



Annexure-I

OFFICE OF THE ADDL CHIEF ENGINEER (P&W)
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No. 515-1700/SSTPP/MPPGCL/P&W/PT-3704/T-2026_MPPGC_498793/853 Dongalia dtd 30.04.2026

TENDER SPECIFICATION / SCHEDULE

SUBJECT: Procurement of Sand media, Gravels, Pebbles and Anthracite along with work for top up of filter media in sand and activated carbon filter at STP 500, 900 KLD Shivariya Colony, AVGF & DM Plant at 2X600 MW, Stage – I, SSTPP, MPPGCL, Dongalia.

The subject material is required as per the Technical Specification / schedule detailed here under:

S.N.	Particulars	Qty.	UM		
1.	SAND MEDIA (STP)	14511 kg	305441	Kgs.	
	SAND MEDIA (AVGF)	286930 kg			
	SAND MEDIA (DM)	4000 kg			
2.	GRAVELS(STP)		13928	Kgs.	
	GRAVELS Size	a. 2.5-5mm			2482 kg
		b.5-10 mm			2482 kg
		c.10-20 mm			2482 kg
		d.20-50mm			2482 kg
Gravels (DM)	-	4000 kg			
3	Pebbles (STP) Pebbles Size	a.38.10 mm	2482 kg	9928	kgs
		b.19.05 mm	2482 kg		
		c. -9.50 mm	2482 kg		
		d. 3.17 mm	2482 kg		
4	Anthracite (AVGF)	-	53800 kg	53800	kgs

For detailed Technical specification please refer attached annexure-I.

Scope of Work & Terms

1. The work includes supply of Sand Media, Gravel, Pebbles, and Anthracite for Sand & Activated Carbon Filters (STP-1 & STP-2), Gravity Filter (DM Plant-I), and AVGF System (PH-I) at SSTPP, MPPGCL, Dongalia.
2. Materials shall strictly conform to the specified size, quality, and technical specifications and shall be free from dust, clay, and foreign matter.
3. The quantities indicated are consolidated requirements and may vary by $\pm 10\%$ as per site requirement without change in unit rates.
4. Scope includes packing, transportation, loading, unloading, and delivery of materials at designated locations within SSTPP premises.
5. Supplied materials shall be subject to inspection and acceptance by SSTPP authorities. Rejected material shall be replaced by the supplier at no extra cost.
6. The delivery period shall be as specified in the Purchase Order and timely supply is essential, particularly for the AVGF system.
7. Rates shall be firm and inclusive of all charges except GST, which shall be quoted separately as applicable.
8. Payment shall be made after successful supply and acceptance of materials, as per MPPGCL norms through SAP system.

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9. The supplier shall comply with all statutory requirements, including GST and applicable safety regulations.
10. All other terms and conditions shall be governed by MPPGCL purchase rules, and SSTPP reserves the right to accept or reject any or all bids.

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(Er.M Kumar)

**Superintending Engineer (Purchase)
SSTPP, MPPGCL, Dongalia**

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Sr. No.	Items	Technical specification	Qty.	Required Qty.
1.	Sand Media (STP)	<ul style="list-style-type: none"> i. Specific gravity (Min) - 2.5 ii. Acid solubility (Max) - 5.0% by mass iii. Silica content in sand (Min) – 90% by mass iv. Impurities (Max) – 5% by volume v. Loss of ignition (max) - 0.7% by mass vi. Effective size - Effective size 0.68 – 0.70 mm vii. Bulk density - 1550 kg/m³. (1) CUBIC METER = 1.55 MT viii. Sand media confirming to IS: 8419 (part i) -1977 with up to date amendments. ix. Effective Size (E. S.) shall be 0.68 -0.78 mm [determined according to IS: 2720 (Part IV) - 1975* 1 x. Uniformity Coefficient - The ratio D60/D10, where D60 is the particle diameter corresponding to 60 percent finer on the grain size curve, and D10 is the particle diameter corresponding to 10 percent finer on the grain size curve. 	14511 kg	305441 Kg.
	SAND MEDIA (AVGF)	<ul style="list-style-type: none"> i. Filter Media: Water Bronze Quartz sand ii. Effective Particle size of filter media : 0.70 to 1.2 mm iii. Bulk density : 1400-1600 kg/m³ iv. Silica: 90% v. Uniformity Co-efficient : 1.6-1.7 vi. Media depth : 0.450 m vii. Diameter of SSF: 6.2 m viii. Volume of sand requirement :13.58 m³ ix. Volume of sand requirement :162.95 m³ 	286930 kg	
	SAND MEDIA(DM PLANT)	<ul style="list-style-type: none"> i. Filter Media: Water Bronze Quartz sand ii. Effective Particle size of filter media : 0.70 to 1.2 mm iii. Bulk density : 1400-1600 kg/m³ iv. Silica: 90% v. Uniformity Co-efficient : 1.6-1.7 vi. Media depth : 0.450 m vii. Diameter of SSF: 6.2 m viii. Volume of sand requirement :13.58 m³ ix. Volume of sand requirement :162.95 m³ 	4000 kg	
2.	Gravels (STP)	<ul style="list-style-type: none"> i. Filter gravel shall consist of hard, preferably rounded stones with an average specific gravity of not less than 2.5 and shall be free from clay, sand, loam and organic impurities of any kind. 	9928 kg	13928 Kg.
	Gravels (DM PLANT)	<ul style="list-style-type: none"> ii. The gravel shall contain not more than 2 percent by mass of thin, flat or elongated pieces (in which the largest dimension exceeds three times the smallest dimension) determined by hand picking. iii. Gravel should be free from excessive amount of limestone or shells and acid solubility determined in accordance with procedure given in Appendix R should 	4000 kg	

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		<p>not exceed the following limits:</p> <p>a) For gravel sizes 10 mm or larger 10 percent solubility.</p> <p>b) For gravels sizes smaller than 10 mm 5 percent solubility.</p> <p>c) Effective Size - 2.5 mm to 6.2 mm.</p>		
3.	Pebbles Pebbles	<p>Material</p> <p>a) Durability: Pebbles should be durable and resistant to chemical reactions, abrasion, and weathering. Commonly used materials include quartz, granite, or other hard, inert stones.</p> <p>b) Cleanliness: Pebbles must be free from organic material, clay, silt, and other impurities that could clog the filter.</p> <p>Size</p> <p>a) Coarse Layer: Pebbles of size 40-60 mm.</p> <p>b) Intermediate Layer: Pebbles of size 20-40 mm.</p> <p>c) Fine Layer: Pebbles of size 10-20 mm.</p> <p>Arrangement</p> <p>a) Bottom Layer: Coarse pebbles (40-60 mm) for support and to prevent clogging of the drainage system.</p> <p>b) Middle Layer: Intermediate pebbles (20-40 mm) to transition between coarse and fine materials.</p> <p>c) Top Layer: Fine pebbles (10-20 mm) to enhance the filtration process by trapping smaller particles.</p> <p>Depth</p> <p>a) Coarse Layer: 30-40 cm.</p> <p>b) Intermediate Layer: 20-30 cm</p> <p>c) Fine Layer: 10-20 cm</p>		9928 kg
		a) 38.10 mm	2482 kg	
		b) 19.05 mm	2482 kg	
		c) 9.50 mm	2482 kg	
		d) 3.17 mm	2482 kg	
4	Anthracite (AVGF)	<p>Filter Media : Anthracite</p> <p>Appearance: Black uniform clean granules</p> <p>Effective partial size of filter media 0.70 to 1.2 mm</p> <p>Bulk Density :900 kg/m³</p> <p>Ash Content : 30 %</p> <p>Carbon Content :80%</p> <p>Uniformity Co-efficient:1.5-1.7</p> <p>Media depth :0.150 m</p> <p>Diameter of SSF: 6.2 m</p> <p>Volume of sand requirement :4.53 m³</p> <p>Volume of sand requirement :54.32 m³\</p> <p>Total Weight requirement of sand 48884.15 kg</p> <p>Free board: more than 50 % off media height</p> <p>Qty.: Signal Bed</p> <p>Tank MOC : MSEF</p>	53800 kg	53800 kg