

GREATER VISAKHAPATNAM MUNICIPAL CORPORATION

TN.No.06/2015-16/DPR/SE(P-II)/EE(UGD)/GVMC, Dt:06-07-2015

**Request for Proposal (RFP)
"Consultancy for preparation of D.P.R.
For comprehensive UNDER GROUND DRAINAGE TO BHEEMILI CONSTITUENCY
in
Greater Visakhapatnam Municipal Corporation Limits**

RFPs are invited from Leading Engineering Consultancy firms for rendering services as 'Consultancy for preparation of D.P.R. For comprehensive Under Ground Drainage improvement scheme in Greater Visakhapatnam Municipal Corporation limits, Bheemili constituency'. The documents containing terms & conditions may be downloaded from website of www.gvmc.gov.in from **06-07-2015**. Your completed technical and financial proposals must be delivered to this address on or before **3.00 PM on 22.07.2015** **duly enclosing Rs.10,000/- Demand draft drawn in favour of 'The Commissioner, GVMC'**.

For more details contact: Greater Visakhapatnam Municipal Corporation
E-mail: sep2gvmc@gmail.com
Cell Nos. : Dy.EE: 9912349444
S.E(P2) : 9912199298

**Sd/-
Superintending Engineer
GVMC**

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REQUEST FOR PROPOSALS

CONSULTANCY SERVICES FOR PREPARATION OF D.P.R.

FOR COMPREHENSIVE UNDER GROUND DRAINAGE SCHEME

IN

BHEEMILI CONSTITUENCY

GREATER VISAKHAPATNAM MUNICIPAL CORPORATION LIMITS,

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Part I
Information to Bidders

CONSULTANCY FOR PREPARATION OF D.P.R.
FOR COMPREHENSIVE UNDER GROUND DRAINAGE SCHEME

in

GREATER VISAKHAPATNAM MUNICIPAL CORPORATION
BHEEMILI CONSTITUENCY

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COVER- 'A' TECHNICAL PROPOSAL

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CONSULTANCY FOR PREPARATION OF D.P.R.
FOR COMPREHENSIVE UNDER GROUND DRAINAGE SCHEME FOR
GREATER VISAKHAPATNAM MUNICIPAL CORPORATION
BHEEMILI CONSTITUENCY

1. OBJECTIVE

The main objective of the consultancy is to prepare a D,P.R. for Comprehensive Under Ground Drainage improvement scheme for Greater Visakhapatnam Municipal Corporation.

Request for Proposal:

Technical bids and price bids are invited from reputed Consulting firms with a view to entrust the preparation of detailed project report of Comprehensive Under Ground Drainage improvement scheme, **Bheemili Constituency**. The Consulting firm will be selected based on Quality and cost based selection procedure described in this document.

2. Eligibility Criteria Technical Bid:

Sealed bids are invited from intending eligible bidders and a two cover system (Technical proposal and Financial Proposals in two separate sealed covers) for Preparation of Detailed Project Report of Comprehensive Under Ground Drainage improvement scheme to the GVMC, **Bheemili Constituency**.

- (i) The bidder should have completed at least one Under Ground Drainage any D.P.R. for any town or city whose population is not less than One Lakh (as per census 2011) in any one financial year during the last five years i.e. **from 01-04-2010 to 31-03-2015**.
- (ii) The Annual turnover of the bidder should not be less than Rs.1.00 Crore in any one financial year during the last five years i.e. **from 01-04-2010 to 31-03-2015**.
- (iii) Joint Venture is allowed.

Your proposal in response could form the basis for future negotiations and ultimately a contract between your firm and the Project Coordinator (the client) may materialize. The contract will be a lump sum contract with payments based on outputs indicated in the subsequent paras.

Please note that the costs of preparing the proposal and of negotiating the contract, including a visit to the town/s and to the Client's offices are not reimbursable as a direct cost of the Assignment. We wish to remind you that in order to avoid a

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conflict of interest, any firm providing goods, works or services with which you are affiliated or associated may not be eligible to participate in bidding for any additional goods, works or services associated with this assignment unless specifically agreed upon by the Client. This clause will be invoked wherever applicable.

To enable you to submit a proposal, please find enclosed the terms of reference (ToR) for this Proposal. This includes the purpose and scope of the Proposal, the envisaged tasks, the expertise required along with inputs, the outcomes and deliverables and the reporting schedule and timings.

II. PREPARATION OF PROPOSALS

Technical Proposal

1. Format for the technical proposal is in the TOR including the format for CV's which should be followed. The Bidders are expected to examine the documents in detail before submission of proposals.
2. For assignments on a staff-time basis, the estimated number of Professional staff in person months is only indicative. The proposal shall, however be based on the number of professional staff that will be deployed in person months estimated by the firm.
3. A brief description of the firm's organizational setup and an outline of recent experience on assignments of a similar nature. For each assignment, the outline should indicate, inter alia, the profiles and names of the staff provided, duration of the assignment, and firm's involvement.
4. Any comments or suggestions on the terms of reference.
5. A description of the methodology and work plan for performing the assignment.
6. The list of the proposed staff team and specialization, the tasks that would be assigned to each staff member, and their timing. CVs of the proposed professional staff duly signed, should be submitted. Key information should include number of years working for the firm/entity, and level of responsibility held in various assignments during the last ten (10) years due additional weightage will be awarded for professionals having good and relevant experience in the field of UFW/NRW studies.
7. Estimates of the total staff effort (professional and support staff; staff time in man months) required carrying out the assignment, supported by bar chart diagrams showing the time proposed for each professional staff team member.
8. Each key staff proposed shall be associated with only one consultant
9. It is desirable that the majority of the key professional staff proposed be permanent employees of the firm or have an extended and stable working relation with it.
10. Alternative professional staff shall not be proposed, and only one CV may be submitted for each position.
11. The technical proposal shall not include any financial information.

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Financial Proposal –

1. The Costs should be expressed in Indian Rupees only inclusive of all taxes (including social security) as applicable, duties, fees, levies, and other charges imposed under the applicable law, on the consultants, sub consultants, and their personnel.

III SUBMISSION, RECEIPT AND EVALUATION OF PROPOSALS

1. Submission of Proposals:-

Proposals should be submitted in one original document. Proposals must be prepared in indelible ink and be signed by the authorized representative of the Consultants.

All technical proposals shall be placed in one envelope clearly marked "Technical Proposal," and the financial proposals in another envelope marked "Financial Proposals." These two envelopes, in turn, shall be sealed in an outer envelope bearing the Following Information.

Preparation of DPR for Comprehensive Under Ground Drainage improvement scheme in Greater Visakhapatnam Municipal Corporation, Bheemili Constituency.

**and addressed to: The Commissioner,
Greater Visakhapatnam Municipal Corporation.**

The RFP documents shall be downloaded from the GVMC Website: [//www.gvmc.gov.in/](http://www.gvmc.gov.in/) from **08-07-2015** the Consultants have to submit their sealed Tenders on or **before 22-07-2015, 3.00 PM**, which will be opened at 3.30 PM on the same day at O/o. Superintending Engineer(SE-P-II), GVMC, Visakhapatnam, A.P.

Your completed technical and financial proposals must be delivered to this address on or before **3.00 PM on 22-07-2015**

Technical and financial proposals shall be written in English including project/study reports. The Client reserves the right to modify and extend the deadline for the submission of proposals.

Executive Engineer(UGD), Mobile No.9912349444

Superintending Engineer (P-II), Mobile No.9912199298

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2. Bid Evaluation

The technical bids will be evaluated first by the **Superintending Engineer (P-II), GVMC** prior to opening of any financial proposals. All the technical bids will be evaluated based on their experience. The **Superintending Engineer (P-II), GVMC** shall carry out its evaluation applying the evaluation criteria:

CV's of the available Team leader/s and key personnel for the proposed study/studies will be rated for item (ii) above in accordance with:

The financial bids will be opened for the bidder who have fulfilled the eligibility in criteria has specified in Technical Bid.

3. Negotiations:

The DPR for comprehensive Under Ground Drainage improvement scheme for the proposed Greater Visakhapatnam Municipal Corporation is intended to entrust to qualified bidder based on the above criteria depending on the capability.

The Client will notify the bidder who submitted the highest scoring technical bids and invite them for negotiations. Negotiations will aim to reach agreement and initial a draft contract. Modifications if any will be reflected in the Consultant's financial proposal based on negotiations for that Greater Visakhapatnam Municipal Corporation.

Negotiations shall commence with a discussion of the technical proposal, the proposed methodology (work plan), staffing pattern with suggestions to improve the ToR. Agreement shall then be reached on the ToR, the staffing pattern and the bar charts, which shall indicate the activities, staff engaged and their deployment, their periods in the field and in the home office, staff months, logistics and reporting. Special attention shall be paid to optimizing the required outputs from the Consultants within the available budget to ensure satisfactory implementation of the Assignment. The Commissioner, Greater Visakhapatnam Municipal Corporation / custodian of Government funds and is expected to exercise prudence in their expenditure.

Having selected Consultants based on, among other things, an evaluation of proposed key professional staff, the Client expects to negotiate a contract based on the staff named in the proposal. Prior to contract negotiations, the client requires assurances in the form of undertaking from the firm as well as the personnel that the staff members will be actually available for the proposed studies. The client shall not consider substitutions during contract negotiations.

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The negotiations shall be concluded with a review of the draft form of the contract. The client and the consultants shall finalize the contracts to conclude negotiations. The assignment will commence on signing of the contract.

4. Bid Validity

The bidders are requested to hold their proposal valid for 90 days from the date of submission, during which time they shall maintain, without change, the personnel proposed for the assignment. The Commissioner, Greater Visakhapatnam Municipal Corporation reserves the right to accept or reject any or all of the bids relating to the studies of the GVMC **Bheemili Constituency**. The decision of the Commissioner, Greater Visakhapatnam Municipal Corporation in this regard shall be final and binding on all the bidders. No correspondence will be entertained in this regard. Furthermore, as quality is the principal selection criteria, the client does not bind itself in any way to select the firm offering the lowest prices.

5. Terms of Payment

Payment shall be regulated in accordance with the payment conditions stipulated in the ToR.

6. Facilities to Be Provided By the Client

The client will provide the following services to the extent available to the consultant for the duration of the assignment:

Access to the available data including documents, reports, accounts and maps. Permissions to enter works and offices as appropriate and necessary to undertake the proposed study. The consultants shall discuss and highlight the requirements essential for the proposed study to the Commissioner, Greater Visakhapatnam Municipal Corporation or his designate Superintending Engineer (P-II), GVMC.

7. Facilities to be provided by the Consultant

The consultant shall include in the financial proposal for all items necessary to complete the work and outputs as defined in the ToR. Any other relevant item with the consent of the client in a manner satisfactory to the client for completion of the study.

8. Implementation Arrangements for conducting the Study

The main agency responsible for this report is the Greater Visakhapatnam Municipal Corporation. The Commissioner, Greater Visakhapatnam Municipal Corporation is responsible for overall supervision of the project and Assistant Engineer appointed by the Commissioner, Greater Visakhapatnam Municipal Corporation will be responsible for day-to-day liaison with the consultants.

The commissioner, Greater Visakhapatnam Municipal Corporation will have overall responsibility for appointing consultants including monitoring and approving their work.

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While the Commissioner, Greater Visakhapatnam Municipal Corporation will facilitate the work of the consultants, the consultants will also be responsible for obtaining approval from the relevant utility line agencies if required - i.e. in particular ULB/UDA/Police/ Telephones/Electricity /R&B/ PR/ Transport/ Highways/RTC /Railways/Revenue Depts. etc. The Commissioner, Greater Visakhapatnam Municipal Corporation will inform about this study and the role of the consultants. However, the consultants should contact the Greater Visakhapatnam Municipal Corporation themselves to ensure liaison with the **GVMC Dept. Officers like Assistant Engineers.**

The consultant shall report to the Commissioner, Greater Visakhapatnam Municipal Corporation and liase closely with appointed counterpart officers in Greater Visakhapatnam Municipal Corporation. The consultant shall keep the Commissioner, Greater Visakhapatnam Municipal Corporation fully informed at all times, and should liase closely with all other relevant State/Central/municipal agencies involved in the project.

9. Suggestions by the Consultant

The consultant is requested to make any suggestions for improvements to the ToR in the technical proposal. The financial implications, if any, of these recommendations should be indicated in the financial proposal.

V. AWARD OF CONTRACT.

The contract will be awarded following negotiations.

The firm is expected to commence the assignment on the date and location intimated separately.

VI. CONFIDENTIALITY

Information relating to evaluation of proposals and recommendations concerning awards shall not be disclosed to the consultants who submitted the proposals or to other persons not officially concerned with the process until the successful Firm has been notified that it has been awarded the contract.

APPENDIX A

3. TECHNICAL PROPOSAL – STANDARD FORMS

- 3A. Technical Proposal submission form.
- 3B. Firm's references.
- 3C. Comments and suggestions on the Terms of Reference and on data services, and facilities to be provided by the Employer.
- 3D. Description of the methodology and work plan for performing the

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assignment.

- 3E. Team composition and task assignments.
- 3F. Format of Curriculum Vitae of proposed professional staff.
- 3G. Time schedule for professional personnel.
- 3H. Activity (work) schedule.

3A. TECHNICAL PROPOSAL SUBMISSION FORM

[Location, Date]

From: (Name of Firm)

To:

The Commissioner,
Greater Visakhapatnam
Municipal Corporation.
Visakhapatnam

Ladies/Gentlemen,

Sub : Consultancy Service for preparation of DPR For
Comprehensive Under Ground Drainage improvement
scheme for Greater Visakhapatnam Municipal Corporation
Bheemili Constituency - Technical Proposal.

--- XXX ---

Subject:

We, the undersigned, offer to provide the consulting services for the above in accordance with your request for Proposal **dated 22-07-2015** and our Technical and Financial Proposal. We are hereby submitting our Proposal which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope.

If negotiations are held during the period of validity of the Proposal, i.e., **before 22-07-2015**, we undertake to negotiate on the basis of the proposed staff. Our proposal is binding upon us and subject to the modifications resulting from contract negotiations.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

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Authorized Signatory Signature:
Name and Title of Signatory:
Name of Firm:
Address:

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3B. FIRM'S REFERENCES

Relevant Services Carried Out in the Last Five Years

Relevant Services Carried Out in the Last Five Years That Best Illustrate Qualifications Using the format below, provide information on each reference assignment for which your firm/entity, either individually or as a corporate entity or as one of the major companies within an association, was legally contracted.

Assignment Name:		Country:	
Location within Country:		Professional Staff Provided by Your Firm/entity (profiles):	
Name of Employer:		No. of Staff:	
Address:		No. of Staff-Months; duration of assignment:	
Start Date (Month/Year):	Completion (Month/Year):	Date	Approx, Value of Services (in Rs)
Name of Associated Consultants, if any:		No. of Months of Professional Staff, provided by Associated Consultants:	
Name of Senior Staff (Project Director/Coordinator, Team Leader) involved and functions performed:			
Narrative Description of Project:			
Description of Actual Services Provided by Your Staff:			

Firm's Name: _____

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3C. COMMENTS AND SUGGESTIONS OF CONSULTANTS ON THE TERMS OF REFERENCE AND ON DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE EMPLOYER.

On the Terms of Reference:

- 1.
- 2.
- 3.
- 4.
- 5.

On the data, services, and facilities to be provided by the Employer

- 1.
- 2.
- 3.
- 4.
- 5.

CONSULTING FIRM'S NAME:

3D. DESCRIPTION OF THE METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

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3E. TEAM COMPOSITION AND TASK ASSIGNMENTS

1. Technical / Managerial Staff

S.No.	Name	Position	Task
1.			
2.			
3.			
4.			
..			
..			

2. Support Staff

S.No.	Name	Position	Task
1.			
2.			
3.			
4.			
..			
..			

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3F. Format of Curriculum Vitae (CV) For Proposed Professional Staff

Proposed Position: _____

Name of Firm: _____

Name of Staff: _____

Profession: _____

Date of Birth: _____

Years with Firm /Entity: _____ Nationality: _____

Membership in Professional Societies:

Detailed Tasks Assigned:

Key Qualifications:

[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use about half a page.]

Education:

[Summarize college/university and other specialized education of staff member, giving names of schools, dates attended, and degrees obtained. Use about one quarter of a page.]

Employment Record:

[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and Employer references, where appropriate. Use about three-quarters of a page.]

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Languages:

[For each language indicate proficiency: excellent, good, or poor; in speaking, reading and writing]

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

_____ Date: _____

[Signature of staff member and authorized representative of the Firm]

Day/Month/Year

Full name of staff member: _____

Full name of authorized representatives: _____

Note: CV of each individual should be signed in original by the respective staff member along with the date and endorsed by the authorized representative of the lead firm.

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3G. TIME SCHEDULE FOR PROFESSIONAL PERSONNEL

S. No.	Name	Position	Reports Due / Activities	Months (in the form of a Bar Chart)						Number of Months
				1	2	3	4	5	6	

Full-time: _____
 Reports Due: _____
 Activities Duration: _____

Part-time: _____
 Signature: _____
 (Authorized Representative)
 Full Name: _____
 Title: _____
 Address: _____

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3H. ACTIVITY (WORK) SCHEDULE

A. Field Investigation and Study Items:

S.No.	Item of Activity (work)	Month wise Program (in form of Bar Chart) [1st, 2nd ,etc. are months from the start of assignment]					
		1st	2nd	3 rd	4th	5th	6th

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B. Completion and Submission of Reports

Reports: *	Programmed: (Date)
1. Inception Report and Detailed Work Plan	
2. Concept Report	
3. Draft Final Report	
4. Final Report	

* MODIFY AS REQUIRED FOR THE ASSIGNMENT

(Consultants will indicate as per the requirement)

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TERMS OF REFERENCE

1. OBJECTIVE

The main objective of the consultancy is to prepare a D.P.R. for Under Ground Drainage improvement scheme for Greater Visakhapatnam Municipal Corporation Bheemili Constituency deliver the desired level services in the i) immediate / short ii) medium and iii) long terms.

2. SCOPE OF SERVICES

The scope shall broadly cover the following phases:

- A. Reviewing the existing situation, and undertaking necessary assessments;**
- B. Feasibility Analysis and detailed planning;**
- C. Capacity Enhancement and Sustainability.**

The scope involves the following aspects:

- The work shall be done in a consultative manner by consulting various stakeholders at the ULB level, through the active participation of municipal staff involved in Drain cleaning and sanitation.
- Undertake all necessary assessments, including technical, financial, economic, environmental and social, institutional that feed into the planning of interventions.
- The outputs and recommendations of the study shall be integrated with the state level initiatives.
- The proposals shall conform to the guide lines issued by the GOI and GOAP including CPHEEO manual on Sewerage and sewage treatment, CPHEEO manual on O&M. and as per check list of G.O.I for UIDSSMT schemes.
- Planning shall be done for the horizon of at least next 30 years (aiming at year 2045), unless justified otherwise. Rehabilitation measures on the existing system shall also be given due consideration based on feasibility before proposing any new investments.
- The designs shall be in compliance with the relevant Indian Standards (as amended up to date, with all correction slips) and CPHEEO manual. Wherever such standards are not available, appropriate standards shall be followed after discussions with the ULB.
- For any studies and assessments, the required equipment / tools / logistics shall be arranged by the consultants themselves.

- The consultant shall be wholly responsible for all the details of the proposal, the physical and site conditions, the execution methodology etc. All data utilized in preparation of the proposal shall be presented indicating the sources of the data and also the basis of assumptions, if any. The consultant shall be responsible for all the data or designs and drawings given by them.
- The Scope will include completion of planning exercise and preparation of Detailed Project report and getting it cleared by the GVMC and necessary procurement documentation.
- As part of the Inception Report, the consultants shall develop the overall structure of outputs and inter linkages between them. As the work progresses, the consultants shall also prepare the Table of contents of the reports and get that vetted by the concerned SE(P-II) , GVMC.
- All documentation for obtaining permissions from GVMC where ever required shall be prepared by the consultant, and necessary assistance will be provided by the client. The ULB will obtain the permissions. The consultant shall assist the GVMC Engineers in obtaining technical sanction from competent authorities.

3A. Reviewing the Existing Situation and undertaking assessments

The consultants would review the present situation in the ULB, and analyze the current strengths and weaknesses for providing efficient water service.

3.A.1. Information Collection:

Collect and present the Information on the Existing situation:

- a) ULBs service area, economic growth, urban growth, physical and hydro-geological parameters, population growth and factors influencing;
- b) Demands and availability of water, water resources, source sustainability, conditions on water drawls, alternate vendors/sources used by the beneficiaries;
- c) Infrastructure to serve the demands, along with key system components to maintain it efficiently,
- d) Status of existing assets and their rehabilitation needs;
- e) Asses whether typical system management components such as bulk flow meters, pressure regulating valves, transmission mains without illegal connection of distribution lines, energy efficient usage tools/equipment, domestic meters etc., available and functioning

In order to properly inform the subsequent planning exercise, the following specific assessments shall be undertaken, in addition to other assessments that the consultant may plan to cover the above issues. The framework for these assessments is given in the next section.

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- a) Field Surveys and preparation / updating of base maps;
- b) Asset Status / Performance Review to determine the functional status and rehabilitation needs;
- c) Assessment of water demands in the service area
- d) Affordability study to determine the level of affordability against the desired service levels.

Main Output: the Main output of this exercise is a report on Existing Situation, Identified Priority interventions (with their procurement and implementation plan), Planning Parameters and Design Basis to be considered in further designs, drawing upon these assessments.

There are some specific assessments to be undertaken as indicated in Section 3.A.2 below, the required outputs of which are indicated there-in.

•

3.A.2. Analytical Framework & Methodology for Collection of Data and Assessments

The consultant shall develop the framework and methodology for completing the Tasks listed in 3.A.1. The methodology shall be agreed with the client before undertaking the assessments. Some of the specific assessments listed below shall follow the framework indicated:

- a) Field Surveys and Preparation / Updating of Base Maps: Undertake Total Station Survey and prepare / update the base maps, indicating all the infrastructure elements along with their key features.

Output: Base Maps with information on the Under Ground Drainage Infrastructure

- a) Asset Status and Performance Review: Determine the data requirements and procedure for collecting the data on system installation and collect data relating to source (quantity, quality, seasonal fluctuations), transmission mains, pumping system, treatment plant, reservoirs, distribution system, O&M practices, breakdown history, efficiency, system leakages and losses, quantity of water handled etc., electrical data like contract demand, hours of operation, peak loads, supply availability, tariff levels, annual consumption, power costs etc. Salient parameters to be reviewed are listed in Annex-1.

Measure the flow and pressure at appropriate points of the system as required, in consultation with the ULB, in all existing zones and make an assessment of weaknesses of the existing Under Ground Drainage system by comparing the actual with the output of the network analysis and make an assessment of the condition of existing pipes by consulting the Municipal staff. Pressure measurement points may be put at

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appropriately selected locations – with more numbers in the defective Under Ground Drainage pockets. Based on this analysis, identify underlying causes for non-performance and not adhering to standards. Support the analysis with backup data.

Output: Asset Status and Performance analysis.

- b) Water Demands: Water Demands for the city shall be estimated based on review of existing consumption patterns and likely realistic increments for future, based on a sample household survey of different categories of consumers. This exercise shall also inform the present service levels, the improvements that the consumers perceive as necessary.

Output: Water Demands, Customer Service Perception (duration, quality, quantity, pressures; alternate sources, adaptations, costs etc)

- c) Water Audit and Estimation of Non-Revenue water:

The Water Audit exercise, shall inform the overall production of water (not to be based on just rated capacity of pumps), flows in different parts of water service area to determine areas of high/low consumption, losses – both physical and revenue. An analysis of this information along with the system status shall inform possible areas of high physical/revenue losses and priority areas of intervention and possible demand management options. This shall be done in two parallel steps: Step-1 for quick estimates to be used in the designs; Step-2: for refining the estimates for use as record by the ULB for future use.

Step-1: Study the existing water supply network up to the service connection through the information obtained from Field Surveys and Performance reviews and in discussion with the O&M staff of the Municipality, with a view to identify and prioritize rehabilitation needs of existing system and major leak spots in the system. For locations identified as having the maximum potential to reduce the loss of water suggest the improvements to be effected. Based on this, prioritize measures for taking up urgent repairs with minimum cost and time to get maximum benefits: e.g., replacement of inefficient pumps, replacement of leaking mains, repairs to leaking tanks etc. Quantify the water that could be saved by implementing these measures. Indicate possible demand management options.

Output of Step-1: Overall Water Balance, Demand Management options, Major leak Spots, Priority Areas of intervention, Possible Water Savings, Customer meter Status, Metered and Un-metered water use by Consumers.

Step-2: While it is recognized that installation of domestic meters and regularization of unauthorized connections by the ULB takes time, for refining the Water Audit, follow the methodology suggested in Chapter 15

of O&M Manual of CPHEEO. For the distribution system particularly, select at least two representative District Metered Areas (DMAs), in discussion with the ULB, representing at least 10% of the households in the ULB, by selecting the areas that can be easily segregated, preferably under the command area of different reservoirs. Undertake one round of Consumer meter sampling (if they exist) as per the Manual to estimate the usage by customers (both metered and un-metered) and the possible losses in customer service lines and appurtenances.

If there are no consumer meters existing in the ULB, provide for stop-cocks to the consumer connections and public taps, to be able to close them for testing to analyze the losses in the system (main lines, feeder lines, ferrules, consumer connections). Also, in such a situation of no consumer meters existing, in order to derive water usage by consumers, identify sample representative consumers of various categories (e.g. in selected roads), fix consumer meters on their connections and measure the usage patterns.

This step requires capital investments as well in terms of establishing meters, closing connections, metering a sample consumer connections and public taps, valves for segregation etc. The consultants would therefore include such investments as priority investments, to be implemented early by the ULB.

The consultants scope for this exercise would be to plan the exercise, identify the DMAs, identify the investments, procure and get the work done on behalf of the ULB, monitor the implementation and reassess the water audit and demands.

Output of Step-2: Refined report of Step-1

(Note: A separate exercise of detailed NRW assessment and Energy audits will be undertaken by the ULBs in parallel to implementation)

3B.Feasibility Analysis and Detailed Planning

Based on the information collected in the preceding phase, Plan the capital improvements to meet the desired service levels. Ensure that there is adequate focus on rehabilitation and strengthening as feasible, while opting for new investments.

Before proceeding with detailed designs, analyze the feasibility of options/alternatives looking from various analyses: technical, environmental, social (including resettlement and rehabilitation), financial and economic. Prepare concept plans highlighting possible options, benefits and impacts, drawings and preliminary costs, with a recommendation on the preferred

option. Identify Short Term/Immediate, medium and long term investment plans for improvement of Under Ground Drainage,

Once the option and phased improvement plan is agreed with the client, undertake preliminary and detailed designs and finalize the respective analyses for that option.

Prepare cost estimates, contract packages, bid documents, procurement, implementation and O&M plans. Prepare strategies/practical plans for monitoring of progress of procurement, implementation and O&M. Finalize the Detailed Project Reports with all this information.

3B.1. Aspects to be covered

Cover the following aspects in the analysis:

- d) *Service Levels*: Establish the present and Desired Service levels in a consultative manner, backed up by costs and impacts.
- e) *Population*: Population projections based on appropriate projection technique based on the growth status of the municipality and economic factors;
- f) *Development Factors*: Municipal development plans and developmental factors influencing water demands and their impact on the infrastructure planning;
- g) *Water Demands*: Demands based on sample analysis carried out in the Information collection exercise, and based on population growth and municipal development;
- h) *Water Resources*: Water Resource availability, quality and sustainability to serve the demands for the horizon year. For Source improvement,
 - Study the properties of the existing sources with regard to catchment's, hydrological details etc.
 - Identify new potential sources (if required) for water in co-ordination with various departments to cater for ultimate demand.
 - Evaluate the method of treatment required.
- i) *Infrastructure planning* that is technically feasible, meets the growth needs of the municipal development, integrates into city development plan, economically effective and has least environmental and social impacts.

While planning, factor-in the following issues:

- reorganize the existing network to suit efficient O&M practices,
- promote optimal/effective utilization of the existing infrastructure (e.g., reservoir capacities, trunk mains, water sources etc).
- Provide for adequate flow and pressure control/regulation utilities, flow measurement devices.
- Replace / Upgrade the consumer connections with appropriate material (e.g., MDPE) (as these are the most vulnerable portions of the system where the physical losses are more); and provide for consumer meters – replacing the non-functional meters (since there

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should be provision for measuring the supplies and raising revenues). The cost will be borne by the ULB initially as part of the project and will be recovered from the consumers later.

- consider technological advancements, including new pipe / construction materials, variable speed drive pumps for energy efficiency, improved methods of water treatment with better clarifiers, plate and tube settlers, dual media and declining rate and high rate filters, new chemicals and poly –electrolytes, alternative methods of disinfection etc.
 - Integrate the services to the poor with the trunk infrastructure; review free supplies through stand-posts and plan for managing them;
 - Ensure a minimum residual pressure of 7m
 - Consider feasibility of 24/7 supplies, if not, plan for maximum possible supply hours with necessary peak factor. Justify the reasons for non-achievability of 24/7 currently and indicate a plan of action with cost implications.
- j) . *Economic Analysis:* Undertake Quantitative cost-benefit analysis for subprojects estimated to cost over Rs 15 crore, and it should demonstrate an economic rate of return above the opportunity cost of capital, currently estimated at 12%, or cost-effectiveness.

At the Feasibility stage, organize a workshop in the ULB to present the findings of different feasible options and the preferred one. Justify this with respect to the impacts, costs and municipal capacities. Document the consultations.

3B.2. Surveys, investigations and tests required:

The list of Surveys, investigations and tests required and their scope is in Annex-2.

3.B.3. Detailed Designing, Procurement and Implementation Planning

For the final option, prepare detailed engineering designs, drawings, Bill of Quantities (BoQs) and tender documents.

- k) *Designs:* The residual head at tail end shall be 7 m of water pressure. Undertake network analysis using standard software. Design the civil structures based on computerized structural analysis. Designs shall follow the latest Indian Standards with amendments. The consultants have freedom to choose the type of sub structure and superstructure provided code specification/CPHEEO stipulations agreement. The drawings and designs shall include a general arrangement drawing and detailed drawings of all components in appropriate size A0-A3. The level of detailing shall be such as to enable check of conformance with provisions

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of Indian Standard / Other Codes, including detailed construction drawings and bar bending schedules. Define the specifications followed for each of the components.

- l) *Cost Estimates*: For the final project, prepare detailed items and quantity schedules and cost estimates based on the market rates. Prepare detailed cost estimates item wise (AP PWD / PHED Schedule of Rates), with necessary road restoration charges wherever needed. For items not covered under schedule of rates, market rates are to be assessed. There should not be any lump sum items in the bill of quantities. Provide unit costs of various infrastructure components based on the estimated costs.

Assist the municipality in getting administrative/technical sanction for the estimates from the competent authorities.

- m) *Network Maps and Asset Drawings*: Prepare Network maps with proper zoning using the updated information available from the tasks above and the proposed strengthening measures. Prepare Asset Drawings with relevant information to serve as an information archive.
- n) *Contract Packaging, Procurement Planning and Bid Documents*: For the identified works, define feasible contract packages, prepare procurement plans as per the Project Standard requirements, and prepare draft bid documents in the World Bank prescribed format.
- o) *Implementation Plan*: Prioritize the actions into Short, Medium and Long term actions. Prepare an implementation schedule for these. Draw up project budget with monthly targets, furnish network analysis such as CPM/PERT by using MS Project/Prima Vera software package for purposes of effective project monitoring and regular reports. Give due considerations to the permissions / clearances required from various authorities, time required for supply of material (considering material availability constraints, manufacturing and supply periods etc).

Plan to ensure that R&R actions are implemented before commencement of works.

Propose strategies for monitoring of implementation and contract management. Highlight focus areas for close monitoring in terms of quality control / implementation progress.

While proposing the specifications for construction / implementation, consider new construction technologies, Trench less technology / Micro-tunneling, better pipe laying and plumbing techniques, etc.

- p) *Service Improvement Plan*: For the proposed option, develop a Service Improvement plan covering the following:
- Progressive achievement of service levels defined and strategies to achieve this over time. Define the service levels based on the

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framework suggested by the Ministry of Urban Development, Government of India. The physical investments under the sub-project and other initiatives are expected to progressively enhance the service performance of the ULB.

- Bulk system operation based on assessed strengths of the system, source capacities, optimal use of available water resources (seasonal, long-term), demands on the system in different parts of the service area and their seasonal variation, demand management, consistency with the phased strengthening measures, equitable supplies and management of pressures and flows;
- Distribution system operation to manage each zone together at once with minimal valve operations (without any block regulation as has been the current practice); along with pressure and flow management strategies;
- Treatment Plant and Pumping system operations;
- Possible automation in O&M;
- review of free supplies through stand posts and their effective management / control, control of illegal connections, handling water contamination risks;
- possible strategies for NRW management based on assessments undertaken, including possible incentives for NRW management; preventive maintenance and progressive asset rehabilitation based on expected life of the assets,
- Water Audit plan based on experiences of DMAs, Energy audit plan, progressive domestic metering plan ;
- spares, tools and equipment – procurement plan, annual budgeting for them, maintenance of tools and equipment;
- institutional roles and responsibility, structure of O&M unit, outsourcing possibilities, citizen involvement, training to O&M staff, O&M monitoring, supervision of O&M responsibilities, job description for operators and staff;
- Costs, Funding and budgeting; revenue management including tariff improvements to meet the costs of operations. Consider identification of revenue losses, revenue improvements, suggestion for pricing, rationalization of connection charges, water tariff and pricing for bulk supplies, possibilities for commercialization like bottling etc. Tariff shall consider life-line supplies to the poor, including transparent cross-subsidies as required.
- complaint monitoring and redressal, billing and collection, service monitoring and dissemination of performance.
- Tips and guidelines on reduction of costs through preventive maintenance, better pipe laying and plumbing techniques,

- Propose strategies for continuous service monitoring, linking to the state framework with relevant indicators

Provide the necessary linkage of output of this exercise with the Capacity Enhancement and Sustainability assessment done in the Phase-C.

Output:

The outputs of this exercise are:

- Feasibility and Concept Plans;
- Detailed Project Report with all the information above, supplemented with drawings, other supplementary reports and IEC material as required.

4. Schedule of completion of tasks

The total contract period is of three months period, Specific timelines are the following:

a) Existing Situation and Design Basis Report	15 days
b) Feasibility analysis and concept plan	15 days
c) Detailed designs, estimates and Bid documents	60 days

If any items mentioned above if does not cover under scope of DPR Preparation of levels of ground in the town map as per standards duly considering 150 to 200 M development from the existing developed town they may be treated as redundant items.

5. Data, services and facilities to be provided by the client

(i) The maps and other data related to this work, to the extent available in the Municipal office will be provided.

(ii) Assistance for obtaining FMB sketches and adangal for preparing land plans from the land survey department will be given by the client.

(iii) A copy of all the available DPRs as in where in condition would be provided.

6. Final Outputs (drawings, reports etc.) to be furnished by the consultant

a. Existing Situation and Design Basis Report, Priority Interventions, Procurement Documents for Priority Interventions

Based on the understanding developed on the existing system through studies and assessments, present the existing situation; and develop the Basis of Designs and planning parameters.

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b. Feasibility and Concept Plan

Results of Feasibility analysis for various options, along with Environmental and Social Screening, documentation of stakeholder consultation, preliminary costs; Concept Plan of preferred option supported by justification, drawings and costs.

c. Detailed Designs and Estimates and Bid Documents

Detailed designs for the finalized plan, detailed cost estimates, with supplementary reports, drawings, IEC material, procurement and implementation plans including timeline of R&R actions to be taken before commencement of works, EAs, EMPs and RAPs, project monitoring plans.

Identify the priority interventions with their costs for the immediate term, that will give maximum benefits to the ULB with reasonable cost and time. Provide a procurement and implementation plan for these along with bid documents.

7. The Consultant should get the DPR approved by CPHEEO/ HUDCO /any other funding agency.

8. List of key professionals position whose CV and experience would be evaluated:

Sl.No	Key Position	No. of persons	Area of specific Expertise desired	Minimum qualification and Professional Experience desired
1	Project Manager (Team Leader)	1	In designing Under Ground Drainage improvement scheme.	A post graduate degree in Civil Engg. with about 15 years experience Or A graduate in Civil Engg. With about 15 years experience.
2	Project Engineer (Civil) (Under Ground Drainage)	1	In designing Under Ground Drainage improvement scheme	A graduate in Civil Engineering with about 10 years experience.
3	Project Engineer (Civil) (Under Ground Drainage/Hydrology)	1	In the field of Hydrology, water resources and Hydrogeology, with exposure to assessment of potential of water sources.	A graduate in Civil Engg. with about 10years experience

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4	Project Engineer (Elec/Mech)	1 or 0	Experience in selection and installation of pumps electrical panel boards etc. and erection works, with exposure to Energy Audit studies.	A graduate in Electrical/Mechanical Engg. With about 10 years
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9. Schedule of Payment:

S. No.	Activity	%age of payment
1.	Submission of report on Existing Situation and Design Basis Report	10% of contract amount
2.	Submission of feasibility analysis and concept plan	15% of contract amount
3.	Detailed designs, estimates and Bid documents	
	a) on approval of draft DPR	20% of contract amount
	b) on approval of final DPR by funding agency	55% of contract amount

10. Submission of reports: Hard copies of all reports namely Design basis report, feasibility analysis and concept plan and Detailed Designs, estimates and bid documents shall be submitted in 6 (six) copies along with soft copy.

The information pertaining to the scheme submitted by the consultant belongs to the ULB and shall not be utilized for any other purpose without permission of the ULB.

11. The bill of quantities furnished by the consultant in the DPR shall not vary more or less than 15% during actual execution otherwise the consultant will be black listed.

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Annexure - I

Surveys, investigations and tests required and their scope

a. Data

The details given in the technical conditions and specifications taken in conjunction with the study, is only a reasonable preliminary basis. The nature of the overall contract is such that after the proposal, the consultant shall be wholly responsible for all the details of the proposal, the physical and site conditions, the execution methodology etc. All data utilized in preparation of the proposal shall be presented indicating the sources of the data and also the basis of assumptions, if any. The consultant shall be responsible for all the data designs, and drawings given by them.

b. Survey and Analysis

The consultant shall conduct his own studies and prepare estimates based on schedule of rates specified by Government but updated to reflect actual market conditions wherever necessary. The Public Health and the local body concerned shall not be responsible (except as to risks specifically accepted under the conditions of contract) for the validity of the project details and designs and estimates.

c. Project site survey and Stakeholder Consultations

The local body shall indicate the Project sites and their measurements. The consultant shall be responsible for its verification. The consultants shall be responsible for carrying out the survey to determine the losses of water in the system and the condition of the pipes. The consultant shall be responsible for carrying out consultations with stakeholders who are likely to be affected by the potential sub-projects and documenting these consultations, including positive and negative responses to the proposed works.

d. Soil Investigation and Tests

Soil tests as per relevant IS/IRC Standards have to be done by consultants to arrive at design parameters for the formation and safe bearing capacity. At locations proposed for important installations like pump house, OHT/sumps etc., at least one bore hole for every such installation, should be made to determine the SPT N values at depth specified in the relevant IS codes. Soil samples taken from boreholes should be visually classified, index properties determined and presented in along with the final report. These boreholes should be normally taken to a depth whose N value is greater than 100 plus a further 3m depth (to account for any drastic fall in N value below these strata.). The subsurface water at each borehole be sampled and a chemical analysis carried out, to

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recommend appropriate cement/admixture for use in concrete mixed for the foundations. Recommendations of a geo-technical expert should be furnished in the soil report and should cover aspects e.g., appropriate soil stabilization measures if required, bearing capacity of the founding strata.

- I) Carry out site surveys including taking levels with a view to fix alignment of pipelines and decide on introduction of additional facilities/engineering parameters like line boosters/Underground/Elevated Service Reservoirs, sluice valves, air valves, scour valves etc., for ensuring daily and equitable Under Ground Drainage from the existing source to all areas including the existing un-served areas/areas with low pressure.
- II) Test the quality of water of the sources to find out the degree of treatment required.
- III) Carryout site evaluation analysis based on borehole data and soil test.

Annexure II

UIDSSMT Guide lines for preparation and submission of Detailed Project Report of Under Ground Drainage improvement scheme may be obtained from

www.urbanindia.nic.in

Annexure III

Check list for submission of Detailed Project Report of Under Ground Drainage improvement scheme may be obtained from

www.urbanindia.nic.in

COVER 'B' FINANCIAL PROPOSAL

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APPENDIX B

4. FINANCIAL PROPOSAL – STANDARD FORMS

4A. Financial Proposal submission form.

4A. FINANCIAL PROPOSAL SUBMISSION FORM

[Location, Date]

From: (Name of Firm)

To:

The Commissioner,
Greater Visakhapatnam
Municipal Corporation.
Visakhapatnam.

Ladies/Gentlemen,

Sub : Consultancy Service for preparation of DPR For
COMPREHENSIVE UNDER GROUND DRAINAGE
IMPROVEMENT SCHEME for Greater Visakhapatnam
Municipal Corporation **Bheemili Constituency** - Financial
Proposal.

--- xxx ---

We, the undersigned, offer to provide the consulting services for the above in accordance with your Request for Proposal **date 22-07-2015** and our (technical and Financial Proposals). We submit our financial proposal as follows:

Sl. NO.	Description	Job	Percentage on cost of DPR in figures	Percentage on cost of DPR in words
1.	Preparation of DPR For Comprehensive Under Ground Drainage improvement scheme for Greater Visakhapatnam Municipal Corporation, Bheemili Constituency	1 Job		

Our financial proposal shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the proposal, i.e., _____.

We undertake that in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act, 1988".

We understand you are not bound to accept any Proposal you receive.
We remain,

Yours sincerely,

Authorized Signatory Signature:
Name and Title of Signatory:
Name of Firm:
Address:

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