GOVERNMENT OF THE PEOPLES' REPUBLIC OF BANGLADESH
Dhaka Water Supply and Sewerage Authority (DWASA)
Dhaka Sanitation Improvement Project (DSIP)
IDA Credit No.: 6566-BD/AIIB Loan No.: L0240A

Memo No.: 46.113.633.00.00.090.2025-26/308 Date: 14/10/2025

Request for Expressions of Interest (REoI) for Consultancy Services for Study on Sludge Management (Package No.: SD19)

(Firm Selection-National)

1. The Government of the People's Republic of Bangladesh (GoB) has received a credit from the International Development Association (IDA) and a loan from Asian Infrastructure Investment Bank (AIIB) towards the cost of 'Dhaka Sanitation Improvement Project (DSIP)' which is being implemented by Dhaka Water Supply and Sewerage Authority (DWASA) - an autonomous entity of the GoB. DWASA intends to apply a part of the proceeds of this credit/loan for the services of a Consulting firm (Consultant) for Consultancy Services for Study on Sludge Management (Package No.: SD19). The selection process will be governed by the World Bank's Procurement Regulations.

2. Scope of Services: The scope of the Consulting services is as follows, but not limited to:

- Describe all possible sludge disposal and reuse options deemed applicable in Dhaka..
- Based on the expected sludge qualities and legally prevailing requirements, provide strategic decision(s) that indicates which sludge reuse & disposal options may be most suitable for Pagla catchment in Dhaka.
- For each sludge reuse/disposal option considered to be possibly of interest in a catchment, develop an estimate of associated CAPEX and OPEX implications.
- For each sludge reuse/disposal option considered, discuss and evaluate technical challenges, impact on carbon footprint, as well as environmental and social impacts.

3. Salient features of this consultancy services:

(a) The estimated contract period of this assignment is 12 (Twelve) months.
(b) Estimated level of input is 24 professional staff-months.
(c) Expected start date of assignment is January 2026 (tentative).

The detailed Terms of Reference (ToR) for the assignment (if necessary, may be modified) will be available at DWASA's website (www.dwasa.org.bd) and at the Project office address given below.

4. DWASA now invites eligible consulting firms ("Consultants") to indicate their interest in providing the services. The interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The short-listing criteria are:

(a) General experience of the Firm(s) specifically the core business and years in business;
(b) Experience in similar projects of a comparable size, complexity and technical specialty in the required area;
(c) Financial soundness, technical and managerial capability, staffing and logistics of the Firm(s).

Key Experts will not be evaluated at the short-listing stage.

5. Consultants are requested to submit the following supporting documents in support of the above-mentioned criteria:

(a) Registration Document/paper of the firm (s); (b) Joint Venture agreement or the letter of intent to form a Joint Venture if the Consultant intends to participate as a JV; (c) Firm's brochure; (d) Audited financial reports for last three years including specifically the Profit and Loss Statement; (e) Service experience record of last five (5) years (including nature of each assignment, total value of each assignment, total input in terms of Key Staff man-months for each assignment, name of Client/Employer, location of service etc.).

6. The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016, Revised November 2017 and August 2018 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest.

7. Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a "joint-venture" or of "sub-consultancy". In the case of a Joint Venture, all the members of the Joint Venture shall be jointly and severally liable for the entire contract, if selected. In case of an association, all members of such "association" should have real and well-defined inputs to the assignment and it is preferable to limit the total number of members in the association to a maximum of 4 (Four).

8. A Consultant will be selected in accordance with the Quality and Cost Based Selection (QCBS) method set out in the Procurement Regulations.

9. Interested consultant may obtain further information from the address below during office hours from 1000 to 1600 hours (GMT+6) between Sunday and Thursday and the intending entities may contact for any clarification and background information at the address given below.

10. Expression of Interest (EoI) (both hard and soft copy) needs to be submitted (either in person or by mail) to the following address by **1500 hours Bangladesh Standard Time (GMT+6) on or before 01 December, 2025**. The soft copy of the same may be sent through email mentioned below. Please note that in case of submission through email, the Employer shall not be responsible for the confidentiality of the submitted documents prior to the submission deadline. In this case, the Employer shall not be responsible if the document(s) sent by the prospective entity are not accessible by the Employer under any circumstances. Please clearly mention **"Expression of Interest (EoI) for Consultancy Services for Study on Sludge Management (Package No.: SD19) under DSIP, DWASA"** in the email's subject line or on the top of the envelope.

11. DWASA will not be responsible for any delay in submission including delay due to postal or any other reason. The authority reserves the right to accept or reject any or all EoIs either in part or in full without assigning any reason, whatsoever.

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Dhaka Sanitation Improvement Project (DSIP)
(Financed by the World Bank, AIIB and GoB)

Terms of Reference (ToR)
for
Consultancy Services for Study on Sludge Management
(Package No. SD19).

Dhaka Water Supply and Sewerage Authority

September 2025

Contents

Abbreviations

CAPEX	Capital Expenditure
DB	Design, Build
DBO	Design, Build & Operate
DCC	Dhaka City Corporation (DCC North, DCC South)
DoE	Department of Environment
DSIP	Dhaka Sanitation Improvement Project
DWASA	Dhaka Water Supply & Sewerage Authority
FS	Feasibility Study
FMS	Financial Management Specialist.
GAP	Gender Action Plan
GoB	Government of Bangladesh
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
MLD	Million liters per day (1 MLD = 1,000 m^3/d)
MLGRD&C	Ministry of Local Government, Rural Development & Cooperatives
O&M	Operation and Maintenance
OPEX	Operational Expenditure
PIM	Project Implementation Manual
RAJUK	Rajdhani Unnayan Kartripakhhya (Capital Development Authority)
SMP	Sludge Management Plan
STP	Sewage Treatment Plant
ToR	Terms of References
USD	United States Dollar
WB	The World Bank

Terms of References

1. GENERAL BACKGROUND

1.1 Introduction

DWASA was established in 1963 as an autonomous entity under the Ministry of Local Government, Rural Development and Co-operatives (LGRD&C). Currently DWASA provides three services to the city dwellers i.e. potable water supply, collection and safe disposal of sewage.

1.2 Background of the Study

Dhaka city, the capital of Bangladesh, is one of the fastest growing mega cities in the world. Dhaka's population has been increasing continuously and at a very high rate since Bangladesh's independence. The city has also expanded tremendously in an unplanned manner. Today the city is home to an estimated 20 million people. The rapid and haphazard urbanization is exerting immense pressure on Dhaka's urban environment, and city authorities are struggling to deal with pressing environmental issues such as solid waste management, wastewater management and drainage.

Dhaka WASA had an ambitious plan, as outlined in its Sewerage Master Plan that was prepared with the World Bank's support, to complete five new STPs in core city area by 2025. While the Sewerage Master Plan indicates that ideally sewerage services should cover all of Dhaka's urban area, it also recognizes that 100 percent piped network coverage may not be realistic over the short term given the technical, socioeconomic, and financial constraints. Therefore, the Sewerage Master Plan provides for a phased intervention strategy to address Dhaka's sanitation challenges. This process started with the construction of Dasherkandi STP for 500 MLD, completed with sludge drying and incineration facility. Start-up was in May 2022. Since that sludge drying and incineration is designed to process all of Dasherkandi's sludge, this catchment can be excluded from the present study. Nonetheless it may be studied as an example of a possible option for sludge management in other catchments. Further, at present a project is underway in Pagla catchment to construct the first stage of Pagla STP. Hence, in Pagla the most urgent application of the Sludge Management Plan's (SMP's) recommendation will be needed. It is envisaged that the generated sludge would be managed not only by incinerator but also to add value such as composting, soil conditioner, construction materials etc.

These and all future STPs will permit for a growing sewer connection rate in Dhaka, implicating a growing sludge generation volume in the coming years. Hence, a clear definition of how to cope and manage that sludge economically is needed. The present SMP is expected to provide the necessary strategic guidance in this respect.

The following table provides a summary of tentatively planned STP capacities in Dhaka city:

Tentative Capacity of STPs

Sl. No.	Name of STP	Phase-I	Phase-II, III, IV	Remarks
1	Uttara STP	150 MLD	150 MLD	Feasibility study is underway. Land acquisition at the final stage.
2	Mirpur STP	200 MLD	150 MLD	Feasibility study conducted in 2015 and it is planned for updating.
3	Dasherkandi STP	500 MLD	-	STP running since May, 2022. The sludge is being incinerated.
4	Pagla STP	200 MLD	(200 + 200 + 200) MLD	Phase-I construction going on.
5	Rayerbazar STP	200 MLD	150 MLD	Feasibility study is underway.

1.3 Description of Pagla sewerage catchment

As per the Sewerage Master Plan prepared in 2013 by DWASA, the core city area of Dhaka has been divided into five sanitation catchments which are as follows:

(i) Dhaka East - Dasherkandi Sewerage catchment
(ii) Dhaka West - Mirpur Sewerage catchment
(iii) Rayerbazar Sewerage Catchment
(iv) Dhaka South - Pagla Sewerage Catchment
(v) Dhaka North - Uttara Sewerage Catchment

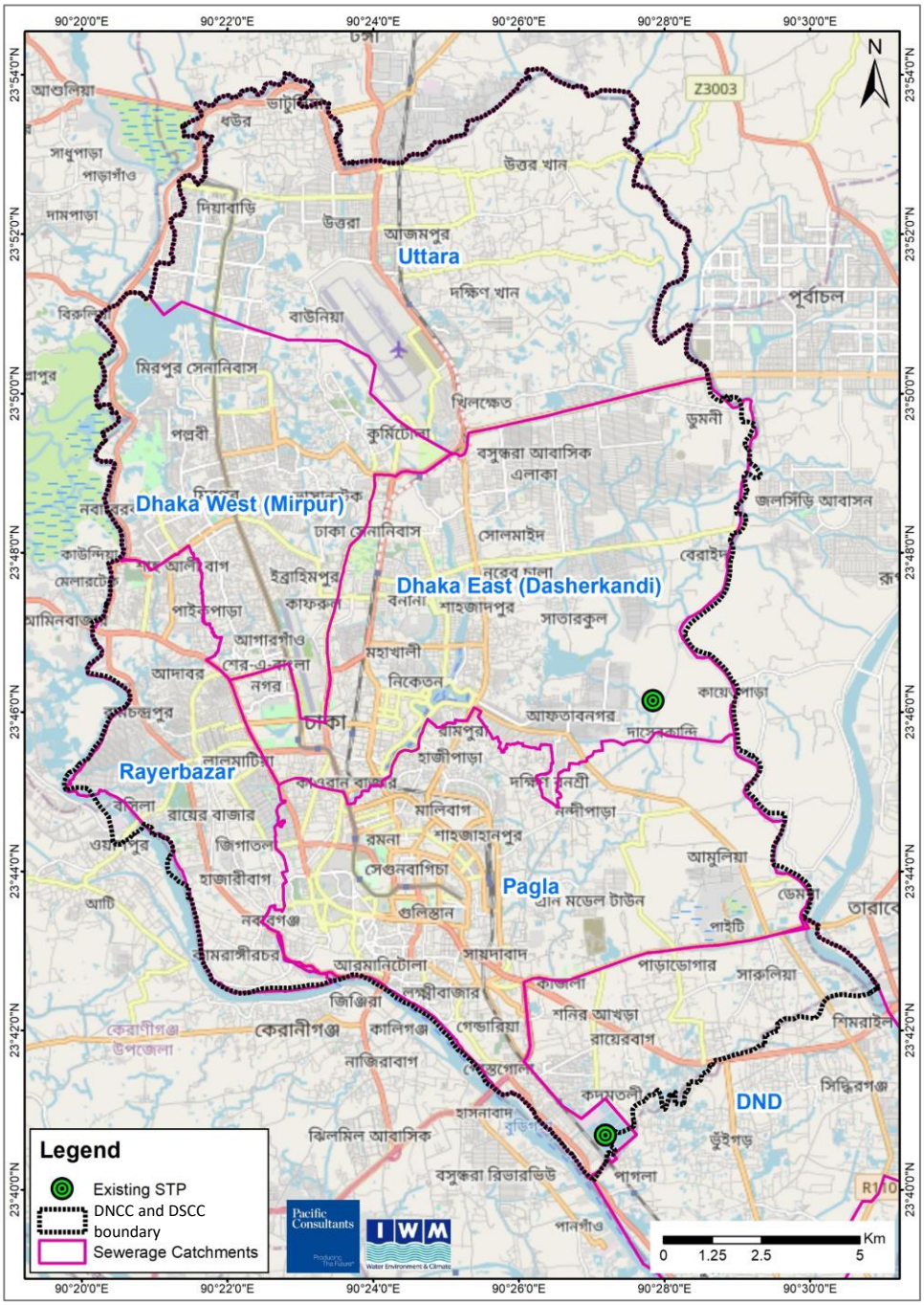

Figure: Sewerage Catchments in Dhaka City

Out of the above sewerage catchments, the following related data of Pagla catchment have been extracted from the existing Sewerage Master Plan for Dhaka City (2013):

(i) Dhaka South - Pagla Sewerage Catchment

The Dhaka South - Pagla Sewerage Catchment encompasses *approx.* 73km^2, including nine thanas, namely Ramna, Khilgaon, Sabujbagh, Motijheel, Lalbagh, Kotwali, Sutrapur, Demra and Shyampur Thanas. The river Buriganga borders along the south-western side and the river Balu borders along the eastern side of the Catchment.

Name of catchment: Dhaka - South (Pagla)

2. Area of the catchment: 72.55 km^2
3. No. of population within service coverage area: 5.1 million
4. Percentage (%) of population connected in sewerage network: 65%
5. Total sewage production: 380000 m^3/day
6. Type of sewerage system: separate
7. Network Information:
   a) Total Length of different pipes: 147 km + 700 km (Existing)

Diameter of Pipes (mm)	Length of Pipes (m)
200	65092
300	28837
400	11529
500	9156
600	6229
700	4807
800	1134
900	736
1000	2487
1400	1834
1500	2334
1600	2450
1700	1354
1800	2098
1900	7414

   b) No. of sewage pump stations: 6 + 24 (Existing)
8. Area of Sewage Treatment Plant: 51 ha
9. Location of sewage treatment plant: Pagla
10. Receiving water body: Buriganga River

N.B.: The above data have been extracted from the existing Sewerage Master Plan for Dhaka city prepared by Dhaka WASA in 2013. That Sewerage Master Plan is being updated by Dhaka WASA now under a separate contract. The Consultant shall have to consider the related data of the updated Sewerage Master Plan those are available within three months of the contract effectiveness during the rendering of its services.

1.4 Institutional and Implementation Arrangements for SMP

Dhaka WASA shall be responsible for overall project implementation related to sludge management with its own source of financing or with the financial assistance from any development partners.

Dhaka WASA is presently implementing Dhaka Sanitation Improvement Project as a part of the implementation of its Sewerage Master Plan with the financial assistance from the World Bank, Asian Infrastructure Investment Bank and the Government of the People's Republic of Bangladesh. Under the project, Pagla STP will be reconstructed and expanded to 200 MLD with the utilization of a modern treatment technology, approximately 22 km of trunk mains will be reconstructed and approximately 462 km of secondary and tertiary sewerage networks will be reconstructed/newly constructed in the Pagla catchment. It is estimated that an amount of approximately 210 MT of dewatered sludge (75% moister content) per day will be produced at Pagla STP after the completion of its 1st phase. As per the present Sewerage Master Plan, during the design horizon i.e. in 2050, the capacity of the treatment plant will be 800 MLD, which will be constructed in different phases upon the availability of necessary funds and then the amount of the sludge will be increased accordingly. The Contractor, VA Tech WABAG Limited, is responsible for reconstruction, expansion and operation of Pagla STP (1st phase) on DBO basis. As per Contract, the Contractor will be responsible for Operation and Maintenance of the treatment plant for the five years after the ending of its design-build period. During the 1st, 3rd and 5th year of the operational period, the Contractor will dump the sludge at the existing lagoons upon the approval of the Employer. However, during the 2nd and 4th year of the operational period, the Contractor will dispose of the sludge safely following the existing rules, regulations and laws of Bangladesh at its own responsibility and cost to other places outside the Pagla premises acceptable to the Employer/Dhaka WASA.

2. OBJECTIVES OF THIS ASSIGNMENT

The main objective of the consulting services is to elaborate a 'Sludge Management Plan' (SMP) for the whole area of Pagla catchment (Sewerage Master Plan-2013), for the sludge originating from actual and future phases of the STP embedded with the value-added activities of sludge management. This SMP is expected to meet at least the legal standards prevailing in Bangladesh and to reflect best international practice, but it also needs to take budget constraints into due account.

3. SCOPE OF WORK

3.1 General requirements

The activities of the Consultant are grouped into several main tasks, as summarized in the below Table, followed by a detailed task description.

Table: Overview of Consultant's Tasks

Description	Task
Mobilization and Inception Period	Task A
Data collection and forecast of sludge quantities and qualities	Task B
Description, evaluation, and recommendation of sludge disposal / reuse options	Task C
Sludge Management Plan (SMP)	Task D
Procurement Support	Task E

3.2 Detailed tasks description

TASK A: MOBILIZATION AND INCEPTION PERIOD

During the inception period, the project team shall carry out a number of initial activities, as follows:

1. The Consultant will mobilize the Team Leader and other key staff, non-key staff, and support personnel as necessary;
2. Study all project related documents and legal background documents important for sludge management in Bangladesh, as available at this stage;
3. The Team Leader and relevant Key Staff need to visit all existing and planned STP sites, and to talk to relevant stakeholders there, in order to get a first-hand impression of local conditions.
4. Clarify with DWASA, if there may be additional sites available that could be envisaged as premises for future sludge management facilities. Wherever such sites exist, or may be considered as an optional site in future, also visit those sites;
5. Explore with DWASA about their ideas for beneficial sludge reuse options;
6. Define gaps in available information, and conclude on necessary documents to be collected urgently;
7. Revise the Work Plan and Methodology depending on the actual situation and requirement upon the consultation with DWASA.
8. Prepare an Inception Report summarizing all activities in this initial period, including information but not restricted to the following aspects:
    - Project Schedule;
    - Staffing Plan;
    - Organizational Plan;
    - Quality Management Plan;
    - Information Management Plan;
    - Communication Plan;
    - Other items deemed of importance by the Consultant or as advised by DWASA.

TASK B: DATA COLLECTION AND FORECAST OF SLUDGE QUANTITIES AND QUALITIES

The Consultant is expected to perform the following tasks:

1. As a fundamental basis for all future sludge forecasts in the Pagla catchment, the Consultant will collect, review, justify, and define the followings:
   - existing and planned STP treatment trains and technologies,
   - actual and expected future population numbers,
   - actual and expected future number of populations connected to sewers,
   - actual and expected future number of populations served by onsite sanitation,

2. Clearly present and depict in drawings at appropriate scale the catchment boundary;
3. Collect actual and historic data on quantity and quality of sludge generation at existing STPs in Dhaka. Process that data and derive pollution specific sludge generation rates (kg dry solids/kg BOD_5 treated), separately for each facility. In parallel, analyze the respectively prevailing treatment discharge requirements and their impact on sludge generation. Subsequently, provide an evaluation, to which extent different actual and possibly expected future changes of discharge standards will change those sludge generation rates. In doing so, always verify the eventually taken definitions for sludge generation rates by comparison to typical literature values for the respective technologies and discharge standards. If any contradictions arise, these need to be convincingly assessed and clarified;
4. Since Dasherkandi STP is the largest STP in operation and existing Pagla STP is partially in operation during the elaboration of the present assignment, the Consultant will have to conduct an independent quality survey of sludge at those facilities at its own cost. Even though these results only reflect parameters from one catchment, they still represent the best available indicator, if specific sludge quality issues may generally be expected in Dhaka. This survey should be done over a period of 6 weeks, wherein every week 2 grab samples are taken, always with a minimum of 2 days and a maximum period of 5 days between samplings. Thus, in total 12 samples will be taken and analyzed. The grab samples always need to be taken from the mechanically dewatered sludge. The parameters to be analyzed in each sample are: Dry Solids ($kgDS/m^3$), Volatile Dry Solids ($kgVDS/m^3$), Cr total (mg/kgDS), Zn (mg/kgDS), Cu (mg/kgDS), Cd (mg/kgDS), Ni (mg/kgDS), Hg (mg/kgDS), Pb (mg/kgDS), total PCB (mg/kgDS), total PAK (mg/kgDS) and other related parameters deemed necessary and advised by DWASA;
5. Compare collected sludge quality data and analyzed sludge quality data with typical MAC limit values (Maximun Allowable Concentration), as permitted for different sludge disposal and reuse options. Discuss and provide conclusions. Suggest necessary mitigation measures if any limits are not met;
6. Based on the respective treatment train technologies for existing and planned facilities, and taking discharge standards into account, as well as considering the numbers of onsite sanitation systems still being in place, define pollution specific sludge generation rates (kg dry solids/kg BOD_5 treated) for Pagla catchment over time;
7. Based on the previous items, develop a forecast of expected sludge quantities over a period of 30 years, starting in 2025. This forecast should present both the development of sludge dry solids loads (tons DS/d), and final generated sludge volume (m^3/d). These values need to be forecast for every year in the period 2025 to 2055, always separately both for peak days, and for annual average days, respectively;

8. Elaborate "Draft & Final Reports on sludge quantities and qualities", that contain all the information collected, and all forecasts and conclusions drawn.

TASK C: DESCRIPTION, EVALUATION, AND RECOMMENDATION OF SLUDGE DISPOSAL / REUSE OPTIONS

The Consultant is expected to perform the following tasks:

1. Describe all possible sludge disposal and reuse options (Biogas Production, Controlled Landfill, Landfill, Soil Conditioner, Fertilizer, Brick Production, Construction Material, Incineration…, etc.) deemed applicable in Dhaka. Beside these, all options mentioned in "Bangladesh Standard and Guidelines for Sludge Management", published in 2015 by Department of Environment (DoE) need also to be presented. This file can be downloaded from https://doe.gov.bd/site/view/publications/-Additional sludge disposal/reuse options may be required by DWASA, and need to be considered by the Consultant as well;
2. Verify, if there exist any other or more up-to-date legally prevailing requirements in Bangladesh for sludge reuse and disposal, as compared to the definitions in the above-mentioned document, which is almost 10 years old;
3. Wherever no current national regulations linked to sludge and bio-solids management and treatment exist, identify the policy gaps, and document good practices internationally. In bringing such issues to the Client's attention, the Consultant should support DWASA to manage the regulatory and institutional framework required for any proposed solutions;
4. Based on the expected sludge qualities and legally prevailing requirements, provide decision tree that indicates which sludge reuse & disposal options may be most suitable for Pagla catchment;
5. For each sludge reuse/disposal option considered to be possibly of interest in a catchment, develop an estimate of associated CAPEX and OPEX implications. To come up with such estimates, it will be necessary to develop preliminary designs, and to assess where and how each option can be implemented most attractively. For instance, in case of agricultural reuse, it needs to be verified where sufficiently large and suitable agricultural land is available, and which transport distances are implicated or in case of sludge reuse in brick production, as well as in case of co-incineration, the location of such factories and their possible interest to cooperate needs to be investigated and confirmed;
6. Likewise, for all of those options discuss and evaluate technical challenges, impact on carbon footprint, as well as environmental and social impacts. Should any of the evaluated options require additional treatment stages at the STPs, these additional units need to be incorporated into the analysis of all criteria;
7. Wherever sludge management facilities are suggested for construction, ownership of those sites needs to be informed, a preliminary assessment on the geotechnical suitability of that site for the works and installations in question needs to be provided, and – generally - its use by DWASA for the suggested facilities should be realistically confirmed;
8. Explore all existing large-scale incineration facilities (not limited to sludge mono-incineration, but also including cement kilns, and other types of incinerators as existing in Dhaka or nearby), talk to those operators, and start assessing if co-incineration in any of those facilities could be an option for the incineration operators.
9. Explore the actual situation regarding landfilling, and the possibility to dispose sludge and/or sludge ashes from incineration at landfill sites;

10. Explore, if phosphorus recovery from sludge or sludge ashes, and subsequent use as a fertilizer/soil conditioner may be a suitable option in Dhaka. The Consultant shall also have to conduct a detailed market study for the possible demand of the fertilizer, soil conditioner, compost etc.
11. Explore the actual situation regarding the use of sludge in brick-fields with a detailed market study/market sounding.
12. Explore the actual situation regarding the use of sludge as a raw material in the cement factories with a detailed market study/market sounding.
13. Explore the actual situation regarding the use of sludge as an alternative fuel instead of coal in a coal-fired power plant with a detailed market study/market sounding
14. Explore any other option, as advised by the World Bank and DWASA that may be suitable for management of sludge sustainably.
15. Elaborate a multi-criteria evaluation of the analyzed sludge reuse/disposal options. The evaluation of all these options needs to take financial, technical, environmental and social aspects into account. In particular, community acceptance and climate mitigation benefits shall also be considered in this evaluation process. Further, in these evaluations high weightage shall be given to those options where value is added, i.e. where sludge is reused instead of being disposed only;
16. Summarize the key pros and cons of the Consultant's recommendations coming out of the evaluation, and justify those in simple words that can also be understood by non-specialists;
17. Elaborate "Draft & Final Reports on sludge disposal/reuse options" that presents all information elaborated under the sub-tasks described herein.

TASK D: SLUDGE MANAGEMENT PLAN

The Consultant shall be responsible for developing a concrete SMP (Sludge Management Plan), covering all suggested investments, staged over time in an appropriate way to permit for sound sludge management in Pagla catchment within the relevant project period informed earlier:

1. The recommendations in Task C shall serve as basis for the SMP, which has to be prepared by the Consultant;
2. The SMP shall present all relevant information pertaining to key design parameters, CAPEX, OPEX, approval process, recommended procurement approach, as well as estimated time requirements, in order to allow discussion and final agreement inside DWASA and with relevant stakeholders;
3. For all suggested investments a layout plan needs to be elaborated, in order to demonstrate each investment's feasibility on the suggested premises;
4. All suggested investments need to be ranked by priority. The Consultant also needs to indicate when preparatory works need to start, and by when those works should be operational at the latest;
5. Elaborate stand-alone "Draft & Final Reports on Sludge Management Plan" that presents all information elaborated. Include all data, background information, justifications, and suggestions as elaborated in the previous tasks A, B, C, and in present Task D.
6. Present all relevant findings and recommendations in a 1-day workshop, to be organized and financed by the Consultant. Total participants numbers shall be assumed at least 100 persons, in addition to the Consultant's personnel. The selection of those participants must be done in close cooperation with DWASA.

TASK E: PROCUREMENT SUPPORT

Following the recommended procurement approach in the SMP, and-after receipt of confirmation to go ahead has been given by DWASA – the Consultant shall step-wise mobilize his procurement team as needed, in order to elaborate the Bidding Documents, and provide procurement support.

Subtask E.1 – Preparation of Bidding Documents

1. Confirm with DWASA the component(s) to be tendered, the type of bidding approach (DB, DBO, Works, or else) to employ, determine the number of contracts and agree with the Client and the Financing Institution on the Conditions of Contract to be used;
2. Prepare complete Bidding Documents for the agreed contract(s), using internationally acknowledged Standard Documents as much as possible, incorporating adequate specifications and drawings of the Preliminary Designs prepared under earlier tasks in this ToR. The Bid Documents shall be of sufficient detail that tendering is acceptable according to local legislation and/or Financing Institution requirements;
3. Prepare Bills of Quantities (BOQs) or outlined BOQs for the contract (s) for new construction and installation of the sludge facility (ies);
4. Prepare the "Engineer's Cost Estimates" by completing the Bills of Quantities and Schedule of Prices of the Bidding Documents with the Engineer's Estimate (priced Bill of Quantities). All cost estimates shall be treated as confidential documents;

Subtask E.2 – Bidding Process Support

5. Complete the Invitation to Bid to prequalified/ initially selected Contractors (if required);
6. Together with DWASA conduct the Pre-bid meeting(s), reply to questions by bidders and prepare any necessary circular letters, including those related to pre-bid meeting report(s), that will be sent to all bidders, if necessary;
7. Assist with opening of bids and prepare the minutes of the bid opening, if required;
8. Assist in the finalization of short-listing of the Proposers (if required) and in the evaluation of technical and financial proposals received and prepare an Evaluation Report;
9. Prepare the Letter of Notification to the successful bidder, if required;
10. Assist in the preparation of contract(s) between DWASA and the Contractor(s) and provide advisory support services during the contract negotiations, if required. Check sufficiency of all documents necessary for the contract(s) as submitted by the Contractor, including the validity and compliance of bank guarantees, etc.

N.B.: If the financing is not secured or in case of any other inevitable situation, there may not be any necessity to take the Bidding Process Support from the Consultant. In that case, it will be the discretion of the Client whether the above Bidding Process Support will be taken from the Consultant or not. However, if any case, the activities under ***Subtask E.2 Bidding Process Support*** are not executed, ***10% of the Contract Price*** shall be deducted from the Consultant's Final Bill (inclusive of local taxes).

4. OFFICE LOCATION AND TIMING

4.1 Location

The Consultant shall set a central office on a first priority basis at WASA Bhaban (if space is available), Address: 98 Kazi Nazrul Islam Avenue, Kawranbazar, Dhaka or other suitable location (in case, if the space is not available at WASA Bhaban) in Dhaka City (must be agreed with Dhaka WASA) and shall carry out most work in Dhaka City as field basis, in order to

consult and coordinate with personnel of the Client as much as possible into the day-to-day work and to facilitate a maximum transfer of knowledge and experience.

4.2 Commencement date, duration, and critical milestones of this assignment

The Contract will be lump-sum basis. The services shall tentatively start in January 2026, and shall be finalized within a period of 12 months. The critical milestones of the assignment are –

Sl. No.	Description of Item	Submission Deadline
1.	Inception Report (Task A)	Within 1 (one) month from the date of contract effectiveness.
2.	Draft & Final Reports on sludge quantities and qualities (Task B)	Within 3 (three) months from the date of contract effectiveness.
3.	Draft & Final Reports on sludge disposal/reuse options (Task C)	Within 5 (five) months from the date of contract effectiveness.
4.	Draft & Final Reports on Sludge Management Plan (Task D)	Within 6 (six) months from the date of contract effectiveness.
5.	Draft & Final Bidding Document (s) with Engineer's Cost Estimate in a Separate Confidential Volume (Task E.1)	Within 8 (eight) months from the date of contract effectiveness.
6.	Final Completion Report comprising a concise report on Task B, Task C, Task D, lessons learned and recommendation etc.	Within 8 (eight) months from the date of contract effectiveness.

5. TEAM COMPOSITION AND ESTIMATED TIME INPUT

DWASA intends to engage a consultancy firm with ample experience in sewage sludge management of internationally financed construction projects and with experience in monitoring of large urban sewerage infrastructure of similar nature and complexity.

The Consultant shall ensure that a team of experts and professional staff with necessary education, skill and experience will be deployed for all tasks required for this assignment. Furthermore, the Consultant must provide specific professionals on all kinds of specific aspects as required.

5.1 Key Experts

The person-months as mentioned in the below table are estimated. The Consultant, when preparing their proposal, must estimate the required resources to fulfill all tasks, with minimum totals as shown in the table below. For the purposes of this Contract, the term 'internationally experienced', as used in the Key Experts' description, is intended to refer to as having working experience in other than the home country of the relevant staff, with preference given to working experience in countries similar to the Client's country. "Nationally experienced" refers to working experience in Bangladesh.

Key Staff for Tasks A-B-C-D-E		
Sl. No.	**Position**	**Man-month (MM)**
A. Key Professional Staff (Internationally Experienced)		
1.	Team Leader	3
2.	Sludge Management Specialist	4
Sub-total		**7**
B. Key Professional Staff (Nationally Experienced)		
3.	Deputy Team Leader & Contract Management Specialist	5
4.	Environmental Specialist	3
5.	Social Specialist	3
6.	Financial Analyst	2
7.	Procurement Specialist	4
Sub-total		**17**
Grand Total		**24**

Apart from the above-mentioned input, the Consultant shall take into account the following aspects:

(i) The total number of anticipated man-months for internationally and nationally experienced key experts is estimated at 24 man-months. Notwithstanding this estimate, the Consultant shall be responsible to base his financial proposals on his own estimate of necessary man-months for each of the staff positions. The only limitation is that the proposed total man-months of the key staff must not be less than 24 man-months as mentioned above.

(iii) The Consultant shall propose a Personnel Schedule in line with the tasks required and use his own experience to decide the optimum mix of internationally experienced and nationally experienced experts, but with totals as shown in the above table. During the preparation of the proposal, the Consultant will have to consider and propose the most suitable and effective Team composition for completion of the tasks assigned.

(iv) A maximum 10% of input of the international staff may be allowed from their home country, if it is required to deliver the services in a comprehensive manner.

(v) The Consultant may take the payment to the home with the permission of the relevant authority following the rule of the People's Republic of Bangladesh. In such case, the Consultant will be responsible to take permission for the relevant authority/ies and all concerned expenditure related to this shall be borne by the Consultant. DWASA will provide necessary assistance by issuing letter to the different authority/ies. It may be mentioned that the Consultant should be acquainted fully with the rules and regulation of transferring money from Bangladesh to home of the Consultant and for any ambiguity in this connection likely to be arisen afterwards shall not be the responsibility of the client.

(vi) Regardless of the Consultant's proposal, and approval thereof by the Client during contract negotiations and subsequent signing of a contract, no Consultant's staff shall be mobilized unless expressly having obtained prior clearance by the Client. No payment will be made for any staff, proposed and approved, or not, whose mobilization has not been cleared prior to employment on the project.

(vii) The Consultant shall ensure the presence of TL and/or DTL during elaboration of SMP.

(viii) The input of relevant key-staffs, where applicable, shall be in staggered manner to execute the pertinent works as per requirement during execution.

(ix) *The Consultant shall revise the schedule of inputs of different staff from time to time to align with actual project requirements,* ***subject to the Client's approval/request****.*

(x) All the key staff must be fluent in English.

The qualification, experience and competency of the key staffs, whose CVs will be considered for evaluation to be required for the proposed services are as follows:

Required Qualification & Experiences of the Key Staffs					
Sl. No.	**Type of staff**	**Minimum Educational qualification**	**General professional experience**	**Specific professional experience**	**Responsibilities (but not limited to)**
1.	Team Leader	M.Sc. (Engineering) degree in Water/Sanitary Engg. or Civil Engg.	Specialization in the wastewater sector. Proven team management skills. 20 years of professional experience in the design, tendering, implementation and operation of STPs.	Working as a TL in the implementation of minimum 2 (international development partner-funded) wastewater projects in last 10 years.	• Start-up of project and responsible for administration / coordination of Consultant team; • Ensure the quality of Consultant's services and work's process satisfying requirements of Client, WB and Bangladesh Government continuously and thoroughly during assignment period; • Maintaining liaison with the Client and the World Bank to achieve the ultimate goal of the assignment; • Participating in meetings and preparing minutes of the meetings; • Final responsibility for all reporting; • Any other activity as needed.

2.	Sludge Management Specialist	M.Sc. (Engineering) degree in Water/Sanitary Engg. or Civil Engg. Or Process Engineering.	Specialization in the wastewater sector, with demonstrated experience in different sludge management options. 15 years of professional experience in the design, tendering, implementation and operation of STPs and Sludge Management Facilities.	Working as a Sludge Specialist in the implementation of minimum 1 (international development partner-funded) STP/SWTP or sludge mgmt. projects in last 10 years.	• Collect relevant studies; • In charge of data collection and forecast of sludge quantities and qualities; • In charge of sludge sampling program; • In charge of defining and properly developing all options that may be suitable for sludge mgmt. in Pagla catchment; • Ensure that a complete and technically + financially sound SMP is being developed, complying with all requirements in this TOR; • Technical assistance in preparation of Bidding Documents; • Any other activity as needed.
3.	Deputy Team Leader & Contract Management Specialist	B.Sc. (Engineering) degree in Water/Sanitary Engg. or Civil Engg. Or Mechanical Engg.	Specialization in the wastewater sector, with 15 years of professional experience in the sector. Proven team management skills. Familiarity with local regulations and procedures..	2 reference projects or 8 years of working experience as Deputy Team Leader/Project Director with international consultants in last 10 years.	• Responsible to support the Team Leader in all aspects of the project, notably with regard to liaison with the Client and Bangladesh authorities; • Support the team as needed; • Take the responsibility of Team Leader in absence of him; • Provide support in preparation of Bidding Documents, as well as during Bidding Process, as needed; • Any other activity as needed.
4.	Environmental Specialist	Graduation in Environmental Engineering, Environment Science.	10 years of professional experience in the management of environment in development projects.	Minimum 2 reference projects or 8 years of working experience as environmental specialist for STP or Sludge Mgmt	• Responsible for reviewing and assisting on any activities related to environmental issues; • Ensuring compliance

				facility in last 10 years.	with environmental safeguards plans; • Any other activity as needed.
5.	Social Specialist	University degree (B.Sc.) in Social Sciences	10 years of professional experience in social / community development in large infrastructure construction projects	Minimum 2 reference projects or 8 years of working experience as social specialist with bilateral/ multilateral institutions' supported projects, in last 10 years..	• Responsible for reviewing and assisting on any activities that require resolution of social issues, including selection of location for newly suggested facilities, and social issues in the operation of suggested facilities; • Ensuring compliance with social safeguards plans; • Any other activity as needed.
6.	Financial Analyst	University degree in Economics. Or its related field.	10 years of professional experience in financial analysis of large infrastructure construction projects supported by bilateral/ multilateral institutions/banks.	Minimum 2 reference projects or 8 years of working experience as a Financial Analyst or Specialist with bilateral/ multilateral institutions' supported projects, in last 10 years.	• Responsible for financial comparison of different options for sludge management; • Provide support to multi-criteria evaluation of options for sludge reuse/disposal; • Provide support in preparation of Bidding Documents, as well as during Bidding Process, as needed; • Any other activity as needed.
7.	Procurement Specialist	University degree (B.Sc.) in Engg. Masters in Procurement and Supply or MCIPS will be an added advantage.	10 years of professional experience in procurement of large infrastructure construction projects supported by bilateral/ multilateral banks/institutions.	Minimum 2 reference projects or 8 years of working experience as a procurement specialist or in a position having responsibilities with a substantial content of his / her position in the procurement area (use of internationally accepted	• Develop a suitable procurement approach for the suggested facilities in the SMP; • Guide the team in preparation of Bidding Documents, as well as during Bidding Process, as needed; • Any other activity as needed.

				contract documents for works, goods and services) related to water /sewage/ wastewater infrastructure, with bilateral/ multilateral institutions' supported projects, in last 10 years..	

5.2 Non-Key Experts & Support staff

In addition to the key experts described above, the Consultant shall mobilize sufficient non-key experts and support personnel at its own costs and responsibilities. During technical evaluation process, these staffs will not be evaluated individually. However, they will be considered collectively under "Organization and Staffing" criteria of evaluation.

6. CONTRACT MANAGEMENT

The Consultant will work under the overall supervision of the Project Director who will also act as the day-to-day contact person for the assignment.

7. FACILITIES

7.1 Facilities to be provided by the Consultant

The Consultant will be responsible for:

(i) Providing assistance to the Client of the highest professional standards;
(ii) Preparation of Reports to the highest professional standards;
(iii) Providing accommodation, international and local transport and freight expenditures of the Consultant's staff. All means of local transport, including cars and motor bikes, if required for the Consultant's experts and support staff shall be provided by the Consultant. All the costs such as fuel, maintenance, salary of driver etc. during the contract period shall be at the Consultant's expense.
(iv) Providing local office support services for report production and international and national communication for the full assignment period;
(v) Providing outputs and reports, as requested in this TOR;
(vi) The Consultant will be responsible for all other arrangements and cover in its budget for the assignment all expenses for all kinds of logistics as required to successfully complete the assignment.

7.2 Data, services and facilities to be provided by DWASA

The Client will provide, free of charge, to the Consultant the subsequently described assistance. Notwithstanding this assistance, the final responsibility of all those activities stays exclusively with the Consultant. Some of the data, services and facilities to be provided by the Client are.

(i) Counterparts who are responsible for all coordination activities with the Consultant;
(ii) Other suitably qualified counterpart personnel to co-ordinate with the Consultant on technical issues;
(iii) Studies, reports, plans etc., as available, will be provided at no costs to the Consultant;
(iv) Coordination assistance with respect to introduction to relevant authorities, professionals etc.;
(v) Assistance in obtaining other relevant information and materials from government institutions and state authorities, at no costs to the Consultant;
(vi) Assistance in obtaining all staff permits, authorizations and licenses required for the performance of the Consultant's services;
(vii) Assistance in customs clearance of all equipment, materials and personal effects to be imported (and exported upon completion of the Consultant's assignment) for the purposes of this project.

8. REPORTS

8.1 Reporting requirements

Paper copies of all reports, in the numbers shown in the para 8.2 mentioned below, have to be submitted by the Consultant to Dhaka WASA in Bangladesh. A CD-ROM or flash drive containing the electronic version of the report (including MS Word, PDF etc.) must be submitted with every paper copy of all required reports. Electronic versions must also be made available via restricted access on the internet.

Reports shall be prepared using commonly used software. The title of the project and the identification of the specific volume shall be printed on the front cover of every volume of all Draft & Final Documents.

8.2 Submission of reports

The Consultant shall prepare at least, but not limited to, the following reports for the SMP:

(i) Inception Report (Task A)
(ii) Draft & Final Reports on sludge quantities and qualities (Task B)
(iii) Draft & Final Reports on sludge disposal/reuse options (Task C)
(iv) Draft & Final Reports on Sludge Management Plan (Task D)
(v) Draft & Final Bidding Document (s) with Engineer's Cost Estimate in a Separate Confidential Volume (Task E)
(vi) Completion Report.

In order to enable a smooth continuation of the assignment, it is strongly recommended to co-ordinate essential assumptions and conclusions with the Client even before the submission of any Draft Reports or documents.

All reports will have to be submitted in both softcopy and hard copy. The hard copy of draft reports is to be submitted in 5 copies and the final report in 10 copies if nothing is mentioned otherwise.

8.3 Review of Reports

Upon receipt of draft/final reports from the Consultant, the reports will be reviewed by DWASA within 15 days. The Consultant may also be asked to give a presentation on the report.

Dhaka WASA may also obtain comments from the Development Partner (s) on the Consultant's reports. The comments of DWASA as well as the Development Partner (s) must be incorporated by the Consultant in Final Reports.