

बिहार शहरी आधारभूत संरचना विकास निगम लि०

Bihar Urban Infrastructure Development Corporation Ltd.

(A Govt. of Bihar Undertaking)

Raja Pur Pul, West Boring Canal Road, Patna-800 001

Contact: + 0612- 2558412, E- mail – mbuidco@gmail.com, Website : <http://buidco.in>

CIN- U45200BR2009SCG014600

Letter No. Buidco/40-2307/21(CP-11)-3985

Date – 18/8/23

To.

M/s Creative Computers,

B-209-D, Rajendra Marg, Bapu Nagar, Jaipur (Rajasthan) 303015.

info@creativecomputers.com

M/s Mars Planning & Engineering Services Pvt. Ltd.

C/287 Ashok Nagar, Main Road, Ranchi-834002

wb@marsconsultancy.com

M/s Shyam Designers & Consultants Pvt. Ltd.,

C-28, Lower GF, Housing Society,

South Extension Part-1, New Delhi-110049,

shyamconsultantsindia@gmail.com

M/s Venkateshwara Enterprises.

Office No-31, 4th Floor, Lokmanya House, Loknanya Colony,

Paud Road, Kothurd, Pune. 411038

Vengg17@gamil.com

M/s Samarth Infratech Services Pvt. Ltd.

Office No-40-41, 5th Floor, Lokmanya House, Loknanya Colony,

Paud Road, Kothurd, Pune. 411038

sisplpune@rediffmail.com

M/s Fortress Infratech Services Pvt. Ltd.,

204, Lotus Park, Road No.-16, Wagle Estate, Thane (W) 400604

fortress@fortress.co.in

M/s Tata Consulting Engineers Ltd.,

Matulya Centre "a" 249 Senapati Bapat Marge Lower Parel, Mumbai-400013

tceconnect@tce.co.in

M/s Excel Tech Consultancy and Projects Pvt. Ltd.

10-11, Natraj Nagar imli Phatak Jaipur-302015.

info@exceltechcp.com

M/s Green Design and Engineering Services Pvt. Ltd.

5, Sugam Society, adajan Patiya, Adajan, Surat-395009

<http://greendes.com>

M/s Wapcos Limited.

5th floor, Jaukasg Building, 26, Kasturba Gandhi Marg, New Delhi- 110001

ho@wapcos.co.in

M/s Bluestream Infrastructure Development Consultant Pvt.

201-202, 2nd floor, 11 Mayur Building, Karve Road, Kothrud, Pune, Maharashtra

accounts@bluestreamconsultant.com

M/s SETECH (INDIA)

[Handwritten Signature]

995, Nabpally Circular Road, Nabapally, Barasat, Koltata-700126

M/s Xplorer Consultancy Services Pvt. Ltd.

Plot No.-3, First Floor, Sarhaul, Serctor-18, Opposite HIPA, Gurugram-122001 (India)

xplorer@plorer.in

M/s Egis India Consulting Engineers Pvt. Ltd.

Plot No.-66, Sector-32, Gurgaon, Haryana-122001 (India)

<http://egis-india.com>

M/s PBS Consultancy Services.

6-2-966/5/1/2, Hill Colony, Kharairatabad, Hyderabad.

<http://pbslk.com>

M/s Yashi Consulting Services Pvt. Ltd.

501-510, 5th Floor, Kailash Tower Lalkothi, Tonk

contact@yashiindia.com

M/s BLG Construction Services Pvt. Ltd.

CYB-04, Cyber Park, Bansi Heavy Industrial Area, Near Jodhpur Dairy, Jodhpur Raj- 344200

info@blgindia.com

M/s The Nisarga Consultancy.

D-15, 2nd Floor, Shethis City Plaza, Opp Kalika Mandir, Gadkari Chowk Nashik-422002

nisargacon@gmail.com

M/s Aarvee Associates Architects Engineers and Consultants Pvt. Ltd.

8-2, Ravula Residency, Srinagar Colony Main Road, Telangana-500082,

aarvee@aarvee.net.in

M/s DRA Consultants Ltd.

58, Ingole Nagar, Opp Airport, Behind Hotel Pride, Wardha Road, Nagpur-440005

info@dra.net.in

Sub – Request to submit financial proposal for "Selection of Consultant for Preparation to Detailed Project Report for Sewerage Network and STP Scheme in towns of Bihar".

Ref. – BUIDCo consultancy empanelment letter no. 275, dated 04.09.2020

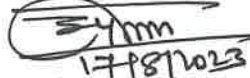
Sir,

With reference to above mentioned subject, BUIDCo is inviting to its empanelled consultant to submit their price proposal for "Selection of Consultant for Preparation to Detailed Project Report for below mentioned town of Bihar" as per the terms of reference attached with this letter.

Group No.	Name of Town
1	Samastipur (Nagar Nigam)
2	Gopalganj (Nagar Parishad)
3	Bagaha (Nagar Parishad)

Bidder is free to participate in one or more group. The estimated cost of consultancy fee for all above scheme is Rs. 20,00,000=00 (including of all taxes) for each group. You all are requested to submit the same to BUIDCo office on or before 28.08.2023 till 15:00 HRS.

Yours Sincerely,


17/8/2023
Chief General Manager,
BUIDCO, Patna

**Bihar Urban Infrastructure Development Corporation Ltd.,
(BUIDCO), Patna**

Name of Work:

**Selection of Consultant for Preparation to Detailed Project
Report for Sewerage Network and STP Scheme in towns of
Bihar**

Group No.	Name of Town
1	Samastipur (Nagar Nigam)
2	Gopalganj (Nagar Parishad)
3	Bagaha (Nagar Parishad)

Only For BUIDCO's Empanelled consultant (Empanelled vide letter no. 275 dated 04.09.2020) to submit the prices.



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Summary of Consultancy Assignment

NAME OF THE WORK	:	Selection of Consultant for Preparation to Detailed Project Report for Sewerage Network and STP Scheme in towns of Bihar
EMD AMOUNT Rs.	:	1,00,000.00 for each group.
Note:- Consultant can participate in one or more than one group.		
FINANCIAL PROPOSAL DETAIL AVAILABLE ON WEBSITE	:	https://www.buidco.in
LAST DATE AND TIME FOR RECEIPT OF BID SUBMISSION IN HARD COPY	:	28.08.2023 Upto 15:00 HRS AT WEST BORING CANAL ROAD, RAJAPUR PUL, PATNA-1
PLACE AND TIME FOR OPENING OF BIDS	:	28.08.2023 Upto 16:00 HRS at office of BUIDCo, West Boring Canal Road, Rajapur Pul, Patna-1
OFFICER INVITING BIDS	:	Chief General Manager, BUIDCo.



Introduction:-

BUIDCO is entrusted to execute various project sanctioned under State plan, Namami Gange and AMRUT, GOI. BUIDCO invites to its empanelled consultant (Empanelled vide BUIDCO letter no. 275 dated 04.09.2020) to quote price for the Preparation to Detailed Project Report for Sewerage Network and STP scheme in towns of Bihar.

Financial Proposal**FORM FIN-1: FINANCIAL PROPOSAL SUBMISSION FORM**

[Location, Date]

To:

Managing Director

Bihar Urban Infrastructure Development Corporation

#West Boring Canal Road (Rajapur pul), Patna -800 001

Tel:

Dear Sir /Madam:

We, the undersigned, offer to provide the consulting services for **[Insert name of Assignment with group no.]** in accordance with your RFP dated **[Insert Date]**. Our attached Financial Proposal is for the sum of **[Insert amount(s) in words and figures in Indian Rupee]**². This amount is exclusive of the GST.

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.

No fees, gratuities, rebates, gifts, commissions or other payments have been given or received in connection with this Proposal.

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

We remain,

Yours sincerely,

Authorized Signature **[In full and initials]**:

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____

² Separate Financial Offer must be submitted. Amounts must coincide with the ones indicated I in Form FIN-2

Project Title: Selection of Consultant For Preparation to Detailed Project Report For Sewerage Network and STP scheme in towns of Bihar

Sl no	Description of Services	Consultancy Fee (in INR)	
		In Figures	In Words
(A)	Consultancy fee for providing services for Preparation Of Detailed Project Report For (Please insert the name of Town) Sewerage Network and STP scheme. As per Terms of Reference (ToR) complete to the satisfaction of Client. Note:- the price should be quoted work wise		
	1.Quoted Price for (Insert Group No.)		
(B)	Add GST as per prevailing rates		
(C)	Total including GST [A]+[B]		

Authorized Signature [In full and initials]: _____

Name and Title of Signatory: _____

Name of Firm with Company Seal:

FIN-3: SUMMARY OF COST

Project Title: Selection of Consultant For Preparation to Detailed Project Report For (Please insert the name of Town) Sewerage Network and STP scheme in Bihar

The Summary of Cost shall be tabulated as under

S No	Description	Consultancy Fee in (INR)	
		In Figures	In Words
A1	Remuneration for Professional Staff		
A2	Remuneration for Sub-Professional Staff		
A3	Reports and Document Printing		
A4	Survey and Investigation Expenses		
A5	Any Other (Lump sum)		
A6	Over heads		
	Total Costs		
Note:			

Authorized Signature [In full and initials]: _____



Name and Title of Signatory: _____
Name of Firm with Company Seal: _____

Financial Proposal Standard Forms FIN-1, FIN-2, FIN-3 shall be used for the preparation of the Financial Proposal.

While quoting the financial offers, applicants shall submit their prices as per below mentioned criteria,

Empanelled consultants shall have to submit its prices in a separate envelope for each group separately. They can participate in one or more than one group.

1. Consultant are advised to visit the site before quoting the rates.
2. The interested BUIDCO's empanelled consultant are requested to submit their prices for the said work in sealed envelope to chief General Manager, BUIDCO on or before **28.08.2023 till 15 Hrs.** The Price submitted by the empanelled consultant shall be opened on the same day at 16 Hrs. The following should be indicated in the envelope;

Name of Empanelled Consultant:-

Name of Work: - Selection Of Consultant For Preparation to Detailed Project Report For **(Please insert the name of Town)** Sewerage Network and STP scheme in Bihar.



Method of selection:

Successful firm will be selected under **Least Cost Based Selection (LCS) Method**. Envelope including the price submitted by empanelled consultants for Preparation Of Preparation Of Detailed Project Report For **(Please insert the name of Town)** Sewerage Network and STP scheme in Bihar.

Price quoted by participant firms shall be compared and the lowest quoted firms will be awarded the work.

1. CONTRACT NEGOTIATIONS AND AWARD OF CONTRACT

- 1.1 The Consultant who is invited for contract negotiations will, as a pre-requisite for attendance at the negotiations, confirm availability of all experts named in its proposal except in the cases of absence on account of death or medical incapacity. Failure in satisfying such requirements may result in the Client proceeding to initiate the negotiation process with the next lowest bidder. Representatives conducting negotiations on behalf of the Consultant must have written authority to negotiate and conclude the Contract
- 1.2 **Technical Negotiations:** This will include a discussion of the Technical Proposal, the proposed technical approach and methodology, work plan and schedule, and organization and personnel, and any suggestions made by the Consultant to improve the TOR. The Client and the Consultants will finalize the TOR, personnel schedule, work schedule, logistics, and reporting. These documents will then be incorporated in the Contract as "Description of Services." Special attention will be paid to clearly defining the inputs and facilities required from the Client to ensure satisfactory implementation of the assignment. The Client shall prepare minutes of negotiations which will be signed by the Client and the Consultant.
- 1.3 Negotiations will conclude with a review of the draft Contract. To complete negotiations the Client and the Consultant will initial the agreed Contract. If negotiations fail, the Client will invite the second lowest Consultant to negotiate a Contract.
- 1.4 After completing negotiations the Client shall award the Contract to the selected Consultant and notify the other Consultants who could have been invited to negotiate a Contract that they were unsuccessful.
- 1.5 The selected Consultant is expected to commence the Assignment on the date and at the location specified in the Data Sheet.

2. DURATION OF ASSIGNMENT

*The duration of the assignment shall be **two (2) months** and all activities are to be completed in this period. This will be applicable for all the sectors under this assignment.*

- Inception Phase – 1 weeks
- Feasibility Phase – 3 weeks
- Draft DPR Phase – Within 1.5 Months
- DPR Preparation Phase – within 2 Months

Consultant shall ensure that their Team Leader/Deputy Team Leader must meet BUIDCo office weekly and also when required for meeting/discussion in BUIDCo office. Additionally their field level staff shall be available in project towns during the survey work and investigation works and their details of presence with their contact details shall be made available in BUIDCo so that, if need be, they may be called to BUIDCo office whenever required. Field level staff may leave the project sites only after BUIDCo being satisfied with the survey details submitted.

Signature

3. PERFORMANCE SECURITY

The consultant will furnish within 7 days of the issue of Letter of Acceptance (LOA), an Account Payee Demand Draft/Unconditional Bank Guarantee (in prescribed format) in favour of "BUIDCo" payable/en-cashable at Patna, from any nationalized or scheduled commercial Bank in India having its office at Patna for an amount equivalent to **5% (five percent) of the total contract value** towards Performance Security valid for a period of **six (6) months** beyond the stipulated date of completion of services. The Bank Guarantee will be released after six month and rectification of errors, if any, found during appraisal/approval of DPRs by competent authorities/Funding agency whichever is later.

4. Bid Security (Earnest Money Deposit)

4.1 The Bid Security of Rs. 1,00,000/- (Rupees One Lakh only) in favour of "**Managing Director, Bihar Urban Infrastructure Development Corporation Limited**" payable at Patna shall be in the form of Account Payee Demand Draft or from any of the **scheduled commercial bank or nationalized bank having its branch in Patna**. The Employer shall reject any bid not accompanied by appropriate bid security, as non-responsive. For each

4.2 The bid security of the successful Bidder shall be returned as promptly as possible once he has signed the Contract and furnished the required performance security.

4.3 Bid securities of the unsuccessful bidders shall be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract to successful bidder.

4.4 The bid security may be forfeited:

4.4.1.1 if a Bidder withdraws its bid during the period of bid validity.

4.4.1.2 if the Successful Bidder fails to:

4.4.1.2.1 Sign the Contract within required time frame;

4.4.1.2.2 Furnish a performance security.

4.4.1.2.3 **Terms of Reference (TOR)**

1. INTRODUCTION

Bihar Urban Infrastructure Development Corporation (BUIDCO), a Govt. of Bihar undertaking, requires the services BUIDCO's empanelled consultant vide BUIDCO letter no. 275 dated 04.09.2020. BUIDCO intends to prepare DPR Sewerage Network and STP scheme in towns of Bihar.

The Consulting Firm will be required to have staff of suitably qualified Professionals being competent to carry out all of related duties and equipped with necessary facilities for conducting desired tests.

(i) **After acceptance of consultants' program by client, the Consultants will be fully** responsible to mobilize the resources required to maintain the agreed schedule of work within the total person months agreed under the contract for the services. In case of any delays, which are not beyond the control of consultants, the client reserves the right to require Consultancy Firm to provide additional resources and personnel as may be required to make up the lost time, for which no additional payment shall be made.

(ii) Whenever power point presentation or otherwise are sought for, the consultants shall make themselves available to various committees.

2. OBJECTIVES OF THE ASSIGNMENT

The primary objective of the consultancy is to undertake necessary survey of the town, design of the Sewerage network and STP. Consultant have to access the drains level also for tapping the drain in I&D works. Identified the outlet point of the drain and identify the disposal point of treated sewage. A DPR should be includes total requirement of STP as per base year 2025, intermediate year 2040 and ultimate year should be 2055.

Consultant has to propose a suitable and economical DPR in two parts

- (i) First part consists Sewerage Network and STP.
- (ii) Second part consists Interception and diversion of Drains and STP

It is proposed to obtain financial assistance under different schemes of GOI (like AMRUT/NMCG) or other External Funding, if available. Govt. of Bihar may also provide part financial assistance through State Plan for implementation of proposed projects. The objective of the Project proposed is to promote sustainable environment and basic urban infrastructure and sanitation facilities to the citizens and to ensure effective abatement of pollution by adopting a river basin approach for comprehensive planning and management, and to maintain minimum ecological flows in the rivers in vicinity with the aim of ensuring water quality and environmentally sustainable development. Following standards and guidelines laid by Ministry of Urban Development and Ministry of Environment & Forest, Govt. of India needs to be followed.

- CPHEEO's "Manuals". Govt. of India
- NGT Guidelines
- NMCG guidelines.
- *Guidelines for Preparation of Project Reports under National River Conservation Plan and National Ganga River Basin Authority* issued by Ministry of Ministry of Environment & Forest, Govt. of India
- *Environmental and Social Management Framework (ESMF)* issued by Ministry of Ministry of Environment & Forest, Govt. of India
- Any other Guideline issued by GOI and GOB for planning and design of project likely to be proposed for funding under AMRUT.

4. SCOPE OF WORK

The detailed scope of work of different components is as below: This component is proposed for the (Name of town) Sewerage Network and STP scheme to improve the I&D/sewerage system of the locality. The objective of the assignment is to study, analyze, design and prepare DPR for providing an effective sewerage system for the area by undertaking a technical, financial, economic, environmental and social study, prioritized capital investment plan, detailed designs, drawings, cost estimates and bidding documents for planning and implementation of such investments.

- DPR to be prepared as per current site conditions and requirements.
- All the drawings shall be good for construction and with flow diagram by notch method.
- Hydraulic loading shall include maximum discharge from Different STP and storm water flow from surrounding catchments entering into Nala through intermediate drains. Flow measurements of drains by notch method and as per guidelines of NMCG must be included in DPR along with water quality test report. STP and IPS land if any proposed in DPR must be identified and necessary consent from land owner must be attached in DPR.
- Structural loading on the drain shall be as per latest IRC /IS codes. Hydraulic design shall be based on the relevant IS codes and CPEEHO's manual and cross section shall be adequately designed.
- Adequate provision for cleaning the Sewerage network and Nala both manually and mechanically to be kept as per best available practices.
- Augmentation of pumping facilities, if required, shall be considered.
- According to NMCG, Main stem and Tributaries of Ganga Specifically to examine the contents of DPR with respect to Following attributes:
 - Population (existing) and Project Population (against the decadal growth rate);
 - Existing Treatment Capacity/Utilization of treatment capacity and gap analysis;

- Present status of sewage management in terms of population dependent on septage management (availability of information ward wise or drainage zone wise or any other designated classification)
- Need for treatment capacity vis-à-vis gap including planning for capacity creation in single stage or in time-step modules;
- River and drain water quality and flow quantity.
- The DPR proposal has been prepared considering water supply @ 135 lpcd. Actual water supply status has not been mentioned while it has been mentioned that water supply scheme is approved with 135 lpcd. Therefore actual water supply information along with details of water supply, its tendering stage etc. may be provided to support the proposal. As otherwise CPHEEO manual on water supply and treatment 1999, the recommended value of water supply would be 70 lpcd in towns provided with piped water supply but without any sewerage system. Also instruct BUIDCO may provide the total flow from all the drains out falling into river Ganga after carrying out data.
- Please refer NMCG Format for Cost estimate of Project.

All technical reports or proposal will be submitted to concern Project Director (Field) and after vetting of them proposal will be come to BUIDCO by process.

- Also during the discussion with NMCG following common points were mentioned for improvement of DPRs:
 - DPRs need to follow the latest guidelines of NMCG for Sewerage Network and I&D and STP works, which have already been circulated.
 - Populations projection shall be included for 2025, 2040 (intermediate year) and 2055 (ultimate year).
 - DPRs to be submitted in hard copies along with all respective drawings
 - Drawing need to indicate the north orientation, flow of river, demarcation of drainage zone (which are considered for the I&D works), Zone for proposed sewerage network, Sewerage Network drawing with levels, alignment of drains, their flow direction and outfall points into river, location of interception points, alignment of diversion from nalla to STP location, alignment of lift lines/risings mains etc, location of existing/ proposed STP parcels of government land available. nearby ponds, natural water bodies available where water can be led through flow under natural gradients;
 - The proposal drawing should indicate the propose schemes clearly (e.g. the length of Sewerage Network, no. of outfalls, proposed pumping stations, rising main alignment, location of STP drains to be tapped etc.)
 - Contour map shall be provided
 - Flow data for the drains to be tapped along with waste water quality data shall be provided;
 - Clear indication of water supply scheme and its present status (e.g. whether DPR is approved, tendering completed, project under execution, expected completion time etc.) shall be indicated in the report so as to decided the capacity of STP.
 - The STP capacity proposed need to be based the drain discharge data, present water supply scheme as well as water supply scheme proposed for the city.
 - And according to SPMG these point must be reflect in DPR
 - STP proposed land NOC and necessary documents are must enclosed in the DPR.
 - Excising SWM status included in the DPR.
 - Ward details and Map is available in DPR.
 - River water down stream and upstream quality data must available in the DPR.
 - HFL at identified STP location. Benchmark location and photograph must be mentioned in DPR.
 - There should be provision of utility shifting, trenchless if required in Cost estimation.
 - The report should be duly checked and verified by concern Project Director and then submit in

A. General Framework

- (i) Reviewing existing maps, studies, and other related documentation to obtain a better understanding of the existing Different Nala prior to the start of fieldwork.
- (ii) Undertaking detailed topographic survey of the Project area and leveling survey and preparation of base maps showing the connecting drains and their catchment areas.
- (iii) Consultant to collect data through primary investigation or secondary data collection Indicating the details of other underground services, mainly sewers and water mains (electrical cables) which are in the vicinity of the Nala and show their distance .
- (iv) While formulating designs, the existing side drains, canals, other major storm water canals / rivers maintained by the PHED Department, Highways Department should be analyzed based on the maximum rainfall, storm water runoff and flow from various STP for the project area on a scientific basis.
- (v) Suggesting suitable materials for construction with cost benefit analysis discussing the feasibility of using pre cast structures and providing structural designs and other design and details as appropriate

B. Stakeholder Consultation

- (i) Detailed consultations shall be conducted with various stakeholders like Government departments like ULB, PHED, UDHD, NGOs, general public, etc with specific deliberations on project proposals, to receive opinions and identification of land. The suggestions received from the consultations shall be shall be documented and reviewed and be considered in finalizing the designs.

C. Project Cost & Financial Viability

- (i) Preparation of **project cost estimate** including capital, O&M Costs based on the above and preparation of financial analysis.
- (ii) The cost estimate shall be based on the latest schedule of rates of Government of Bihar. There shall not be any lump sum provision in the estimate for items not covered in the schedule of rates market rates shall be adopted with evidence.

D. Institutional Strengthening & Capacity Building

- (i) Recommending organizational set up for operation and maintenance of the system. Identify requirements of staff along with costs. Involve the concerned local body at all stages.

E. Implementation Plan

- (i) Prepare the project implementation schedule for execution. This will also include drawing up project budget with monthly/quarterly target; furnish network analysis such as CPM, PERT for purposes of effective project monitoring and regular reports.
- (ii) Suggesting use of modern technologies for implementation of project.

F. Environment & Social Consideration

- (i) Preparation of Environmental and Social assessment Report to prepare necessary impact assessment and Environmental Mitigation Plans and Resettlement action Plans
- (ii) Identifying specific protection arrangement for trees and other sensitive environmental components. Tree cutting requirement if any shall be clearly identified and listed with schedule of permission from regulatory authorities to facilitate cutting.

G. Approvals/ permissions

- (i) Wherever permission from a state or central government organization is required in implementation of the project, it would be endeavored to obtain the same while finalizing the DPR. However, in case same is not possible while finalizing DPR, proper proposal should be

initiated from the ULB for sanction.

- (ii) Clearances/ Permission from other Ministries namely Ministry of Environment and Forest, SPBC/CPCB, NHAI and Railways, if required, shall be obtained and enclosed with the DPR.
- (iii) Whenever power point presentation or otherwise are sought for, the consultants shall make themselves available to various committees.

5. SURVEY, DATA COLLECTION AND INVESTIGATION

a) Field Survey

Planning and design of the Sewerage Network, I&D and STP Scheme shall require topographical survey of the project area to be carried out and necessary base plans with spot levels and contour levels shall be prepared.

where survey details are given by BUIDCo, the project area's details should be verified at random based on the given survey drawing and additional areas, if in the town, should be surveyed and the complete details got certified by the ULB for completeness of coverage, and a layout plan to scale as specified shall be prepared indicating the existing and proposed components along with RLs.

Where basic input data on survey is not given by BUIDCo, Consultant shall carry out Topographical survey project area and prepare road plan with levels along roads/streets at suitable intervals and junctions of roads, locations such as change in gradient, road turnings, zoning areas and selection of site for head works etc in the listed ULBs under consultancy and prepare contour map.

The survey shall be guided by the following:

Establishing Temporary Benchmarks at suitable places near the I&D and STP with respect to the known GTS benchmark or a benchmark transferred from GTS by departments like Public Works Department etc.

Landside features to be include but not limited to

- Electrical poles, telephone poles, transformers, manholes, trees, building lines, type of buildings (kutcha/semi pucca/pucca/shops/houses, no. of stores etc.), and also building frontage, Water Supply lines, taps, bore wells, open wells, overhead tanks etc., all water bodies – lakes, streams, ponds, canals places such as temples, temple mast, mosque, church, grave yard, road width, type of road surface etc.
- Locations of existing drains clearly identifying the type (open/closed/kutcha/pucca, within or outside foot path), width and invert level of drain including the beginning and end of drain.
- Location of existing sewers (if any), manholes etc
- Railway lines with details of culverts-ventway and levels
- Details of flood marks and Flood levels available at site
- During Field Survey, the Consultant is expected to coordinate with the relevant Local Body and identify potential sites for Over Head Tanks, Sewage Pump stations, Treatment Plant, Tube Wells etc. and collect Katha/Khesra details for the chosen sites
- Carry out Block level survey at suitable intervals of the chosen sites

b) Data Collection

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 source of the data and also the basis of assumptions, if any. The consultant shall be responsible for all the data or designs and drawings and cost estimate given by them.

c) Soil Investigations

Soil investigation along the I&D and STP Scheme and Nala shall be at approximately 500 m intervals and shall be used to profile the subsurface.

[Handwritten signatures in blue ink]

6. LAND REQUIREMENT

The Consultant shall obtain No Objection Certificate from Land belonging PMC before finalizing the feasibility report. BUIDCo will facilitate in obtaining the NOC from PMC Patna if required.

7. OUTPUTS AND DELIVERABLES

Under this contract the Consultant's payments will be on output and deliverables based. It is very important for the consultants to note the exact outputs required and their contents. The desired outputs & deliverables under this contract are as shown in the table below.

8. REPORTS TO BE SUBMITTED BY THE CONSULTANT TO BUIDCO

- 8.1. All reports, documents and drawings obtained by the consultant are to be submitted by him to the client under this assignment. The analysis of data and the design proposals shall be based on the data derived from the primary surveys and investigations carried out during the period of assignment. The sources of data and model relationships used in the reports shall be indicated with complete details for easy reference.
- 8.2. Since the project preparation is quite expensive and time consuming, the projects under this assignment are proposed to prepare in various stages and at the end of each stage decision shall be taken at competent level and conveyed to consultants whether to proceed for next stage. Project preparation activities will be split into four stages as brought out below.

Stage 1: Inception Report;

Stage 2: Feasibility studies and Feasibility Report (FR)

Stage 3: Draft Detailed Project Report (DDPR)

Stage 4: Detailed Project Report (DPR) and Soft Excel and PDF sheet of BOQ

- 8.3. Time schedule in respect of all such stages has been indicated in earlier Paragraphs. Consultant shall be required to complete, to the satisfaction of the client, all the different stages of assignment within the time frame indicated in the schedule of submission pertaining to Reports and Documents for becoming eligible for payment for any part of the next stage.
- 8.4. The Consultant shall submit to the client the final reports and documents in **bound volumes** (and not spiral binding form) after completion of each stage of work as per the schedule and in the number of prescribed copies. Further, the reports shall also be submitted in CDs in addition to the hard copies. The soft copy shall be in original version and shall not be converted in pdf form. Consultant shall submit all other reports mentioned specifically in the TOR.
- 8.5. The time schedule for various submissions shall be strictly adhered to. No time-over-run in respect of these submissions will normally be permitted. Consultant is advised to go through the entire terms of reference carefully and plan his work method in such a manner that various activities followed by respective submissions as brought out are completed as stipulated. Consultant is, therefore, advised to deploy sufficient number of supporting personnel, both technical and administrative, to undertake the assignment. As far as possible, the proposal should include complete information such as number of such persons, name, position, period of engagement, etc. The Consultant is also advised to start necessary survey works/data collection from the beginning so as to gain time in respect of various other activities in that stage.

STAGE -1

8.5.1. Inception Report (IR)

The Inception Report shall cover the following major aspects:

- (i) Project appreciation;
- (ii) Detailed methodology to meet the requirements of the TOR finalized in consultation with BUIDCo officers; including scheduling of various sub-activities to be carried out for completion of various stages of the work; stating out clearly their approach & methodology for project preparation after due inspection of the entire project stretch and collection/ collation of necessary information;
- (iii) Task Assignment and Manning Schedule;
- (iv) Work programme;
- (v) Performa for data collection;
- (vi) Key plan and Linear Plan;

- (vii) Development plans being implemented and / or proposed for implementation in the near future by the ULB and other line agency and the possible impact of such development plans on the overall scheme for field work and design for the study;
- (viii) Draft design standards; and

STAGE -2

8.5.3. Feasibility Report (FR)

8.5.3.1. The Consultant shall commence the project preparation in accordance with the prescribed guidelines. Before going for detailed feasibility studies; the Consultant shall carry out pre-feasibility studies for screening and ranking of all project alternatives and to select an appropriate alternative for carrying out detailed feasibility studies.

8.5.3.2. The Feasibility Report shall contain the following:

- (i) Executive summary
- (ii) Project Background, Introduction, Project Area and Need of the Project
- (iii) Long Term Plan to address project objectives
- (iv) The Proposed Project
 - a. Objectives
 - b. Project Users
 - c. Rehabilitation and De-bottlenecking of the Existing Systems
 - d. Project Description
 - e. Support Activities
 - f. Integration of the Project with the Existing and Future Systems
 - g. Agencies Involved in Project Implementation and Relevant Aspects
 - h. Establishing Feasibility may be based on Block Cost Estimates.
 - i. Implementation Schedule with detailed PERT/CPM Charts
 - j. Operation and Maintenance of the Project
- (v) Conclusions and Recommendations

8.5.3.3. The FR should clearly address the following points

- (i) Methodology adopted for the study
- (ii) Socio-economic profile of the project areas
- (iii) Possibility of Sewerage System and Storm Water Drainage System. It is intended to provide Sewerage and Drainage throughout the area of towns. Consultant need to bring out all such issues at the feasibility stage. This would particularly include but not be limited to:
 - a. Preliminary cost comparison (capital as well as O&M expenses)
 - b. Feasibility of implementation of sewerage and drainage in City where fully functional water supply system is already in place.
 - c. Stakeholder consultation and ULB approval for sewerage and drainage.
 - d. Preparedness of ULBs to implement sewerage and drainage.
 - e. Way forward and road map for ULBs/PHED for preparation of soft side components of Sewerage and Drainage system including assessment of staffing need, computerized billing & collection, volumetric measurement and metering.
- (iv) Indicative design standards, methodologies and specifications
- (v) Investigations, Surveys and analysis
- (vi) Alternatives considered for coverage, zoning, sewage treatment technology, water sources considered etc.
- (vii) Detailed analysis of recommendations made in CDP and CSP and how the same are proposed to be incorporated or found not feasible.
- (viii) Preliminary land acquisition/transfer requirements
- (ix) Preliminary Cost estimates

8.5.3.4. The basic data obtained from the field studies and investigations shall be submitted as an Appendix to the FR.

8.5.3.5. **FR Approval:** Any comments, revisions and modifications in the FR suggested by BUIDCo shall be incorporated and submitted within 5 days of receipt of comments from BUIDCo.

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STAGE: 3

8.5.4. Draft Detailed Project Report (DDPR)

8.5.4.1. The DDPR Submission as given below:

- Volume I – Main Report together with Economic, Financial and Environmental Reports
- Volume II – Survey, Investigations and Detailed Designs
- Volume III – Data for Materials and Works, Detailed Estimates of Quantities and Cost
- Volume IV – Drawings (In autocad and pdf)

8.5.4.2. **The DPR incorporating comments of clients group shall be submitted to Ministry of Urban Development/ Ministry of Environment & Forest (MoEF), Govt. of India or any other funding agency through Urban Development and Housing Department (UDHD), GoB for approval and for consideration of funding. GoB may also consider for funding of some infrastructure under State plan. Any comments, revision and modifications suggested by Govt. of India/GoB/Funding agency through UDHD shall be incorporated and DPR shall be suitably modified. The Final DPR will be accepted only after approval of DPR from sanctioning authority. Consultant will also facilitate for getting approval of DPR.**

STAGE: 4

8.5.5. Final Detailed Project Report (DPR)

- (i) The comments of BUIDCo/GoI/GoB and Funding agency, if any, on the Draft DPR shall be incorporated and shall be resubmitted as Final DPR.
- (ii) Consultant shall assist BUIDCo/UDHD in posing the DPR to the funding agency to get approval of DPR and sanction of funding.
- (iii) Five (5) Sets of Final Detailed Project Reports, incorporating all revisions deemed relevant following receipt of the comments from BUIDCo shall be submitted as per the schedule.

9. INTERACTION WITH BUIDCO AND OTHER LINE AGENCIES

- 9.2. During entire period of services, the Consultant shall interact continuously with BUIDCo and provide any clarification as regards methods being followed and carry out modification as suggested by BUIDCo. A programme of various activities shall be provided to BUIDCo and prior intimation shall be given regarding start of key activities such as survey/investigation etc. so that inspections of BUIDCo officials could be arranged in time.
- 9.3. BUIDCo officials and other Govt officials may visit the site at any time, individually or collectively to acquaint themselves with the field investigations and surveys.
- 9.4. All equipment, software and books etc. required for satisfactory services for this project shall be obtained by the Consultant at their own cost and shall be their property.

10. DATA AND SOFTWARE

- 10.1. The CDs containing all basic as well as the processed data from all field studies and investigations, report, appendices, annexure, documents and drawings shall be submitted to BUIDCo at the time of the submission of the DDPR. The data can be classified as follows:
 - (i) **Engineering Investigations and Other Studies:** Geo-technical surveys, Hydrological Studies (for proposed cover Nala sites), source water quality analysis, physiochemical Analysis of Wastewater Inventory data for existing water supply/sewerage/drainage facilities (if any), their ~~rehabilitation, new construction requirement etc.~~ in MS EXCEL or any other format which could be imported to widely used utility packages.
 - (ii) **Topographic Surveys and Drawings:** All topographic data would be supplied in(x, y, z) format along with complete reference so that the data could be imported into any standard design software. The drawing files would be submitted in *.dwg format.
 - (iii) **Rate Analysis:** The Consultant shall submit the rate analysis for various worksitems including the data developed on computer in this relation so that it could be used by the client later for the

- (iv) purpose of updating the cost of the project.
Economic and Financial Analysis.

10.2. Software

- 10.2.1. Consultant is required to design the cover Nala Sewerage/Drainage works using relevant software like STAAD Pro, Sewer Gems or Sewer Cad/Storm CAD/Auto Sewer/ spread sheet format for Sewerage, drainage.
- 10.2.2. The CDs should be properly indexed and a catalogue giving contents of all CDs and print-outs of the contents (data from field studies topographic data and drawings) should be handed over to BUIDCo at the time of submission of the Final Report.

11. EXPERTISE AND INPUTS

11.1. Personnel Requirement

The Consultant shall be required to form a multi-disciplinary team for this assignment. The consultant Team shall be manned by adequate number of experts with relevant experience in the execution of similar detailed design assignments. The Consultant's minimum personnel requirements are estimated and shown in Table-1. This contains information about the personnel to be provided by the consultants stating type of expertise and the required skills and experience. The criteria are desirable and not restrictive, such as stating an exact degree might preclude other good candidates from the job. Ultimately, the CVs provided will form the largest component of the evaluation. So it is important that CVs are described well in prescribed format.

Table 3: Personnel Requirement

Sl no	Designation of key Experts	No's of Experts	Man Month
1	Team Leader cum Structural Engineering Expert.	1	2
2	Sewerage Expert	1	2
3	Structural Engineer	1	1
4	Survey & Geotechnical	1	1
5	Environmental Engineer-cum-EIA Expert	1	1
	SUPPORT STAFF		
(i)	Support Engineers (Civil)	1	2
(ii)	Drafting Support/CAD Operator	1	1

12. PAYMENT TO THE CONSULTANTS

- (i) The consultancy charges for performance of the services under the contract shall be paid by the client as per payment schedule given in Terms of Reference.
- (ii) The client shall pay the Consultant, the GST on prevailing rates as applicable on the consultancy charges.
- (iii) It is expected that consultant has quoted amount considering all requirements for satisfactory performance of the services included in ToR. If the consultant has not considered any component for performance of the services, no extra payment shall be made on this account.
- (iv) The Consultant will be paid consultancy fee as a percentage of the quoted price of the specific DPR as per the schedule given below :-

Table 5: Payment Terms

SNo	Description	Payment
1	On submission of Stage-I Report (Inception Report and Quality Assurance Plan) and its approval by BUIDCo	5%
2	On Submission of Stage-2 Reports (Feasibility Report) including survey and investigation reports	5%
3	On approval of Stage-2 Report (Feasibility Report) by BUIDCo	5%
4	On Submission of Stage-3 Reports (Draft DPR)	10%
5	On approval of Stage-3 Reports (Draft DPR) by BUIDCo based on comments of BUIDCo	10%
6	On Submission of Stage-4 (Final DPR)	15%
7	On approval of Stage- 4, (Final DPR) from the funding agency	40%
	After completion of Bidding process based on Approved DPR	10%
	Total	100%

- (v) **The client reserves the right to stop the consulting assignment for full or part of the assignment at any stage of its execution by the Consultant in specific cases, if required by funding agency. In the event of such discontinuation of full or part of the assignment, the Consultant shall be compensated to the extent of the work done by it.**