

TERMS OF REFERENCE

HIRING OF CONSULTANCY SERVICES AGAINST

"3RD PARTY VALIDATION FOR WORK OF DRAINS IN WASA, LAHORE IN YEAR 2024"

1. BRIEF INTRODUCTION

WASA is responsible for management, operation and maintenance of sewerage, and drainage services in the city. For efficient drainage system, agency needs to rehabilitate sewerage through repeated cleaning of drains to achieve design capacity of sewer and ensure smooth flow and safe disposal of sewage. Disposal of silt at dumping site is also need to be ensured to maintain cleanliness of the area and responsible for operation, management and maintenance of its infrastructure. Completion of desilting process pertaining to drains is essential, before start of monsoon give relief to public. The desilting being carried out by WASA Staff as well as through machinery be got validated by the 3rd party consultant.

Urban flooding in monsoon is one of the serious challenges of Lahore city usually being faced owing to under developed. Urban flooding during monsoon usually befalls due to intense rainfalls that occur more than forecasted. It's a complex global phenomenon that stems from the combination of extreme hydrological and meteorological events followed by widespread devastation, economic damages and loss of human lives. Unplanned urbanization, population sprawl, transmigration and upsurge of built-up areas with passage of time are primary causes of inundation and flooding during monsoon in city.

It is stated that completion of desilting process pertaining to drains before monsoon is of prime importance. Desilting of drains is carried by WASA staff as well as through contract which needs to be re-validated by consultants as 3rd party

2. OBJECTIVES

Objectives of the 3rd party validation of the above-mentioned work are:

- i) To verify the desilting work of drains carried out by WASA staff.
- ii) To deploy officials at each site of work throughout working hours and ensure daily progress.
- iii) To submit report and recommend actions against concerned engineer in-charge in case of failure of work due to inefficiency of WASA officers / officials.
- iv) To observe behavior of sewer/drain to ensure execution of work and work will not delay due to surcharge of sewer.
- v) To verify deployment of manpower, machinery, equipment, working hours for carrying out desilting work.

- vi) Physical verification of water level in sewers for smooth functioning and recommend tube well timings in specific area of desilting to be carried out.
- vii) To guide WASA staff about methodology of desilting operation to achieve maximum results.
- viii) To ensure progress of desilting as per schedule and target.
- ix) To compile the progress of desilting works of sewers on daily & weekly basis and submit report.
- x) To verify consumption of POL being used in machines for desilting work.
- xi) To ensure use of Health, Safety equipment by labor while desilting work.

3. **SCOPE OF WORK / DUTIES AND RESPONSIBILITIES OF THE CONSULTANTS**

The name of towns on North Zone WASA Lahore is as under:

1. Ravi Town
2. Gulberg Town
3. Aziz Bhatti / Wahga Town
4. Gunj Buksh Town
5. Allama Iqbal Town
6. Nishter Town

The overall scope of work is to supervise / validate the desilting activities as per details given below, but not limited to this:

Primary Drains

Total No. of Primary Drains =	06 Nos
Total Length of Primary Drains =	76.23km

Secondary Drains

Total No. of Secondary Drains =	14 Nos
Total Length of Secondary Drains =	67.50km

Sullage Carrier

Total No. of Sullage Drains =	07 Nos
Total Length of Sullage Drains =	23.64km

Roadside / Tertiary Drains

Total No. of Roadside / Tertiary Drains =	266 Nos
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Total Length of Roadside / Tertiary Drains = 366.66km

Total Drainage Network: 485.751km

Primary Drains

Sr. No.	Name of Drain	From	To	Length (m)
1	Cantonment Drain	Jorey Pull	River Ravi	28,690
2	Sattu Katla Drain	Fruit & Vegetable Market at Ferozpur Road	Hadyara Drain	16,980
3	Lower Chotta Ravi Drain	Bagh Munshi Ladha	River Ravi Sagian	5,120
4	Upper Chotta Ravi Drain	China Scheme	Shadbagh Disposal Station	4,900
5	Shalimar Escape Channel Drain	Gt Road WAPDA Colony	River Ravi	13,440
6	Shahdra Drain	National Bank Shahdara	River Ravi	7,100
Total Length				76,230

Secondary Drains

Sr. No.	Name of Drain	From	To	Length (m)
1	City Drain	Bhatti Gate	Akbari Gate	3.80
2	Central Drain	Dial Sing College	Toheed Park Cantt Drain	13.43
3	Gulberg-I Drain	Railway Line	Cantt. Drain near Jail Road	3.58
4	Gulberg-II Drain	Railway Line	Home Economics College	1.14
5	Birdwood Road Drain	Governor House	Cantt. Drain Rasool Park	4.98
6	Garden Town Drain	Barkat Market Garden Town	Sattu Katla Drain near Ameer Chowk	4.12
7	Kharak Drain	Neelam Block Iqbal Town	Cantt. Drain Sabzazar	5.61
8	Industrial Area Drain	Industrial Dran	Sattu Katla Drain Qadri Chowk	2.51
9	General Hospital Drain	Chungi Amar Sahdu	Sattu Katla Drain F&V	2.66

			Market	
10	Saddique Pura Conduit	Data Nagar Bridge	Shadbagh Disposal Station	5.72
11	Railway Drain	Chamra Mandi	Shadbagh Disposal Station	2.44
12	Shalimar Hospital Drain (filled)	Shalimar Link Road Sukh Nehar	Sukh Nehar	0.56
Total Length				50.56

7. DUTIES AND RESPONSIBILITIES OF CONSULTANT

The duties and responsibilities of the consultants will include but not limited to the following:

- i) Consultant will prepare a comprehensive and logical action to carry out the verification/validation of work and will present it to the Client.
- ii) Consultant would be required to physically verify 100% of machinery and its working.
- iii) Consultant would be required to physically verify 100% physical verification of staff and their working hours.
- iv) Consultant would be required to physically verify 100% physical verification of fuel consumption.
- v) The Consultant would be required to physically verify 100% physical verification of desilting of sewers at different sites.
- vi) The Consultant would be required to monitor the implementation of planned schedule in all towns.
- vii) Consultant would be required to prepare daily progress report.
- viii) Consultant will develop movies for the desilting processes and also will prepare and deliver fortnightly presentations regarding the desilting activities.
- ix) For the already done desilting work before hiring / mobilization of the consultant, the consultant will collect all the available data, reports, photographs, fuel consumed, working hours of machinery and staff. The consultant will thoroughly examine the data and will ascertain the adequacy of the desilting work done on the basis of quality and quantity. They will also co-relate the data for the work done with the work being done to ascertain the accuracy of work done.

ROLE OF CLIENT

- i) The Client will nominate coordinators i.e. who be authorized to approve the action plan / work plan proposed by the Consultant and receive the Consultant Inspection report.
- ii) The Client will provide all the data of its existing sewerage and drainage system to the Consultant required for monitoring and Third Party Validation of desilting process.
- iii) Client will allow the access to the Consultant to its infrastructure where the verification and Third Party Validation is required.

9. REPORTING REQUIREMENTS

- i) Inception report (covering all the program, methodology for the task and proposed schedule within one week)
- ii) Daily & weekly report
- iii) Fortnight report alongwith presentation
- iv) Monthly report
- v) Final report
- vi) Evaluation report (05 hard copies and 01 soft copy) clearly specifying its observations and findings
- vii) Recommendations / suggestions for improvement if any.

10. DURATION OF ASSIGNMENT

The Consultant will be required to complete all the activities and furnish the final report in a period of three (03) months.

11. CORE TEAM OF THE CONSULTANCY

The core team must have minimum relevant experience as described below:

Sr. No.	Designation	Qty.	Months	Qualification
i.	Project Manager	1	0.5	B.Sc. Civil Engineering with at least 15 years of experience
ii.	Senior Engineer (Drainage)	0.5	2	B.Sc. Civil Engineering with at least 10 years of experience
iii.	Safety Engineer	1	1	B.Sc. Civil Engineering with at least 05 years of experience
iv.	Inspector / Quantity Surveyor	4	3	D.A.E with at least 05 years of experience
v.	Cameraman / Technician	2	3	D.A.E Civil with at least 05 years of experience
vi.	Supporting Staff	4	3	Suitable qualification