department for the division in which the work is done.

(b) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid a fair wage to labourers indirectly engaged on the work including any labour engaged by his sub-contractors in connection with the said work as if labourers had been immediately employed by him.

(c) In respect of all labour directly or indirectly Employed on the works or the performance of his contract, the contractor shall comply with or cause to be complied with the Labour Act in-force.

(d) The Sub-Divisional Officer / Divisional Officer shall have the right to deduct from the money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the condition of the contract for the benefit of the workers, non- payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of regulations.

(e) The contractor shall be primarily liable for all payments to be made under and for the observance of the regulations aforesaid without prejudice to his right to claim indemnity from his sub-contractors.

(f) The regulations aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

(g) The contractor shall obtain a valid licence under the Contract (Regulation and Abolition) Act, in force and rules made there under by the competent authority from time to time before commencement of work, and continue to have a valid licence until the completion of the work.

Any failure to fulfil this requirement shall attract the penal provisions of this contract arising out of the resulted non-execution of the work assigned to the Contractor.

ANNEXURE-"C"

Statement Showing the Lead of Materials

S.No.	Description	Lead
1.	.....	
2.	.....	
3.	.....Not applicable.....	
4.	.....	
5.	.....	

Note.- The statement is only for guidance of the contractor. The tenderer should satisfy himself regarding the availability of the required quality and quantity of materials.

ANNEXURE "D"

Form of Certificate on Income Tax to be Submitted by Contractor Tendering for Works Costing Rs. 2.00 lakhs or more.

(i) Name and style (of the company, firm, H.U.F. or individual) in which the applicant assessed to income tax and address for purposes of assessment.

(ii) The Income Tax Circle/Ward/District in which the applicant is assessed to income-tax.

(iii) Following particulars concerning the last income tax assessment made

(a) Reference No. (Or G.I.R. No.) of the assessment.

(b) Assessment year and accounting year.

(c) Amount of total income assessed.

(d) Amount of tax assessed I.T., S.T., E.P.T., E.T.

(e) Amount of tax paid I.T., S.T., E.P.T., E.T.

(f) Balance being tax not yet paid and reasons for such arrears.

(g) Whether any attachment or other proceedings pending in respect of the arrears.

(h) Whether the company, firm, H.U.F. on which the assessment was made has been or is being liquidated, wound up, dissolved, partitioned or being declared insolvent, as the case may be.

(i) The position of later assessments namely, whether returns submitted under section 22 (1) or (2) of the Income-tax act and whether tax paid under section 18-A of the act and the amount of tax so paid or in arrears.

(iv) In case there has been no income tax assessment at all in the past, whether returns submitted under section 21 (1) or (2) and 18-A (3) and if so, the amount of income tax returned or tax paid and the income tax circle/ ward/District concerned.

(v) The name and address of branch (es) verified the particulars set out above and found correct subject to the following remarks.

Dated .....

Signature of I.T.O.
Circle/ward/District

ANNEXURE "E"

Detailed Technical Specification

Name of work :-

Preparation of Detailed Project Report and Tender Document for Sakri Morchaghat Group Water Supply Scheme for 23 (tentative) villages in Block Dhanora of Seoni District of Madhya Pradesh including Survey & Investigation, Designing, Drawing and Preparation of Estimates etc. complete.

1.0 Brief Scope of Work –

Villages of the Seoni District of Madhya Pradesh have been identified for which Detailed Project Report is to be prepared. In this scheme, it is proposed to take required raw water from Wainganga River, from where, it is proposed to pump raw water to Water treatment Plant. The treated water would be taken to the OHT/GSR of the village/town either by pumping or gravity flow depending upon the topography of the area. Village wise schemes for villages covered in this group scheme shall be designed and prepared separately and estimation of the village wise scheme covering OHT/GSR, distribution network, house hold connections shall be done. Water will be supplied from the scheme through bulk connection to the OHT/GSRs to be proposed OR existing for storage of water at villages or cluster of villages. It is suggested that the storage capacity of Tank preferably not be less than 100 KL, a cluster of nearby villages may be selected to meet the norms of capacity of these tanks. The list of villages proposed to be covered and their population as per Census 2011 is enclosed as Annexure.

1.1 Brief scope of work for Preparation of Detailed Project Report (DPR) is as under:

- Population forecasting.
- Water Demand for next 30 years.
- Design period of all components of the scheme.
- Survey of Water Source of the scheme, calculation of reservoir storage capacity (source).
- Consultant has to submit general arrangement drawings along with drawings of each component of the scheme for estimation purpose only.
- Survey for Anicut/Barrage (if Required), Intake well, Raw water pump house, raw water pumps, Raw Water Rising Main, Water Treatment Plant (WTP), Break Pressure Tank (BPT), Clear Water pumping/conveyance Mains, Distribution system in villages to be covered under the scheme.
- Soil investigation work
- Hydraulic designs of all components of the schemes i.e. Storage Reservoir (source), Intake well, WTP, pumping/conveyance mains, raw & clear water pumps and pump houses.

- Calculation of electrical load and design of Electric sub stations and feeder mains.
- Preparation of detailed coloured computerized drawings of the structures, L-section with plan of pumping/conveyance mains and distribution system, detailed quantity and abstract estimates, CPM/Pert Charts, Operation and Maintenance estimate along with proposal of revenue generation.
- SCADA system
- Social Survey to assess the socio-economic aspects of the villagers.

1.2 Scope of work for Preparation of Tender Document is as under:

Consultant has to prepare estimates in detail so that Tender can be invited on GoMP's standard tender form as approved by Engineer-in-Charge. Consultant will be responsible for preparation of the Tender Document with all terms and conditions required to be included for smooth execution of the project. The completion period of the work should be calculated through CPM/PERT chart. Variation clause should be clearly defined.

2.0 Detailed Scope of Work:

2.1 Prefeasibility Report:

Consultant has to prepare a pre-feasibility report covering brief scope of work, proposed alignment of pipeline, suggested sites for various structures after visiting the area and villages to be covered under the scheme. Consultant shall visit the area with the Executive Engineer or his representative to have fair idea of the vicinity. A presentation has to be made as per direction of the Engineer-in-Charge before the department.

2.2 Design Criteria:

Design of all the components of the scheme shall be carried out as per guidelines and norms given in the "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water Supply and Sanitation, Govt. of India and latest Manual of Water Supply and Treatment Published by CPHEEO and other designs shall be carried out on the basis of the relevant IS codes. In case of any controversy, the decision of the Superintending Engineer (Project Cell) shall be final and binding to contractor/consultant.

2.3 Population forecasting:

The design population will have to be estimated as per the methods given in "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes published in February 2013" by Ministry of Drinking Water and Sanitation, Govt. of India annexed as Annexure of this tender document. The design population will have to be estimated with due regard to the entire factors governing the future growth and development of the project area. Special factor causing sudden emigration or influx of population should also be foreseen to the extent possible. Lag period shall be considered 1-3 years depending on the project. A judgment based on these factors would help in selecting the most suitable method of deriving the probable

trend of the population and shall be adopted accordingly. This design population figures should then be used to calculate water demand for the proposed water supply scheme.

The Base year is to be considered as 2017, Intermediate years as 2027, 2037 and the Ultimate year as 2047. Water demand shall be taken as recommended by Ministry of Drinking Water and Sanitation, Govt. of India for villages and towns.

2.4 Water Demand:

Per day per capita rate of water supply for the villages and urban areas has to be taken as 70 (as per circular of O/o The E in C, MPPHED no. 8217/Moni dt. 03/08/2013) & 135 respectively. The rate of supply is considered to be supplied at the door step of the end user. Other losses shall be considered in the water demand as per latest revised guidelines given in "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes published in February 2013" by Ministry of Drinking Water and Sanitation, Govt. of India. The existing drinking water sources may be utilized to meet other demands like live stock demand etc.

2.5 Design period of various components of the scheme:

Water Supply Projects shall be designed for specified design period after their completion. The different components shall be designed as per "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India:

Surface Source (Civil works)	:	30 Years
Intake Works (Civil works)	:	30 Years
Raw/Clear Water Motor &Pumps	:	10 Years
Raw/Clear Water Pump House	:	20 Years
Raw Water Rising Main	:	20 Years
Water Treatment Plant	:	20 Years
Clear Water Conveyance Main	:	20 Years
OHT/GSR/BPT	:	20 Years
Distribution System	:	20 Years

2.6 Survey & Investigation Works:

Field survey and leveling work to be carried out in connection with development of sources, site of intake well, various components of treatment units, location of service

reservoirs and its capacities and elevation, alignment and longitudinal sections of conveyance main and distribution lines. Detailed maps of all villages showing location of houses, schools, markets, hospitals, important public buildings and industries and other institutions etc should be given.

Carrying out necessary detailed survey for Source, Intake well, Pumping Stations, Water Treatment Plant, Break Pressure tank and etc, topographical survey for conveyance main (pumping/gravity), village map, village distribution system etc. and soil strata details for all components of DPR.

The survey and investigation part shall therefore, consists of detailed survey, close investigations and other aspects as under -

Survey would consist of chain and compass, Theodolite survey and levelling by Total Station at an interval of every 30m and at horizontal/vertical bend locations. Additional levels should also be taken where important features like humps, dips, obstacles, crossing, roads, railways, rivers, etc. are met with, and as directed, with the help of Total station, theodolite, auto level and other survey instruments.

The results of the actual survey including L-Section of the pumping/conveyance mains, L & X- Section for approach road are to be plotted on drawings to a suitable scale as approved by the Engineer-in-Charge. The drawings should also show the important existing nearby structures/geographical features, if any, which are required to be located from the estimation point of view.

Department may ask for survey book or soft copy (as may be the case) as proof of the actual survey carried out by the consultant.

The levels are required to be co-related to MSL, Permanent, as well as Temporary Bench Marks will have to be established at places as specified by Engineer-in-charge during surveying and these details should be made available in writing to Executive Engineer, Public Health Engineering Division of respective district or as direceted by Engineer-in-Charge. The consultants are requested to keep Engineer-in-Charge informed as regards to the survey activities being carried out at different locations so as to get themselves acquainted with the work being carried out and make suggestions, while the survey is being carried out.

At each of the stage, the consultants, before starting the work should consult with the Engineer-in-charge and obtain his consent for the site, route and methodology of the survey. The detailing and further work should be carried only after such approval in respect of survey, quantification, schedule of rates, estimates and preparation of drawings, etc. After the initial works is carried out and got approved from Engineer-in-charge, further detailing should be done, this requirement applied to be aspect of land acquisition also and only after it is established that no difficulties are anticipated in respect of land acquisition, further detailing should be done.

Contours should be plotted at 1.0 m intervals or as directed by Engineer-in-Charge. The contouring is to be confined to areas and portion of the works where Intake, BPT, GSR, OHT, WTP, Pumping Stations residential colony are to be provided. Brief details of the proposed units should be shown on the contour maps.

Reservoir Storage (Source) capacity shall be calculated by appropriate scientific method with giving due consideration to various losses and if the capacity of the natural pool is found

less than the required quantity of water then Anicut/Barrage may be proposed and accordingly survey/investigation work shall be carried out. While proposing Anicut/Barrage, consultant should consider the existing Anicut/Barrage/Stop Dam on the river U/s or D/s side of the proposed site and their storage capacity, physical condition, length of water reservoir along the river, levels etc. If existing Anicut/Barrage/Stop Dam can provide the sufficient water to the scheme with their rehabilitation then preference shall be given to existing one instead of proposing the new one. In order to avoid the higher height of the Anicut/Barrage, such structures shall be proposed on the D/s side of the natural pool available or at the highest bed level (if strata if the bed permits) of the river which may be U/s or D/s side of the suggested (by department) site.

Consultant shall install Bench Marks on permanent plinths of the structures as per direction of Engineer in charge, on which chainage and RL shall be painted with red paint. The consultant shall submit list of benchmarks so prepared.

Trial Pits for soil investigation shall be taken as per standard procedure at an interval of 1km (maximum) along the proposed pipe line alignment or places where Hydraulic Gradient Line (HGL) is touching the ground. The core shall be taken from the sufficient depth to define the strata required for estimation of excavation work. Places where Hydraulic Gradient Line (HGL) is touching the ground or lying below the ground level, the depth shall be taken according to the HGL and required depth of excavation to lay the pipeline. Consultant has to prepare strata chart and enclose with the DPR. Estimation for excavation and refilling shall be done according to the available strata to derive true picture of the terrain. For Anicut/Barrage work, at least three cores from the depth which is suitable for the foundation shall be taken across the river at the selected site. For Intake, WTP, OHT at least one core from the depth which is suitable for the foundation of the proposed structure shall be taken.

Detailed survey shall be carried out for the electric feeder line alignment and alignment drawing with levels shall be enclosed with DPR.

2.7 Hydraulic Design of Components of the Scheme:

Hydraulic designs of all components i.e. Storage reservoir, Intake well, Economical size of pumping mains, clear water conveyance/feeder mains, raw & clear water pumps, WTP, BPT, OHTs, GSRs, distribution system, feeder mains etc. shall be as per “Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes” published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India and the components not covered in this manual shall have to be designed as per Latest CPHEEO Manual on Water Supply and Treatment by the consultant.

2.8 Drawings of all Components of the Scheme:

Detailed colored computerized drawings such as Index map showing area under consideration along with major proposed works, schematic diagram, detailed village map showing existing and proposed works along with main features of villages. Consultant has to submit general arrangement drawings along with drawings of each component of the scheme for estimation purpose only. Hydraulics/drawings as applicable for Intake well cum pump house, WTP, BPT, OHTs, GSRs, pump houses, Pillars, Staff Quarters, approach road, boundary wall of WTP, BPT, OHTs, GSRs, pump houses, Staff Quarters have to be prepared by the consultant along with L-Section drawings with plan of pumping/conveyance mains and distribution system on village maps indicating existing pipelines, if any. The Consultant shall submit the Khasra number and Map of the land required with the location of unit on that particular Khasra Map.

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2.9 Preparation of Cost Estimates & DPR:

Detailed Project Report (DPR) shall be prepared according to the "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India. Preparation of detailed quantity and abstract estimates, report and CPM network for execution like Intake well cum pump house & approach bridge/road, Raw & Clear water pumps, Electric sub stations, electrical feeder mains, Conveyance mains (pumping/gravity) with appurtenances, Pillars, Thrust block etc., Water Treatment Plant, Break Pressure tank, Distribution systems, Over Head Tanks/Ground Level Service reservoir/GSRs, Pump houses, Staff quarters, Approach roads & Other components of schemes, Land acquisition, Operation and Maintenance Estimate along with proposal of revenue generation, writing technical report, Preparation of CPM/Pert Chart, Compilation of Design, Drawing, Estimates etc. & submission of 10 copies of DPR along with soft copies.

Detailed estimates for each component of the scheme shall be prepared in accordance with design and drawing. Life Cycle cost Approach (LCCA) of each component in integrated manner of proposed water supply scheme based on techno-economical feasibility over the design period to ensure sustainability may be followed.

The detailed estimates are to be prepared as per latest SOR's of MPUADD, M.P. PWD, M.P. WRD & M.P.V.V. CO. Ltd. etc.

2.10 Scheme Components:

List of Villages and Towns to be included in the Group Water Supply Scheme and its latest census population and present anticipated population is enclosed. From feasibility point of view, at the time of survey addition, alteration and omission in proposed villages/towns may be possible, in such condition consultant is required to justify its inclusion or exclusion with proper reasoning.

The group water supply scheme would be based on surface source only. The site to take off water from surface source must be selected such that it has sufficient water in natural pool or has sufficient flow to meet the water requirement of designed period of the scheme and quality of water should be as per norms desired for drinking water supply scheme.

The various components of the scheme shall be designed as per norms and guidelines given in the "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

2.10.1 Source:

The selected source is Dehar River near village Rangir of block Rehli, District Seoni for this scheme and consultant must collect relevant, adequate and reliable data to arrive at the

sufficient storage capacity including L-section, Cross-section of the river up to reservoir area (i.e. length of river up to which water will be impounded due to construction of the Anicut/Barrage) at an interval of 50m and additional cross section of the river at sudden change in bed levels, river catchment, rainfall and max. & min. run-off, duration of the flow in the river available in a year etc. It is advised that the storage reservoir (if required to be constructed) should be designed on the basis of 90% dependability. As far as selection of site of impounding reservoir is concerned, the guidelines given in Latest CPHEEO Manual on Water Supply and Treatment should be followed.

Reservoir Storage (Source) capacity shall be calculated by appropriate scientific method using relevant IS code with giving due consideration to various losses and if the capacity of the natural pool is found less than the required quantity of water then Anicut/Barrage may be proposed and accordingly survey/investigation work shall be carried out. While proposing Anicut/Barrage, consultant should consider the existing Anicut/Barrage/Stop Dam on the river U/s or D/s side of the proposed site and their storage capacity, physical condition, length of water reservoir along the river, levels etc. If existing Anicut/Barrage/Stop Dam can provide the sufficient water to the scheme with their rehabilitation then preference shall be given to existing one instead of proposing the new one. In order to avoid the higher height of the Anicut/Barrage, such structures shall be proposed on the D/s side of the natural pool available or at the highest bed level of the river (if strata if the bed permits) which may be U/s or D/s side of the suggested (by department) site.

Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

2.10.2 Intake Works:

The following features should be considered for locating the intake -

(1) The location where the best quality and sufficient quantity of water is available.

(2) Absence of currents that may affect the safety of the intake.

(3) Formation of shoals and bars should be avoided.

(4) Floods

(5) Availability of power and

(6) Accessibility

(7) As far as possible should not be located on the bend or curve.

The intake works should be such that required water can be tapped easily. This will be RCC structure. Proposed site shall be got approved from Executive Engineer, Public Health Engineering Division of the respective district or as directed by the Engineer-in-Charge, before taking up detailed survey.

Selection of intake structure shall be made considering the techno-economic aspect. An RCC M-30 pump house shall be proposed over intake well to house raw water pumps. The size of the pump house shall be so proposed as to locate the pumps/motors, valves, piping, Control panels and cable trays in a rational manner with easy access and with sufficient space around the equipments for the operation & maintenance. The minimum space between two adjoining pump shall be 1.5 m or as per design requirement. Space for control panel should be planned as per Indian electricity rules.

Intake pipe should be provided for withdrawal of water from more than one level to cope up with seasonable variation of depth of water. In the design of intake a factor of safety must be allowed, as forces to be resisted by intake are known only approximately. Under mining of foundations due to water currents or over turning pressure due to deposits of silt against one side of an intake structure are to be avoided. Provision to avoid entrance of large/small objects should be made in the under sluice by suitable means. The capacity of the conduit and the depth of the suction well should be so proposed, that the intake ports to the suction pipes of pumps will not draw air. A velocity of 60 to 90 cm/s in intake conduit with a lower velocity through the ports will give satisfactory performance. The intake well shall be of RCC M-30 Mix. The inlet ports shall be of Double Flanged DI Pipes class K-9.

Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

2.10.3 Pumps:

Minimum 3 numbers of pumps including 50% standby arrangement shall be kept in the proposal. Prior to the selection of pump for a pumping station, detailed consideration has to be given to various aspects, viz

(a) Nature of liquid, whether raw or clear water
(b) Type of duty required i.e. continuous, intermittent or cyclic.
(c) Present and projected demand and pattern of change in demand.
(d) The details of head and flow rate required.
(e) Type and duration of the availability of the power supply.
(f) Selecting the operating speed of pump and suitable drive / driving gear.
(g) The efficiency of the pump and consequent influence on power consumption and the running costs.
(h) Various options possible by permuting the parameters of the pumping system including the capacity and no. of pump including standby, combining them in series or in parallel.

Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

2.10.4 Water Treatment Plant:

The aim of water treatment is to produce and maintain water that is hygienically safe, aesthetically attractive and palatable, in an economical manner. Though the treatment of water would achieve the desired quality, the evaluation of its quality should not be confined to the end of the treatment facilities but should be extended to the point of consumer use. The unit operation in water treatment should include aeration (if required), flocculation (rapid and slow mixing) and clarifications, filtration (rapid sand) and disinfection. The hydraulic design of the different units of treatment plant should be carried out according to provisions given in "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

The civil works of treatment plant units shall be in RCC M-30 mix excluding building part which shall be RCC framed structure with RCC M-25 Mix and brick masonry.

The Water treatment plant campus should have provision of following:

- A settling tank shall be provided to collect back wash water with sufficient detention period to settle down the grit with sufficient capacity of pumps to re-circulate the supernatant water from the tank to inlet chamber of WTP.
- G- Type quarter (RCC framed structure with brick walls)
- H- Type quarter (RCC framed structure with brick walls)
- I- Type quarter (RCC framed structure with brick walls)
- Administrative building with provision of Laboratory. Administrative building should have a conference room, 3nos. office rooms with sufficient circulation area.
- Boundary Wall of the campus (RCC framed structure with brick walls)

Note: The nos. of quarters will be finalized by the department. Final requirement of quarters has to be decided with consultation of Superintending Engineer/Department.

2.10.5 Water Conveyance Main:

The most economical size for conveying mains (Raw water & Clear water pipe line) should be based on a proper analysis of the following factor -

(a) The period of design considered for the project and the quantities of water to be conveyed during different phase of such period.
(b) The different pipe sizes against different hydraulic slopes, which can be considered for the quantity of water to be conveyed.
(c) The different pipe materials which can be used for the purpose and their relative costs as laid in position.
(d) The duty, capacity and installed cost of the pump sets required against the corresponding sizes of the pipelines under consideration.
(e) The recurring costs shall be assessed on the basis of:
    (i) Energy charges (presently Rs. 6.5 per unit)
    (ii) Staff for operation of the pump sets,

(iii) Cost of repairs and renewals of the pump sets,
(iv) Cost of miscellaneous consumable stores, and
(v) Cost of replacement of the pump sets installed to meet the immediate requirements, by new sets at an intermediate stage of design period.
(vi) Rate of interest may be taken as 10.5% p.a.

The material of the pipe/conduit is to be selected keeping in view the total cost, the nature of terrain to be traverse and pressure in the pipelines. Suitable/ required appurtenances, flow meters, thrust blocks, supporting pillars, valves, and valve chambers should be designed and proposed accordingly. Valves shall be provided keeping in view of maintenance.

A flow meter should be provided at the branch for each village, pressure transducer valves may also be provided at suitable locations to maintain supply and pressure for the villages located at higher elevations.

Type of valves, its number shall be precisely calculated and shall be shown in the L-section drawing of the conveyance/feeder main.

Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed while designing the scheme. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

2.10.6 Reservoirs:

The capacity of the service reservoir shall be determined through the scientific method (minimum 35% of the daily demand) of the total designed demand based on 20 years of design period. Reservoirs shall be proposed in RCC M-30 mix. If topography permits Ground Level Service Reservoirs (GSRs) shall be preferred over the OHTs. Water will be supplied from the scheme through bulk connection to the GSRs to be proposed for storage of water at villages or cluster of villages. Village Water Supply & Sanitation Committee (VWSC) or Panchayat will supply water to the consumers from these GSRs. In individual village schemes, storage reservoirs shall not be provided for a village or cluster of villages having population less than 2000. It is suggested that the storage capacity of GSRs/OHTs preferably not be less than100 KL, a cluster of nearby villages may be selected to meet the norms of capacity of these overhead tanks.

Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

Each reservoir shall be provided with boundary Wall of (RCC framed structure with brick walls).

2.10.7 Water Distribution Network:

In the design of water supply distribution system, demand/consumption varies with the season, month, day and hour. As far as the design of distribution system is concerned, it is the hourly variation in consumption that matters. The fluctuation in consumption is accounted for, by considering the peak rate of consumption at rate of flow in the design of distribution system. A

peak factor of 3 is recommended for design of distribution system with a minimum residual pressure of 7.0m for single story and 12.0 m for double story. Now a days, most of the villages are having CC roads or rocky strata, where deep excavation of the trenches and restoration of such roads is not feasible in such places metallic (GI/DI) pipes may be provided in such a way that pipeline at least embedded in the pavement and the riding surface is restored. In other cases, HDPE pipes (PE-100) of minimum 10 kg/cm2 pressure up to 200 mm outer diameter and above 200 mm diameter DI class K-7 or K-9 pipes should be proposed and minimum diameter shall be as per Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken. The HDPE pipe joints shall be joined with the electro- fusion couplings and not the butt welded. In case of rocky or hilly area, GI/DI pipes should be provided.

In case a village or town, now covered in the group water supply scheme is already having an individual existing water supply scheme, water from new scheme shall be connected to the existing GSR/OHT and the other component if required shall also be modified as per design requirement.

The OHT/GSR shall be augmented as required. Departmental engineer will give the details of existing distribution system to the successful consultants. In case the distribution system is old and its useful life is expired, it shall be discarded and designed afresh. In other cases, the distribution system shall be designed for additional requirement.

Provision of house hold connections shall be made in the estimates for 100% families. The house hold connection shall be provided with ½ inch GI/CPVC/MDPE pipes through the ferrule in the distribution network. Maximum length of ½ inch pipe for individual house hold connection shall be kept 6m or up to the boundary of the house. Operating valves and valve chambers should be designed and proposed accordingly. Valves shall be provided keeping in view of maintenance.

2.10.8 Electrical and Mechanical Works:

Depending up on the electrical load, the capacity of electric sub-station has to work out on the basis of the norms prescribed by MPVV Co. Ltd. The estimation is to be done on the latest SOR/CSR of the MPVV Co. Ltd.

Criteria prescribed in the CPHEEO manual shall be followed while designing the E&M works.

3.0 Operation and Maintenance:

Operation & Maintenance (O&M) manual will be prepared by the consultant covering the staff, chemical, electricity requirement and their cost etc. To meet out the Operation & Maintenance cost, consultant shall derive the tariff charges after social survey depending up on the paying capacity of the consumers. Provision for O&M of the scheme by the contractor for 5 years after commissioning of the scheme shall be made in the DPR. Conditions for O&M shall be clearly defined in the tender document. Proper rate analysis to derive the annual O&M for next 5 years on annual basis shall be given in the DPR. The responsibilities (Scope of work) of the contractor during O&M should also be clearly defined in the tender document.

Consultant will suggest the suitable mechanism for O&M of the scheme. The mechanism shall include formation of committees, tariff, and collection of tariff, management of financial, material and labour resources.

While preparing the O&M manual, Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India shall be followed. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

4.0 Provision of SCADA and Flow Meters:

Provision of SCADA for head works (intake well & WTP) has to be made in the scheme accordingly motor operated gates and valves shall be provided. Electromagnetic Flow meters at out let of intake, inlet & outlet of WTP and at every delivery point from the feeder main to village has to be provided.

5.0 Land Acquisition:

After the location of Head Works, GSR and ESR, Treatment Plant, Conveyance Mains, Distribution system, Approach Roads, Quarters etc. are decided, the Consultants should work out the extent of land required to be acquired at specified places.

Having finalized the locations of various works, these details should be shown on the drawing showing the widths of strips of land proposed to be acquired. The consultant should furnish these details, so that department can proceed with the work of land acquisition.

While proposing the locations and various components and alignments, reservations under various Acts shall be verified by the consultants. The consultants shall contact Revenue Deptt./Forest Deptt./Jila Panchayat/Village Panchayat or any concerning department for their concurrence for the availability of land and its transfer to the department. Consultant should proceed with the design and estimate of various components after obtaining such concurrence.

6.0 Important Terms & Conditions:

- As detailed above, the DPR should be prepared for Group water supply schemes for villages and towns of proposed district. At the time of preparation of DPR, there is possibility of addition, alteration and omission of villages and towns due to non-feasibility.
- The skeleton of the scheme as a whole shall be such that it could be easily manageable for Operation and Maintenance. As far as possible, alignment of pipes shall be avoided through forest land. Alignment of pipelines should be proposed along the road or approach road of the village/town.

- The consultant is required to submit two copies of draft DPR to Superintending Engineer (Project Cell), and he has to make presentation before the Superintending Engineer (Project Cell) of O/o the Engineer-in-Chief, PHED, Satpura Bhawan, Bhopal to justify the components taken in the DPR. The changes/suggestions, if any, shall be incorporated and included in the final DPR by the consultant.

- The final report of the project shall be submitted as per NIT invariably and shall be got approved from competent authority.

- Material of pipe proposed in the scope of work is indicative and it will be superseded by the "State Pipe Policy". Final decision on pipe material will be taken by the department depending up on the techno-economic and cost analysis of different pipe material submitted by the consultant.

- The Detailed Project Report shall be prepared as per Guidelines of "Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes" published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India annexed as Annexure. In case any criteria/provision for designing is not given in the "Manual for Preparation of Detailed Project for Rural Piped Water Supply Schemes" then criteria of Latest CPHEEO Manual on Water Supply and Treatment shall be taken.

- Village wise schemes for villages covered in this group scheme shall be designed and prepared separately and estimation of the village wise scheme covering OHT/GSR, distribution network, house hold connections shall be done.

- The consultants shall compile, prepare and submit the Detailed Project Report to Superintending Engineer (Project Cell) in a period of 4 month. The consultants should be in touch with the officers of the Public Health Engineering Division of respective district and Project Cell during preparation and compilation of the report and should discuss with them from time to time, the main features of the project, before finalizing the report, so as to complete the report within a period of **4 month**. The consultants shall collect and compile data required for the project from respective Govt. authorities, and M.P. PHED. Available data has been given in Annexure. Additional data required will have to be collected /generated by the consultants by contacting agencies where such data is available.

- The Detailed Project Report is to be prepared with such accuracy that actual execution to be taken after wards should not suffer from:

    - Inaccurate and inadequate survey and investigation.
    - Change in the location of various components.
    - Major changes in designs and type of work involved.

- Inadequate survey, quantification, estimation, acquaintance with site conditions.

- Detailed estimate of Anicut, intake well with approach bridge shall be prepared on the latest SOR of Water Resources Department, detailed estimates of pipelines shall be prepared on latest respective SOR of UADD, estimates of all the building and road works shall be prepared on the latest SOR/CSR of Public Works Department MP, estimates of electric works be prepared on latest SOR/CSR of MPVV Co. Ltd. Estimates of all other items not covered in any CSR/SOR may be finalized considering market rates with proper rate analysis in consultation of department. Provision for components like motor pumps, generator sets, pipes, valves, SCADA and other appurtenances etc., which are not available in any SOR, should be taken on basis on current prevailing rates of manufacturer / suppliers. Detailed analysis should be done for such items and be finalized and approved by department.

- Study therefore, be carried out with more details, so that the working estimates framed by the Consultants and the quantities mentioned therein shall fairly tally with the actual execution within 5%of the provisions made in the detailed project report. The estimate to be prepared should be in detail.

- The proper design of various components is expected in the Detailed Project Report so as to provide realistic cost in DPR. Submission of contour maps shall be the essential feature of the Project Report. The site conditions are therefore, required to be observed and studied carefully as regards their suitability and adequacy and any other specific problems such as land development, foundation condition etc.

- Restoration of damaged roads and services after providing and laying pipelines shall also have to be taken into account and accordingly estimates of pipe line laying to be prepared.

- Selection of sites and location of various sub works should be such that there would not be any major difficulty in acquiring the lands and there would not be any need to shift sites or locations of various components of the scheme. The consultants should take cognizance of site conditions, so as to present true picture. Due consideration is to be given to encroachment, if any.

- The consultants should provide a certificate in the Detailed Project Report that their authorized representative has walked over the streets, at the location of various works and along the alignment of all mains, etc and are fully conversant with the site conditions in order to ensure that the proposals made in the report can be practically implemented. The investigations include information about all conditions, water table, pipelines and cables, etc. Consultants, during the stage of compilation of report should keep Executive Engineer of Public Health Engineering Division of respective district or as directed by Engineer-in-Charge informed.

- Since the total provision for price escalation is based on the project implementation schedule, the consultants should first prepare the implementation schedule and finalize the same after concurrence from Engineer-in-Charge. The implementation should provide reasonable time for activities such as land acquisition, tendering, evaluation of offers and their proper construction period. The various agencies responsible for taking the decision in this respect will also to be identified.

- In the implementation chart/works programme, specific mention for the works/decision/ permission related to other departments/agencies should be clearly indicated.

- Also, the specific time period, in which, these activities are incorporated and should be completed should be indicated, so as to ensure timely completion of the project.

- The preliminary details of the villages and towns with its present scenario of water supply should also be included in the DPR.

- Operation & Maintenance Estimate should also be prepared and submitted along with DPR. Proposal for maintenance cost recovery or Revenue Generation should also be prepared and submitted with the DPR.

- Consultant shall be responsible for Clearance/Approval of DPR from State Technical Agency (STA) designated by the department.

- Rates quoted by the firm shall include the cost of all scope of work as stipulated in annexure-E "Detailed Technical Specification" in the tender and soil investigation work

7.0 Social Survey:

The consultant should conduct a social survey which will highlight the present scenario of the water supply in these villages, the hardship being faced by the villagers especially women, children and peoples of economically weaker section of the village in fetching enough water for the daily use.

Survey should not be limited to the physical/engineering parameters only; it should also include the demographic parameters such as occupation of the people, their income, age, education, sex and destitute etc. On the basis of this data, maintenance plan and tariff structure shall be decided. Social Survey report shall be prepared and submitted with the DPR.

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004

ANNEXURE-F

SALIENT FEATURES OF SCHEME AND THE LIST OF VILLAGES TO BE PROPOSED IN THE DPR

PREPARATION OF DETAILED PROJECT REPORT AND TENDER DOCUMENT FOR SAKRI MORCHAGHAT GROUPED WATER SUPPLY SCHEMES OF 23 (TENTATIVE) VILLAGES IN DHANORA BLOCK OF SEONI DISTRICT OF MADHYA PRADESH INCLUDING SURVEY & INVESTIGATION, DESIGNING, DRAWING and PREPARATION OF ESTIMATES etc. COMPLETE.

SAKRI MORCHAGHAT GROUPED WATER SUPPLY SCHEME FOR 23 VILLAGES FROM WAINGANGA RIVER BLOCK : DHANORA DISTRICT : SEONI (M.P.)

SALIENT FEATURES

1. District	: Seoni, M.P.
2. Name of block	: Dhanora
3. No. of villages proposed in the Group	: 23 (tentative list enclosed)
4. Population- As per 2011 census	: 18990
5. Population in 2017 (Approx.)	: 21269
6. Existing water supply source	: Hand pumps and PWSS in some of the villages
7. Proposed water supply source	: Wainganga River

LIST OF 23 VILLAGES OF SAKRI MORCHAGHAT GROUP WATER SUPPLY SCHEME

BLOCK : DHANORA
DISTRICT : SEONI (M.P.)

S. no.	Name of Village	Name of Block	Population 2011 as per census	Population in 2017 (Approx)	WSS/HP
01	Gorakhpur	Dhanora	1330	1490	WSS/11
02	Balpura	Dhanora	692	775	WSS/01
03	Baruband	Dhanora	436	488	WSS/01
04	Lamta	Dhanora	435	487	WSS
05	Manori Mal	Dhanora	141	158	03
06	Harrai	Dhanora	878	983	WSS/04
07	Sakri	Dhanora	1119	1253	WSS/06
08	Sunwara	Dhanora	4511	5052	WSS/28
09	Charganwa	Dhanora	460	515	WSS/01
10	Noniya	Dhanora	537	601	WSS/05
11	Jatlapur	Dhanora	588	659	WSS/03
12	Bamhanwada	Dhanora	256	287	WSS/01
13	Boriya	Dhanora	1588	1779	WSS/05
14	Tilwara	Dhanora	718	804	WSS/01
15	Deori Mulla	Dhanora	601	673	WSS/03
16	Suwadongri	Dhanora	655	734	WSS/04
17	Harduli	Dhanora	1086	1216	WSS/06
18	Barbaspur	Dhanora	718	804	WSS/02
19	Barsala	Dhanora	335	375	05
20	Thawari Khas	Dhanora	302	338	01
21	Thanwari Tola	Dhanora	183	205	03
22	Bhurkundi	Dhanora	872	977	01
23	Chandeni	Dhanora	549	615	WSS/01

ANNEXURE-G
"Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes"
(Published in February 2013 by Ministry of Drinking Water and Sanitation, Govt. of India)

Superintending Engineer (Project Cell)
Office of the Engineer-in-Chief
Public Health Engineering Department
Satpura Bhawan, Bhopal - 462004

F. No. W-11011/01/2012-W-I
GOVERNMENT OF INDIA
MINISTRY OF DRINKING WATER AND SANITATION

8TH Floor Pariyavaran Bhawan,
C.G.O. Complex, Lodi Road,
New Delhi -110 003

Dated :20th Feburary,2013

To,

The Pr. Secretary/Secretary
In charge of rural Water Supply
All State Government / UTs.

Subject: Manual for preparation of Detailed Project Report for Rural Piped Water Supply Schemes.

Sir/Madam,

The draft document for preparation of detailed project report for Rural Piped Water supply schemes, was circulated by the Ministry vide dated 18th December,2012, and also hoisted on web site of ministry. Now some comments/suggestions received from states have been incorporated, and revised document of aforesaid Manual has been framed. It is hoped that this document would help in improving the quality of preparation of DPRs and implantation Water Supply Schemes in the field.

I am enclosing herewith a copy of finalised document of Manual for Preparation of Detailed Project Report for Rural Piped Water Supply Schemes for further necessary action at your end. The document has also been uploaded on the website of Ministry (ddws.gov.in)

Encl. As Above

Yours faithfully,

(Sujoy Majumdar)
Director.

Copy to:

1) Director ,NIC for uploading the same
2) Chief Engineer In-charge of Rural Water Supply in all States Govts/ UTs. with a copy of the document.
3) All technical officers in Minister of Drinking Water and Sanitation.

(Sujoy Majumdar)
Director.

MANUAL FOR PREPARATION OF DETAILED PROJECT REPORT FOR RURAL PIPED WATER SUPPLY SCHEMES

Ministry of Drinking Water and Sanitation
Government of India

February 2013

FOREWORD

The Ministry of Drinking Water and Sanitation administers the National Rural Drinking Water programme (NRDWP), and the Total Sanitation Campaign through which the technical as well as financial support is extended to the States for implementing rural domestic water supply and sanitation schemes.

The National Rural Drinking Water Programme is a flagship programme with the Goal to provide every rural person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis in the country. Water provided should meet minimum water quality standard and be readily and conveniently accessible at all times and in all situation to the rural people.

AS per the 12th Five year plan, the major activities recommended are as follows "All out efforts should be made during the plan period to improve full population coverage in all habitations taking into consideration aspects of quantity, quality, distance, timeliness, regularity and reliability of supply by the implementing agencies so as to ensure reasonable and reliable water supply to all including the poorest sections. One of the important recommendations is to aim to cover at least 55% of the total rural households with "piped water supply schemes", with house connection as far as possible. Another major focus attention is identified as water quality problem more specifically, fluoride and arsenic besides bacteriological contamination during the plan period". The powers to sanction individual projects under NRDWP are delegated to the state through their State Level Sanctioning Committees.

Therefore the Manual for preparing the DPR for Rural Water Supply Scheme is framed, in order to implement the works related to piped water supply scheme in planned manner, maintaining appropriate standards and quality of the schemes, and ensure their completion well within the time frame, so as to achieve the goal of 12th Five year plan as per the Strategy Plan (2011-2022) for rural water supply programme and the guidelines of NRDWP issued by this Ministry from time to time.

It is assumed that this document would help the State Government department, implementing agencies to plan, design, construction and maintain the piped water supply schemes.

Further, it is also clarified that the materials, their types/brand name etc. referred in the document do not form recommendation of this Ministry whatsoever and the state Government shall follow their own policy and procurement process in the matter of selection of materials & equipment required in implementation of water supply schemes.

Secretary
Ministry of Drinking Water and Sanitation
Government of India

MANUAL FOR PREPARATION OF DETAILED PROJECT REPORT FOR RURAL PIPED WATER SUPPLY SCHEMES

Following are the essential components of a DPR preparation for a Standalone Village /Multi Villages Rural Piped Water Supply Scheme

1. Executive Summary

1.1 Executive summary should consist of the brief of the scheme viz. essential features of proposed scheme – project area with location & communication, existing water supply status, identification of problem in terms of quantity, quality and source as well as system sustainability of existing system in use, basic planning strategy with approach adopted w. .r. t design period,, details of project proposed components in brief including utilization existing assets in best possible manner with sustainability measures as per NRDWP guidelines , need of capacity building & IEC strategy for sustainability of system. Financial details including capital cost, recovery cost/ tariff, income and expenditure statement during operation and maintenance phase in brief (Not more than two pages).

1.2 Project at a glance

S.N.	Description	Details
1	District	
2	Block	
3	No. of Village(s) /Habitation(s) under proposed scheme(Enclose Drawing)	
4	Latitude/Longitude of proposed village(s)/ Habitation(s)	
5	Population of proposed village(s)/ Habitation(s)/ No of Households 2011	
6	Population of proposed village(s)/ Habitation(s)/ No of Households Present	
7	Proposed Execution period (Years)	
8	Design village(s) / Population / Habitation(s)/ No of Households on expected date of commissioning.	
9	Design village(s)/ population / Habitation(s)/ No of Households after 10 years	
10	Design village(s)/ population / Habitation(s)/ No of Households after 20 years	
11	Design village(s)/ population / Habitation(s)/ No of Households after 30 years	
12	Total Water Demand for all purposes for village /s 1) Immediately after completion (MLD) (II) After 10 years(MLD) (III) After 20 years(MLD) (IV) After 30 years(MLD)	

13	Proposed Water Supply System	
14	(i) Availability Three phase Electricity In Hours/day	
15	(ii) Source – GW / Surface	
16	(iii - A) In case TW (a) Type/No TW (existing + proposed)/Dia/Depth/design Yield of each TW (b) Type of Pump proposed Submersible Eclectic driven/solar operated or in combination (c) Head (TDH) & Discharge (LPD) for each proposed pump (d) Required PV array P max in watts of each pump in case of solar pumps (e) No. of pump house for TW (f) Major Litho- geomorphic (g) stage of Ground water development	
17	(III - B) In case of Surface source Type of source – River with name/WRD Reservoir/Check Dam/Pond (b) Catchment Area (c) Average Rainfall in mm (d) Perennial/when flow seizes based on gauging data (f) State level Water Reservation NOC obtained? (g) If impound reservoir to be created specify L x W x D in meters/and Capacity at Full Reservoir Level (FRL) Note: *Strike out whichever is not applicable*	
18	Intake well cum pump house Depth and Dia / capacity of gantry	
19	Raw Water Pumps –Type of Pump/ TDH / discharge (lpd) /Nos. /HP/in case solar P max of PV array	
20	Raw Water Pumping Main – Type of Pipe/Length/Dia	
21	Water Treatment Plant (WTP) – Type of Plant / Capacity / CW Sump capacity / Size of clear water pump house L x W x H / capacity of gantry / disinfection system	
22	Clear Water Pumps –Type of Pump/ TDH / discharge (lpd) /Nos./HP/in case solar Pmax of PV array	
23	Clear Water Pumping Main/s – Type of Pipe/Length/Dia	

24	Storage Reservoir/s – Capacity/Staging	
25	Water Distribution Network - Type of Pipe/Length/Dia	
26	Raw Water Quality Monitoring a) Pre monsoon b) post monsoon	
27	Consumer Water connection line cost	
28	Total Estimated Cost	
29	Per capita cost on present population	
30	Per capita cost on design population	
31	Annual O&M cost	
32	Per capita cost of O&M	
33	Proposed tariff : Domestic / Commercial	
34	Proposed Water Supply at different stages – no of domestic connection/stand posts	
35	Anticipated Revenue at different Stages	
36	Agency for O&M	
37	Amount for awareness generation and Capacity building of GP/VWSC	
38	Amount for Source sustainability measures	
39	Provision for safe disposal of waste water	

2. Location

2.1 Indicate details of the village or villages included along with en route villages in scheme i.e., location - latitude & longitude based on GPS , Panchayat, Block, Tehsil, District, distances from important places, Legislative assembly , Parliamentary constituency etc.

2.2 Topographical maps with total station survey must be got prepared before preparation of the scheme as the maps prepared by Survey of India do not show all the streets, also the length of the streets and nodal levels may not match with ground reality and new habitations may not be included in these maps. Topographical maps must include all habitations of the census village, existing water sources, road network with existing side drains, all built up structures such as human settlements institutions etc

2.3 Some more details of the village, main activities like water sources, any commercial activities or industries, any historical importance, natural resources, rail and road connectivity, details of bus stand, railway station, market, schools and anganwadis etc.

2.4 Long Period average rainfall and details of actual rainfall of at least last five years be taken. The details may be based on data of rain gauges installed at tehsil/block headquarters, if rain gauges are not installed there then data of rain gages installed at nearby Irrigation dams/ reservoirs. However where there is no such facilities available, the district rainfall data is the only source to be used. A provision of automatic weather station comprising of temperature meter, Rain-gauge, relative humidity meter, evaporation meter to be incorporated in comprehensive piped water supply scheme.

3. Project Execution and Design Period

a) Project Execution Period

The time lag between Preparation design, tendering, Construction and Completion/ Commissioning of the proposed scheme should not exceed as specified under

i). Mini pipe water supply scheme	upto 01 years
ii). Standalone water supply scheme	01 to 02 years
iii). Multi village water Supply scheme	02 to 03 years

b) Project Design Period

Project components may be designed to meet the requirements of the following design period

S No.	Items	Design period in years
1	Source a. Surface b. Ground Water	 30 20
2	Intake works	30
3	Pumping	
	i. Pump house (Civil works)	20
	ii. Electric motors and pumps*	10
4	Water Treatment Units	20
5	Pipe connection to several treatment units and other small appurtenances	20
6	Raw water and clear water conveying mains	20
7	Clear water reservoirs at the head works, balancing tanks and service reservoirs	20

	(overhead or ground level)	
8	Distribution system	20

* The stars rated (electric motors- energy efficient and pumps may be used.

4. Population

4.1 Total no of revenue villages and all their habitations should be listed with their code nos. in the schemes and the total population specifying the population of SC/ST/OBC and minority population separately. Latest census (2011) population, likely present population as per GP records, no. of households should also be used.

4.2 Estimation of design population for the proposed water supply scheme size by considering the census data of past decades, for population projections with different mathematical models as shown under:

S. No.	Mathematical Models
1	Arithmetical Increase Method
2	Geometrical Increase Method
3	Incremental Increase Method
4	Line-fit Graphical Method a. Exponential Trend Curve b. Linear Trend Line
5	Decadal growth Method

The design population will have to be estimated with due regard to all the factors governing the future growth and development of the project area in the industrial, urbanization, commercial, educational, social and administrative spheres. Special factors causing sudden emigration or influx of population should also be foreseen to the extent possible. Lag period shell be considered 1-3 years depending on the project. A judgment based on these factors will help in selecting the most suitable probable trend of population and shall be adopted accordingly. This design population figure should then be used to calculate water demand for the proposed water supply scheme.

5. Water Demand

a. *Domestic Needs*: Recommended per capita water supply level for designing of the scheme for domestic purpose shall be adopted @ 40 LPCD or as notified by state government for household connections.

b. *Institutional/Industries and Commercial Demands:* The water requirement for the institutions shall be provided in addition to domestic water demands with due consideration to present and likely upcoming institutions during design period like government and other offices, hospitals, hostels, nursing homes, boarding and day schools/ colleges, residential

hotels cinema, concert halls, tourist influx etc subject to minimum provision of 5% of domestic needs (or actual situation based demand). The forecast of water requirement for the small scale industries and commercial establishment shall be based on nature and magnitude of the future development of the area with due consideration to the natural resources and other desired factors during the design period etc depending upon the potential/ growth.

c. *Fire Fighting Demands* : Provision for firefighting demand to be met through hydrants shall be governed by the mathematical formula $100\sqrt{P}$ where P is population in thousands and quantity shall be in kilolitres subject to minimum provision of 5% of total water demand (a+b+c) with reference to IS:166A.

d. *Line losses:* Provision for losses of water in pipe lines (raising mains and distribution system) including UFW/NRW shall be limited to 20% of the total water demand. In addition to this 3% to 5% provision shall be made on account of backwash in case of WTP only of total water demand.

e. *Live Stock Demand(in DDP areas)* : The water requirement for the live stock demand shall be provided in addition to domestic water demands with due consideration to present and likely population of livestock (habitation wise) shall be accessed over the design period subject to minimum provision of 30 liters per unit per day of domestic needs for DDP areas. However, for non DDP area additional demand for cattle shall be met from alternate exiting local sources at habitation. The DPR may also include:

- Details of proposed sources, details of proposed conjunctive use of water for different purposes from surface water, ground water, rain water, recycled water.
- Details of traditional sources of water in the village, present use, proposed use, revival, repairs or augmentation of any such sources proposed in the scheme.
- Details of assessment of safe yield for all the new or existing sources, proposed to be used as source of scheme.
- Water quality parameters for pre and post monsoon period of various sources including all proposed sources should be annexed.

6. Present status of Water Supply and Sanitation

6.1 Details of all present sources including Open Wells, Tube wells, Hand pumps, Ponds, Reservoirs, Lakes, Springs etc. with approximate sizes and capacities.

6.2 Water use from all above sources. Water levels and yield with seasonal variations. General geology of the area, Hydro geo morphological details etc.

6.3 Present arrangements of drinking water supply in the village, per capita availability with seasonal variations, general water quality and problems related to drinking water supply.

6.4 Details of Sanitation status including coverage through Individual household toilets and details of existing Solid waste and waste water disposal systems, NGP status and health issues, if any.

6.5 Details of all the schools and anganvadis in the village, private or Govt. and details of their existing water supply and sanitation arrangements.

6.6 Present O & M arrangements for water supply scheme of the village. Agency for O & M, no. of private household/ other connections (commercial/industrial etc) if any, no of public stand posts, status of metering, water rates, cycle of billing (once in a month or once in two months etc.), percentage recovery against billing, annual expenditure on O&M against revenue recovery. Any Govt. subsidies or grants such as O&M grant or electricity subsidy etc, Central or State Finance Commission funds received during last few years and details of their use.

7. Institutional set up and details of formation of VWSC

Give details of institutional setup including the formation of the Village Water and Sanitation Committee (VWSC) with details of women members etc. as per NRDWP guidelines, role of VWSC in present O&M activities, if exiting, in preparation of this scheme and proposed role in its O&M should be described clearly. Gram panchyat / VWSC shall be willing for preparation and construction of the new scheme. In initial stage, at least 75% households shall have willingness to take individual tap connection.

Give details of awareness generation and training activities cost and agency proposed formation and capacity building of VWSC, about 2-3% of project cost can be set apart for this.

The G.P./VWSC shall have a willingness to contribute 5% of the cost of the scheme upfront as corpus fund for O & M of scheme ,which shall be return back by State to concerned GP/VWSC every year in part (in next 5 years), if the scheme is operated and maintained properly throughout that year. This will result in regular operation of the scheme and also help in supporting the expenditure incurred for its maintenance.

8. Details of preparation of Water Safety and Security Plans

The plans must be prepared in accordance with NRDWP guidelines. List out the agencies involved in preparation of the Water Security Plan such as GP, any NGO, any CSO, SHGs, Govt. departments or other govt. agencies such as Ground Water Board etc, any other youth club/ agency involved with their roles and contribution.

8.1 *Community participation* - Details of community participation in planning of the scheme, in need assessment, proposed role in implementation and O&M etc, using Service Delivery Approach (SDA) with due consideration to life cycle cost LCC of each component in integrated manner of proposed water supply system based on techno-economical feasibility over the design period to ensure sustainability.

8.2 Details of women participation and consultations with them, either as members of VWSC or otherwise, for all the above activities

8.3 List the no. and details of HGM maps used, other resources in preparation of the VWSP.

8.4 *Water Safety Plan*- A Water Safety Plan will also be made as a part of this village water security plan using scientific planning tools i.e. remote sensing / GIS in conjunction with watershed. This Water Safety Plan can be prepared specific to a scheme as per standard

methods, prescribed for it. The Water safety Plans are primarily made to prevent contamination of source waters, to treat the water to reduce or remove the contaminants that could be present and to prevent recontamination during storage, distribution and handling of drinking water. Developing a water safety plan would involve conducting hazard analysis of the water supply scheme, identification of the control measures, defining operational limits, establishing monitoring system, establishing corrective actions and incident response, establishing record keeping and validation &verification.

8.5 *Water Security Plan*- Details of the final Village Water Security Plan including the Water Safety Plan, availability of various water resources and their proposed conjunctive use for different activities, details of Water recharging and conservation measures proposed, rain water harvesting, convergence with other programmes and how drinking water security is proposed to be achieved by implementation of the VWSP. A Copy of the VWSP is to be annexed with the DPR.

9. Proposed Scheme – Details of Scheme Components

Hydraulic and Structural (where ever necessary) designs of all the major components of the scheme, such as dam / anicut or pickup weir/ intake well cum pump house, infiltration gallery, pump houses, raw and clear water pumping mains / water treatment plant including underground sump / raw and clears pumps and motors / transformers and solar systems, conveyance mains, distribution system including over head or ground reservoirs, any sustainability structures such as check dams or dykes etc. must be done as per standard engineering practices and applicable manuals and codes of the Bureau of Indian Standards IS-3370 part I to IV to be used for water retaining structures. Based on such designs, details of the following major components should be given in the scheme:

9.1 *Source:* It shall be ensured that source/s so selected shall be capable of meeting water requirement of the system for the design period with due consideration to climate change & anticipated activities in & around as well as in the upstream of the source. Normally, source dependability shall not be less than 100%.

Whether surface source if so selected is perennial or non-perennial. If non-perennial then desired impounding reservoir shall be created with necessary structural protection works to meet the lean period demands considering rainfall data of the catchment area and available gauging data so as to ensure sustainable source in accordance desired guidelines with due consideration to losses like seepage, evaporation and upstream activities with 100% dependability of the live storage. Catchment area treatment and protection shall be given top priority to ensure the source sustainability with due consideration to design period.

If surface source including impounding reservoirs/ dams (present / upcoming reservoir) which belongs to Water Resource Department (WRD) is selected, the salient features of the source and necessary permission of WRD for providing desired quantity of water for drinking water system proposed shall be enclosed.

In case of ground water sources, the decision for providing no of tube wells shall be considered based on availability of 3 phase electricity (in hours per day). To ensure the sustainability of ground water source long term summer yield test should be conducted to access specific yield. Considering summer draw down and accordingly cone of interference spacing between two tube-wells shall invariably preferably be 500 meters. For the selection

of proposed T.W's advance geophysical /resistivity survey technique shall be adopted for estimation of the yield.

Water Quality test results for both chemical and bacteriological of existing sources and proposed sources shall be conducted as per BIS to meet requirement of standards of drinking water. The details may be furnished as per Annexure-I.

9.2 *Intake System:* Preferably stationary bank /appropriate RCC intake for river as a source shall be provided in case of surface source with approach if required. Capacity of intake shall be provided for 45 min of the total water demand. Diameter shall be fixed in such a way to accommodate at least 3 pumps in a row with the clear spacing of 1.5 m in between. Considering the future requirement and expansion from time to time space for additional row of 2 / 3 pumps and 3 inlet port sluice valve with spindles shall be provided. Depth of intake well shall be decided in such a way that floor of the pump house shall be 1.5 m above HFL. Provision for siltation chamber shall be made in the bottom of intake well. In case of reservoir as a source provision of head up / diversion weir shall be considered along-with appropriate intake system. Clear head room of pump house over intake shall not less than 6m.Suitable manually operated gantry shall be provided subject to minimum of 5MT.

9.3 *Raw Water Pumps:* Suitable raw water pumps (specify type of pump) shall be provided 50% standby (at least minimum one unit additional) arrangement (Number of pumps shall be selected in a such manner to ensure optimal running considering required water demands over the period subject to minimum of 4 pumps) including installation and testing commissioning in accordance with norms and the required discharge (considering availability of electricity) and total design head along with all necessary accessories like cables, control panels, safety equipments, valves and fittings etc.

In case of erratic/ failure of electricity provision for solar based pumping system shall be made in conjunction to ensure minimum water requirement for drinking and cooking etc as per BIS norms and manual specification for multi village piped water supply scheme and dual pump mini solar based water supply systems. Solar pumping system which consist of photovoltaic array (PV panels) with auto tracking system confirming to BIS/MNRE/IEC guidelines duly certified as well as pumps powered with DC motors with controller including mounting structure, accessories and fittings, foundation etc with required specifications shall be provided. In case of solar based dual – pump mini water supply schemes water system shall be planned in accordance with guidelines issued by DDWS subject to validation and requirement of field data (Attach hydraulic designs).

9.4 *Electric Sub Station for Raw Water Pumps:* Based on the requirement of Pumps load and other accessories suitable step down transformers shall be provided including all accessories and fittings with 50% standby (at least minimum one unit additional) arrangement. Suitable provision shall be made for extension of HT line from existing available point to intake site in consultation with electricity board / agencies. Provision for dedicated power feeder from nearby 133/33 KVA sub-station to intake site to be incorporated in case of very large sized/ mega projects and as per site techno-economic feasibility

9.5 *Raw water Pumping/ Gravity Main:* Raw Water conveying main shall be designed in accordance with the laid down norms for ultimate design period (calculation supported by

appropriate software considering the different stages water demand etc), based on the principle of techno-economic feasibility and financial viability with due consideration to number of factors/parameters which affects the design. The minimum and maximum velocity shall be considered 0.60m/sec to 2m/sec while designing conveying main. Provision for necessary sluice valves, scour valves, air valves, zero velocity valves, required surged devices etc shall be considered and provided in accordance with requirement of topography and technical norms.

Village piped water supply systems covering population 10,000 persons or more in the habitations to be covered, preferably using durable and good quality pipe shall be provided to ensure the sustainability with due consideration to pressure requirement including water hammer, necessary surface protections and higher pipe carrying capacity etc.

9.6 *Electric Sub Station for Clear Water Pumps*: Based on the requirement of Pumps load and other accessories suitable step down transformers shall be provided including all accessories and fittings with 50% standby (at least minimum one set unit additional) arrangement. Suitable provision shall be made for extension of HT line from existing available point to WTP site in accordance with laid down norms in consultation with electricity board / agencies. Provision for dedicated power feeder from nearby 133/33 KVA sub-station to water treatment plant be incorporated in case of very large sized/ mega projects and as per site techno-economic feasibility.

9.7 *Clear water Pumping/ Gravity Main* : Clear Water conveying main shall be designed economically for ultimate design period (calculation supported by appropriate software considering the different stages water demand etc), based on the principle of techno-economic feasibility with due consideration to number of factors/parameters which affects the design. The minimum and maximum velocity shall be considered 0.60m/sec to 2m/sec while designing conveying main. Provision for necessary sluice valves, scour valves, air valves, zero velocity valves, required surged devices etc shall be considered and provided in accordance with requirement of topography and technical norms.

9.8 *Clear Water Pumps*: Suitable clear water centrifugal pumps shall be provided 50% standby (at least minimum one unit additional) with the required design discharge (considering availability of electricity) and total design head along with all necessary accessories like cables, control panels, safety equipments, valves and fittings etc.

In case of lack of electricity, provision for solar based pumping system may be made considered. Solar pumping system which consist of photovoltaic array (PV panels) with auto tracking system confirming to BIS/MNRE/IEC guidelines duly certified as well as pumps powered with DC motors with controller including mounting structure, accessories and fittings, foundation etc with required specifications shall be provided. Solar based mini water supply schemes shall be planned in accordance with guidelines issued by DDWS subject to validation and requirement of field data.

9.9 *Water Treatment Plant:* Based on the raw quality requirement necessary unit for the water treatment system shall be decided as per the prevailing engineering practices so that it will deliver desired quality of treated water. It shall be ensured that WTP components shall be so designed to permit a 20% overload.

Considering the system sustainability of O&M, preferably for the rural water supply smaller systems slow sand filters (SSF) technology, shall be adopted in conjunction with horizontal roughening filters (HRF) and or plain sedimentation (PS) as well as aeration unit if required as a pre treatment system as per requirement of raw water quality. Rate of filtration for SSF shall be adopted 0.1 to 0.2 m/hr. For HRF rate of filtration will be 0.8 to 1.2 m/hr including gravity feed disinfection system. Collecting sump well capacity shall be kept in between 45 min to 60 min. The hydraulic design need to be attached. All filter components shall be designed in accordance with the laid down norms. In-case of provision of rapid gravity filters, HRF followed by PS shall be adopted as a pretreatment.

9.10 *Over Head Reservoir (OHR):* The capacity of service reservoir shall be 1/2 of total designed demand based on 20 years of design period. The design of service reservoir shall be based on safe bearing capacity of the soil; a due consideration shall be taken for type of soil (Black cotton soil) to avoid unequal settlement and for seismic requirements of the area, preferably raft foundation may be considered in the designs of the reservoir. The staging of overhead service reservoir shall be decided on the basis of Total frictional losses in the carrying system + Residual head required - /+ Positive /Negative static level difference (ground level of service reservoir – maximum ground level of distribution mains). The residual pressure (Terminal head) shall be consider in view with the trend of growth of the village (may be from 7 to 12 meter).GL. Overhead tank shall be preferably placed on higher altitude/ elevated ground as well centrally located in consideration with availability of land(attach structural design).

9.11 *Water Distribution Network (WDN):* The distribution system shall be designed as gravity system but not be as pumping system. Network of distribution mains along both sides of the Railways and National Highways falling within habitation/village, and bulk water meters, valves, specials, valve chambers etc. shall be incorporated in the proposal. The distribution layout should be such as to facilitate isolation of sections, metering for assessment and control of leakage and wastage. Elevation of service reservoir shall be kept so as to maintain minimum residual pressure. Zoning in the distribution system ensures equalization of water supply in the area. It shall be ensured that zones shall be interconnected.

The friction losses on account of fittings; valves, specials etc. to the extent of 15% maximum may be added to calculate total losses (attach hydraulic Design).

Design norms for WDN

a. *Peak factor*	3	
b. *Minimum Pipe Size*	80 mm	
c. *Minimum residual Pressure*	(i)	7 m for single storey
	(ii)	12 m for double storey

d. *Type of pipe:* the pipe materials to be used in rising & transmission mains, distribution network etc. shall be selected, based on the specific design requirements including local conditions. It should be governed by the State Pipe Policy.

e. Provision for giving households connection through ferrule in WDN

9.12 As per the strategy plan of ministry of Drinking Water and sanitation, Government of India, at least 55 % households shell be provided with service connection within their premises by 2017 and 90% households to be provided service connection by 2012. However the State Government may decide to provide more house hold connections depending on the feasibility.

9.13 *Source Sustainability structures*: Sustainability structures with details of convergence with other programmers, works proposed to be done under MGNREGS. Block level action plan shall be developed for sustainability structures using GIS as a tool based on remote Sensing.

9.14 *Waste water disposal arrangements*: Details of waste water disposal arrangements/ management should be provided and should be incorporated in all DPRs through low cost measures like stabilisation ponds and other options by convergence with MNREGS, NBA, etc.

9.15 *Water use efficiency*: Provision of bulk water meters at rising main shall be made at the entrance of each gram panchayat /habitation.

9.16 *Reduction in NRW/UFW*: The cost of the consumer's connection should be incorporated in the project cost, which can be recovered from them with the water bills over a period of time, so as to provide water connection as per specification for reduction in NRW/UFW.

9.17 *Provision of SCADA:* SCADA may, preferably, be incorporated in case of multiple village scheme (Major /Mega schemes) depending upon techno-economic feasibility.

9.18 For efficient functioning of pipeline system of the project suitable provision shall be made for leak detection as well as swabbing instruments along with support of capacity building activities.

10. Cost Estimates

10.1 Detailed estimates for each component of the scheme shall be prepared in accordance with design and drawing shall be enclosed. Life Cycle Cost Approach (LCCA) of each component in integrated manner of proposed water supply system based on techno-economical feasibility over the design period to ensure sustainability may be followed. For further details given in para-11 may be referred.

10.2 Rates for each item of work shall be based on the current schedule of rates applicable in the area. If this schedule is not updated, then the prevailing rates above this schedule shall be used and as a proof of this (with rate analysis), copies of some sanction orders of approval of such rates for other neighboring works shall be enclosed. Prevailing rates of materials for items like pipes and pumps etc shall be used in preparing these cost estimates

and copies of relevant rate contracts/ price lists etc for such major components shall also be attached with the DPR.

10.3 Per capita cost, based on these cost estimates shall be worked out for the census population, for the present population and also for the design population and will be compared with the prevailing per capita cost of other schemes in the area. Details of funding and year wise requirement of funds shall be given.

10.4 The land required for construction of head works and other structures like overhead tanks, ground level reservoirs etc shall be arranged by the panchayat free of cost. In case panchayat land is not available, the land required shall be arranged/purchased by the State Government from own resources.

10.4 Approval of DPR is mandatory from SLSSC for all projects funded under NRDWP /external agency. Before placing the DPR to SLSSC, appraisal of same is mandatory from third party expert/agency/STA.

11. Life-Cycle Cost Approach

11.1 Given the project's objectives and after having arrived at the demand forecast, the next task is to identify the options or alternative ways of producing the required project output. The selection of the least-cost alternative in economic terms from the technically feasible options promotes production efficiency and ensures the most economically optimum choice. The alternatives considering factors like different designs and technologies; different scale (large/ mega projects) and time phasing of the same project; different sources of water supply, the project components in different feasible locations and also need not be limited to technical or physical ones only but could also include options related to policy of the State. Further, it must be noted that conventional least-cost analysis approach, while ensuring production efficiency, does not provide any indication of the economic feasibility of the project since even a least-cost alternative may have costs that exceed the benefits (in both financial and economic terms).

11.2 The options related to policy measures may include demand and supply management. The options considered must be realistic, not merely hypothetical and should be implementable.

11.3 Once the feasible alternatives are identified, the next step is to estimate the entire life-cycle costs (initial capital costs and future operating and maintenance costs) weighing for each option first in financial prices and then in economic prices by applying appropriate shadow price conversion factors. Estimating the entire life-cycle costs involves close cooperation between the economist and the engineer and shall be done with the help of STA/ Expert.

11.4 Finally, the discounted value of the economic costs for each option is to be worked out using the prevailing economic discount rate. On this basis, the alternative with the least economic cost can be selected. The different methodological approaches may be followed.

11.5 Initially, the life-cycle cost approach shall be practiced in preparation of DPRs of medium/large/ mega projects including schemes for multi habitations. Further details are given in Annexure-II.

12. Operation and Maintenance

12.1 Annual Running and Maintenance estimate to be prepared giving details of estimated expenditure on all major components such as electricity, chemicals, manpower/ labour, repairs and maintenance of electrical / mechanical works, civil works and pipe lines etc.

Further, suitable formats for maintenance of different activities shall be prepared in shape of job card and furnishing with all required information regularly, so as to assess annual material requirement, trend of preventive maintenance and activity wise frequency of breakdown which will help supervisor/ operator to check the frequency of breakdown and also to reduce the downtime which may also leads to reduce the maintenance cost of the scheme.

12.2 The cost of installing household water meters and initial household connection charges shall be levied to consumers in full or installments. Calculation of water rates and proposed tariff based on the estimated O&M expenditure may be indicated. Proposed mechanism of cost recovery with details of total annual expenditure, revenue to be realized from private connections/ stand posts, details of proposed deposits for new connections, subsidy structure for weaker sections, differential rates, any govt. subsidies or grants for O& M, Central/State Finance Commission funds, shortfalls of expenditure and recovery, if any and how the balancing is proposed.

12.3 Details of institutional mechanism, details of personnel available for the proposed scheme, additional persons to be arranged/hired, mechanism of billing, accounting, bank account to be opened or existing account to be used, account operation details.

12.4 Procedure of Audit to be followed for implementation and O & M, social audit and the financial audit by C.A.

12.5 Details of grievance redressal system may be given.

13. Water Quality Monitoring

13.1 Present status of water quality of drinking water sources to be given. If the scheme has been proposed for mitigation of any of the water quality problems, the latest water quality test reports of the affected sources are attached and full description be given in the DPR.

13.2 Present arrangement of WQ testing, availability of FTKs in the GP and its use and other available testing facilities, cross checking protocol be mentioned.

13.3 Present and proposed arrangement of community participation. Role of PRI, VWSC, ASHA workers, Anganwadi workers, any social workers, NGOs, schools or hospital/PHC and trained persons of NRDWQMS programme be specified in water quality monitoring and surveillance of the scheme.

13.4 Display of Water Quality test results of drinking water sources for community knowledge & use and details of record keeping and reporting.

14. IEC and HRD activities

14.1 Brief description of the PRI structure, VWSC details and details of the O & M agency if it is different, available staff / workers for activities related to the village water supply with their expertise & experience, available skills in the village and identification of improvement needs at different levels.

14.2 Details of proposed programmes and trainings for capacity building of the PRI & VWSC members, other workers and the O & M staff. These programmes and trainings or visits etc. be designed to suit the specific local needs of the water supply system. Further, to ensure efficiency and sustainability swabbing and leak detection shall be the part of regular OM of pipe line system for which necessary provision and capacity building shall be made.

15. Other Designs Norms & Practices

The attempts shall be made to follow well laid design and estimation norms published by BIS, the Government of India /State Government & Ministry of Drinking Water and Sanitation from time to time ,the due reference should be provided in DPR adopting the same.

16. Scheme Completion Schedule

16.1 A time schedule for completion of the scheme works shall be prepared in form of CPM/PERT chart and will form part of the DPR. Schedule of completion for each item of the scheme will be given in this. It shall be prepared in a simple Bar Chart format easily understood and used by the field staff of the implementing agency, PRI, the VWSC and the user groups,.

This may be prepared taking the date of Administrative Sanction of the proposed scheme as day one and from that date, time requirement for various activities such as detailed survey, if required for some item of work, preparation of the detailed notice inviting tenders, issue of tender notices, receipt and processing of tenders, issue of work orders, various stages of material procurement like pipes, specials and pumps etc, actual construction activities, electrical connection, starting of trial run and commissioning, O & M period by the implementing agency during which the staff of the O & M agency will also be involved and trained on different aspects of maintenance of the scheme. All the local site conditions, festivals, seasonal problems in labour availability etc. must be kept in mind while deciding the time periods for various activities so that a realistic completion schedule is made and adhered to.

16.2 This completion schedule shall also include the activities related to the IEC and HRD from beginning to the handing over of the scheme to the O & M agency.

17. Completion Reports

17.1 The scheme implementing agency shall prepare a completion report and submit it to the O & M agency, this report shall be prepared even if both the agencies are same. These completion reports shall also include the following information/documents:

17.2 Details of actual works executed under the scheme with quantities, sizes, other specifications and item wise expenditure incurred with details of total expenditure on the execution of the scheme.

17.3 A map giving details of all the scheme components, pipelines, location of all the valves with types, sizes and lengths of all the pipes used. Drawings and designs of all the major works such as treatment plant pump houses, all the tanks etc must also be made available to the O&M agency.

17.4 A check list for regular O & M and essential items for preventive maintenance with a descriptive note on how the valves are to be operated, how various pumps are to be operated, treatment procedures, disinfection procedures with details of the chemicals, their specifications and shelf life, and quantities/doses etc be clearly mentioned.

17.5 Details of main items and equipments used such as pipes, valves, water meters, pumps and other electrical equipments used in the scheme, their full technical specifications and manufacturer's warrantees etc with their copies be given.

17.6 Procedures and protocol for water quality testing, its frequency and parameters to be tested etc. and details of the action to be taken, if the test results are not found as per specifications.

17.7 Details and procedure of record keeping such as pump log books, register of chemicals and other consumables, valve operations, meter readings, water sample testing and financial accounting etc.

17.8 List of quantities of various consumables and other pipes and specials etc required for one year's operation and maintenance of the scheme and details of requirement of funds for annual O & M including energy charges, cost of chemicals and other consumables, civil and electrical & mechanical repairs and labor etc complete.

17.9 Details of land acquisition for the scheme, if any, with copies of the documents, copies of any other agreements, such as for electrical connection or for taking raw water from a reservoir etc.

18. Approval of Projects

18.1 The DPR prepared as suggested above by PHED/ Water Board/Nigam/Agency must be signed by the competent authority after obtaining approval from concerned Panchayat Raj authorities etc. All future domestic water supply projects should invariably include all the components and aspects etc. referred herein this document.

18.2 A Project Appraisal Cell at the State level and the State Technical Agency (STA) or identified technical body by the state government should vet the quality and design of the project proposals (DPRs) before placing them to the State level Scheme Sanctioning Committee (SLSSC).

18.3 The state government department shall initiate preliminary survey, preparation of pre-feasibility report having focus on water source sustainability and social aspect scoping as per Annual Action Plan (approved by SLSSC) for the state after which DPR should be prepared as envisaged in this document for obtaining approval of SLSSC.

Annexure-I

ANNEXURE I

DETAILS OF DRINKING WATER SOURCES AND THEIR UTILIZATION FOR THE PROPOSED PROJECT

Sl. No	Description of Drinking Water Sources	No. of Sources	Existing or New Proposed Sources	Total Quantity of Water to be Used for the Scheme(KLD)	Water Quality of Source	Remarks
1	Dug wells/open wells					
2	Tube wells/bore wells					
3	Springs					
4	River					
5	Reservoir/ponds/lakes					
6	Canal					
7	Infiltration gallery					

Add other sources if needed.

Annexure-II

Brief on Life-Cycle Cost Approach

Methodology

1. Life-Cycle Cost (LCC) approach analyses the aggregate costs of ensuring the delivery of adequate, equitable and sustainable water supply services to a population in a specified area. Unlike the conventional Least Cost assessment, the life-cycle costs approach adopted for water supply cost does not address project evaluation, but adopts a service delivery approach, i.e., it assesses the costs for providing a certain level of service in a sustainable manner. It looks at the costs that have gone into service provision rather than incorporating all the costs that are demanded in a project evaluation frame. The costs assessed in water supply cost cover the construction and maintenance of systems in the short and long term, taking into account the need for hardware and software, operation and maintenance, the cost of capital, source protection, and the need for direct and indirect support costs, including training, planning and institutional pro-poor support. The delivery of sustainable services also requires that financial systems are in place to ensure that infrastructure can be renewed or replaced at the end of its useful life and to extend delivery systems in response to increases in demand

Components of Life-Cycle Costs

2. Cost components include not only the construction and operational costs but also the capital maintenance and IEC (information, education and communication) costs.

Cost components and calculations

3. Capital expenditure (CapEx) has two components, namely hardware (CapEx-Hrd) and software (CapEx-Sft). CapEx-Hrd is the establishment of water infrastructure, water extracting elements, purification equipment, storage reservoirs, distribution systems, etc. CapEx-Sft includes the costs of planning and designing the water and sanitation schemes at habitation level. The capital costs, hardware as well as software are one-time costs. All the CapEx investments are cumulated over the years. All costs are converted to current values using the National GDP inflator for the specific years.

4. Capital maintenance expenditure (Cap-Man Ex) is another major expenditure head is spent on renewal and rehabilitation of systems i.e. replacement of major equipment like pump sets, boreholes plant equipment, distribution systems, etc. Cap-Man Ex is also summed over the years and converted to current values.

5. Operational expenditure (OpEx) is spent on the regular maintenance of the systems. OpEx is the responsibility of the panchayati raj (local government) institutions.

6. Expenditure on direct support (ExDS) is defined as the investments or expenditure on support during post implementation of the water supply systems. These could be in the form of IEC activities, demand management initiatives etc.

7. Expenditure on indirect support (ExIDS) is the costs associated with macro planning and policy making at the national and state level.

8. The cost of capital (CoC) is the interest payments on any borrowed money.

9. CapEx-Hrd and the CapManEx are annualised using the normative life span and actual life of the systems. The component normative life spans for hardware such as boreholes, pumps, pump houses, overhead reservoirs, hand pumps, etc is the actual number of years the component lasts. Comparing these two one can assess whether the actual cost of provision is more or less than the estimated costs.