





**Republic of Maldives**

## **CLARIFICATIONS 01**

### **Request for Proposals**

**For**

**Design, Build and Operation of 10MLD Sewage Treatment  
Plant in Hulhumalé Phase 1**

**Maldives Urban development and Resilience Project**

**Issued on: 7<sup>th</sup> September, 2021**

**Issued by: National Tender  
Ministry of Finance  
Republic of Maldives**



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Ministry of Finance  
Male' Republic of Maldives

Maldives Urban development and Resilience Project

Design, Build and Operation of 10MLD Sewage Treatment Plant in Hulhumalé Phase I

### Clarifications 01

The following table comprises the clarifications for the queries raised

Item No.	Clarifications / Question	Responses / Confirmation / Addendum
1	<p>pH 5-9.5: Standard is not below 6.5 (Standard 6.5 - 8.5) -&gt;</p> <ul style="list-style-type: none"><li><input type="checkbox"/> <b>state of knowledge:</b> if pH is below 6 the problems with swimming sludge starts</li><li><input type="checkbox"/> <b>state of knowledge:</b> if pH is below 5.5 it is sure the sludge floats up - <b>plant cannot work</b></li></ul> <p>Why is the pH- Value lower than 6.5 allowed as this would be very risky referring to the frictionless operation of the plant system.</p> <p>BOD5 &lt;= 5 mg/l: Standard &lt;10mg/l with MicroFilter but smaller only with active carbon filter</p> <ul style="list-style-type: none"><li><input type="checkbox"/> <b>High costs and not necessary</b></li></ul> <p>COD &lt;= 5 mg/l: Standard: &lt;15 mg/l with MicroFilter but smaller only with active carbon filter</p> <ul style="list-style-type: none"><li><input type="checkbox"/> <b>High costs and not necessary</b></li></ul>	<p>This is an estimate for pH in influent for municipal waste water</p>



Item No.	Clarifications / Question	Responses / Confirmation / Addendum
2	<p>Why are the effluent values such low? These are actually values for groundwater injection and this kind of water shall be discharged to the sea and would lead to high costs for the equipment AND for the operation. (European Standard Values for plant size &gt;50,000 PE: BOD 15 mg/l, COD: 75 mg/l)</p>	<p>As per EPA guideline, effluent can have BOD 20mg/L and TSS 30 mg/L</p>
3	<p>Nitrate &lt;= 6 mg/l h: <b>state of knowledge:</b> NH4-N &lt; 5mg/l and nitrate NO3 reduced by at least 70%  But if you have 75 mg/l (N) in the influent, then that's a 90% reduction -&gt; large or many tanks  <input type="checkbox"/> <b>High costs and not necessary</b></p> <p>Why are there no NH4N values and only Nitrate values, if NH4N values are high the nitrate values would be very low. Based on the current state of knowledge, both values are necessary.</p>	<p>Please follow the limits below  TKN = 3 mg/L  NO3-N = 6 mg/L  TN = 9mg/L</p>
4	<p><b>Sludge dewatering</b>  TS &gt;25% (3.2 t/d) this means decanter (<b>expensive and high costs for maintenance</b>)  <input type="checkbox"/> But sludge is used for composting and you can mix with e.g. 25% TS (54.7 t/d) of "garden/yard trash".  <input type="checkbox"/> Easier TS &lt;23% so belt filter or disc press can be used -&gt; <b>cheaper and easier to operate.</b>  At page 97 minimum sludge TSS are 25%, at page 131 it is said 22% to 25%, we kindly ask you for the current value</p>	<p>Sludge TSS is 25% by mass.</p>
5	<p>There is no design of chamber defined. Furthermore there is no dimensioning for the composting plant. How many tanks and what kind of distribution system is requested? We kindly ask for more technical data for dimensioning purpose.</p>	<p>Based on the information given in the RFP, please workout the reasonable sizes required</p>



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
6	<p><b>Pre-treatment</b> must clean every 22,000 m<sup>3</sup>/d = 255 l/s (at 24h). Page 100: The contractor shall indicate the STP units which are to be enclosed/covered...</p> <p><input type="checkbox"/> The tender must describe what kind of air flow must be treated and which units must be connected to the odour treatment - <b>otherwise a contractor choose a too small unit</b> Which parts of the plant must be connected to the odour-treatment and what is the defined design-flow for each section?</p>	<p>Influent must be connected to odour-treatment. Design flow is total capacity of STP</p>
7	<p>First inlet chamber with coarse screen</p> <p><input type="checkbox"/> What volume is used for the retention time, and what operating level shall be used. Normally the water in front of the screen raises and the screen switches on at and adjusted value.</p> <p><input type="checkbox"/> Retention time is only used for a screen in some kind of box</p>	<p>This is a design &amp; build project and so contractor will have to workout these dimensions based on the water loading given on the RFP</p>
8	<p><b>Page 102:</b> Diesel generator: as backup, but the duration for operation is not given in the tender. How long it should run in case of power failure.</p> <p>What is the max. running time (without stoppages) of the diesel Generator, as this would give the required tank volume.</p> <p><input type="checkbox"/> <b>IMPORTANT:</b> what must be operated with the generator, only emergency functions or the complete plant – <b>this is very IMPORTANT</b></p>	<p>Please consider 4 hours maximum</p>
9	<p><b>Page 120: Fine screen:</b> 1x mechanical and 1x manual screen “<i>Mechanical screen: Step-screen or belt / escalator conforming to spec. and technical data sheets mentioned elsewhere</i>”</p> <p>Please define elsewhere</p>	<p>Use the information given on other sections of RFP</p>



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10	Please confirm the 90° angle. Must be opening exact 90° to the flow directions, or are there other angles allowed (e.g. 75°)	Maximum is 90 degrees
11	Automatic screen must be able to separate 70% of particles >6mm in 2 dimensions – but 6mm are really large if the overflow is bypassed – Are smaller openings acceptable?	Smaller openings are acceptable if needed
12	For the manual screen the material AISI 316 is mentioned – <b>but no material for the fine screen – fine screen must be min. AISI316</b> What is the definition the fine screen material?	Fine screen material is SS 316 material
13	Manual screen 10mm flat iron with 10mm gap Please note, in case of rain 12,000 m³/d would be bypassed directly to the sea. Please confirm the 10mm as it seems too big.	10mm is specified for easy cleaning purpose
14	<b>Page 121: Grit removal:</b> A minimum length of 5m will be preferred – for example a combi unit approx. 150 l/s is 15m long, otherwise the grit removal will not work. Please confirm the preferred length of 5m grit removal as this seem by far too short.	Length can be extended based on surface loading rate and settling velocity
15	The agitator must be flow controlled with description of material and wall thickness, but e.g. the outlet weirs of the grit-chamber are AISI304 (!) From our point of view, AISI304 would be not the right material, as minimum AISI 316 must be used due to the salty water.	Please use SS 316 material
16	<b>Page 122</b> - Size of grit particle = <20mm – This is extremely big and especially with a upstreamed 6mm- sieve (if mech. pre-cleaning in operation) it does not make sense as this would mean that <b>all particles &lt;20mm may pass through</b> Is it really 20mm or was 0,2mm meant? – please confirm	Please use 2mm as maximum grit particle size



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
17	<p><b>Page 125: SBR process: only 3-4 mg/l</b> but design values are indicated with continuous flow 3,5-5 mg/l and with intermittent flow -&gt; for a SBR plant is this a really low value – <b>state of knowledge: 5 – 6 mg/l.</b></p> <p>Is it acceptable to calculate with 5-6 mg/l provided that PVS can provide you with evidences that this is possible (e.g. 3 reference plants)</p>	<p>Please follow values given in RFP when doing loading calculations</p>
18	<p><b>Page 125: SBR process</b> min 21h aeration = 12,5% unaerated time – i.e. there are only 3 hrs. left for settling, discharge and denitrification - <b>NOT state of knowledge</b></p> <p>Please define why SBR plant 21 hrs aeration time and the MBBR plant has only 5 hrs. aeration time?</p>	<p>Please consider 5 to 6 hrs aeration time for either technology</p>
19	<p><b>Page 129: Tertiary treatment:</b> The filter should reach 2 NTU -&gt; this is a clean water value -&gt; <b>high costs and not necessary</b></p> <p>Please confirm that the 2 NTU are really necessary.</p>	<p>Need to consider only safe to discharge limits. Not safe to reuse limits</p>
20	<p><b>Page 138: Design life:</b> The design lives are relatively high lifetimes and the specification is low for example pump design life 20 years: what should be designed for 20 years – the body, impeller, sealing, rotary sealing etc., or only the time for spare parts availability?</p>	<p>Design life here refers to pump operation capacity, such that power demand of the operation will not increase in 20 years time</p>
21	<p><b>Page 145: Sea outfall – the length</b> of the sea outfall pipe line, because the outfall pumps cannot be designed without knowing the pipe length and how deep the pipe ends. <b>Please define the length and depth of the sea outfall pipelines.</b></p>	<p>Length of outfall can be measured on Google Earth. Depth of outfall is 2m below MSL</p>



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22	<p><b>Page 167: Training:</b>  The design personnel must have the following training:  Design manager: degree from an internationally recognised university + min 25 years of experience  Process designer - degree from an internationally recognised university + min 15 years of experience  Construction manager: degree from an internationally recognised university + min 10 years of experience.  <input type="checkbox"/> 10 years are really high for this kind of training  Are these requests really relevant tender content, especially, if the bidder can provide numerous successful delivered, installed and operated plants? – Please provide us with your comments.</p>	<p>Requirements given in RFP must be met by all bidders</p>
23	<p>Referring to Part 1, Section 1, 19 “Securing the proposal”:  It is said that an unconditional bank guarantee has to be issued. Is it also acceptable to add a paragraph in the guarantee saying that the bank guarantee becomes only valid in case the bidder receives the official contract award?</p>	<p>Securing the proposal refers to bid security, and will be returned to all bidders once project is awarded to a party.  Performance guarantee will need to be submitted only upon award of contract.</p>
24	<p>Are there any specific requirements referring to payment terms and conditions?</p>	<p>Please refer to information given in RFP for payment terms and conditions</p>
25	<p>We presume that, the collection, transportation and segregation of solid waste is under client scope. Please confirm</p>	<p>Contractor will need to discuss this with WAMCO and come to an arrangement. Cost associated with this should be borne by contractor.</p>
26	<p>Kindly confirm the following parameter for Design of Odour control unit:  Inlet and out parameters:  1. NH3  2. Outlet Odor  3. Outlet Dust</p>	<p>Please follow limits given in bid document and if document is silent, please follow similar limits used for municipal STPs</p>



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27	<p>Chlorination System: The objective of chlorination of water is to reduce organic matter, algae growth and to remove pathogens etc. One no. chlorine contact tank with necessary baffles shall be provided for the disinfection of treated sewage. The chlorine shall be dosed in the chlorine contact tank through diffusers. Kindly confirm the chlorine dosing rate</p> <p>3.11.9.5 Odour Control The design shall include a two-stage scrubbing unit designed to treat the foul air comprising of a biological system such as bio trickling filter followed by Activated Carbon Filter. The Activated Carbon Filter will act as a polishing unit only. The inlet concentration of H2S shall be 500ppm (Peak) and the outlet shall be 99% removal.</p>	<p>Chlorine will need to be dosed to kill all pathogens prior to discharging the water. The required dosing will need to be calculated based on chlorine concentration and contact time</p>
28	<p>Manufactures are confirm that , the bio trickling type odour control system is can not handle peak load of H2S 500 PPM and also 99% of removal. We proposed to go with chemical based scrubber consisting of scrubbing liquid of caustic soda and sodium hypo chlorite followed be activated carbon scrubbing. Kindly review and confirm.</p>	<p>Please follow the conditions given in the tender Document.</p>
29	<p>Being pre-tender stage and shortage of time, Employer has to be provided the Geo technical report for STP and SPSs</p>	<p>Allowable bearing capacity is 150 kPa and Ultimate bearing capacity is 210 kPa.</p>
30	<p>Kindly provide the HFL, low tide and high tied details of disposal point in sea</p>	<p>Disposal point is 2m below MSL.</p>
31	<p>Kindly provide the following details of existing units 1. Year of installation for Mechanical equipment 2. List out the civil units, Electrical, Mechanical and instrumentation with present condition of equipment's</p>	<p>Please follow the details given in the RFP.</p>



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32	<p>Tender mentions bidder qualification for Odour control and In-Vessel Sludge Composting Plant to compost the daily production of dewatered sludge from the STP. This is relatively new concept and there are very very Operational Plants.</p> <p>Therefore, we request you to consider and accept the following</p> <p>The bidder should associate with the specialist subcontractor/Manufacture/OEM for the odour control and In-Vessel Sludge Composting Plant to compost the daily production of dewatered sludge from the STP as described in Part 2: Employers Requirement (1.2.2) by signing the Memorandum of understanding (MoU). Kindly Confirm</p> <p>A Minimum number of Two (2) Operations contracts for sewage treatment plants that have been operating satisfactorily since commencement as a prime contractor, joint venture member, management contract or subcontractor between 1<sup>st</sup> January 2010 and Application submission deadline.</p> <p>As per the RFP this qualification should be met by the Lead Partner.</p> <p>Here we would like to request you to allow any partner to meet the Operations experience criteria</p>	<p>The burden of providing a solution should be taken by the main contractor. Main contractor may associate with specialized subcontractor (within the allowed ceiling) to find a solution and this can be mentioned in the RFP accordingly.</p>
33	<p>SECTION-1 ITB: J. EVALUATION OF COMBINED TECHNICAL AND FINANCIAL PART-43.1 THE EMPLOYER'S EVALUATION OF RESPONSIVE PROPOSALS WILL TAKE INTO ACCOUNT TECHNICAL FACTORS, IN ADDITION TO COST FACTORS IN ACCORDANCE WITH SECTION III EVALUATION AND QUALIFICATION CRITERIA. THE WEIGHT TO BE ASSIGNED FOR THE TECHNICAL FACTORS AND COST IS SPECIFIED IN THE PDS. THE EMPLOYER WILL RANK THE PROPOSALS BASED ON THE EVALUATED PROPOSAL SCORE (B).</p> <p>As PER Section III - Evaluation and Qualification Criteria- It has been indicated</p> <p>A. Technical and Financial Evaluation</p> <p>1.1 Technical Proposal Scoring Methodology ( Not Applicable)</p> <p><b>1.2 Sustainable Procurement ( Not Applicable)</b></p> <p><b>1.3 Alternative Technical Solutions for specified parts of the Works ( Not</b></p>	<p>Qualification must be met by the lead partner.</p>
34	<p>SECTION-1 ITB: J. EVALUATION OF COMBINED TECHNICAL AND FINANCIAL PART-43.1 THE EMPLOYER'S EVALUATION OF RESPONSIVE PROPOSALS WILL TAKE INTO ACCOUNT TECHNICAL FACTORS, IN ADDITION TO COST FACTORS IN ACCORDANCE WITH SECTION III EVALUATION AND QUALIFICATION CRITERIA. THE WEIGHT TO BE ASSIGNED FOR THE TECHNICAL FACTORS AND COST IS SPECIFIED IN THE PDS. THE EMPLOYER WILL RANK THE PROPOSALS BASED ON THE EVALUATED PROPOSAL SCORE (B).</p> <p>As PER Section III - Evaluation and Qualification Criteria- It has been indicated</p> <p>A. Technical and Financial Evaluation</p> <p>1.1 Technical Proposal Scoring Methodology ( Not Applicable)</p> <p><b>1.2 Sustainable Procurement ( Not Applicable)</b></p> <p><b>1.3 Alternative Technical Solutions for specified parts of the Works ( Not</b></p>	<p>Selection will be primarily based on cost of the proposal.</p>



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
	Applicable)	
	2.1 Margin of Preference ( Not Applicable)	
	2.2 Criteria for Financial Evaluation	
	a) Time Schedule (Not Applicable) b) Life Cycle cost Included	
	We are really interested to know what will be the actually criteria of selection for winning bid?? If it's not Technical or Commercial without any Time frame is it this tender being proposed as Pilot scale project.	
35	How Purchaser is justifying that Life cycle cost alone can become a criteria for evaluation the winning bid.	The project is for Design, Build and Operate. Hence, life cycle cost is a key component to be considered when selecting the winning bid
36	10 Years of Life cycle is calculated on what basis. It after FTOC or Fully Operational Acceptance.	After final inspection and testing of the system is done, and ensuring that all components are working properly as intended,
37	Unit rate of 6.65 Maldivain Ruffiya per kWh @ what PF and Reactive Power Max Demand.	Power Factor is 0.8
38	What is the Per Unit rate of 6.65 Maldivain Ruffiya per kWh arrived in terms of Sewage Treated or Sludge Treated or Odour Treated or Utilities consumed on power estimated for this whole process as per Purchaser tender documents	MVR 6.65 per kWh is the overall average power consumption rate when all stages of sewerage treatment is considered
39	Unit rate of 6.65 Maldivain Ruffiya per kWh is planned for Peak load capacity flow of all the project components	Yes
40	Unit rate of 6.65 Maldivain Ruffiya per kWh is applicable for Utilities, Pre & Post construction phase ,Temp site facilities including the O&M durations also.	No. The rate given is for operation stage only.
41	Unit rate of 6.65 Maldivain Ruffiya per kWh is applicable for all TPA interface activities also is included in this project component.	The unit rate given is only for operation stage of the STP when it is fully running
42	Discount of 9% is considering the price inflation in USD TO MVR forward pegging fluctuation rates .	Discount rate is given based on present scenario and will not include major price fluctuations in the future
43	As PER Section III - Evaluation and Qualification Criteria- It has been indicated Clause#2- Equipment-The Proposer shall provide its strategy for acquiring and	If records show that the primary manufacturer has maintained design, fabrication and supply of equipment for 10 years even after been



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	<p>maintaining the key equipment that may be needed to perform the Contract. Generally denotes -A reputable manufacturer shall furnish all equipment with at least ten (10) years successful experience in the design, fabrication and supply of this kind and size of equipment.</p>	<p>conglomerated or amalgamated, then it is acceptable.</p>										
44	<p>Section IV – Proposal Forms Schedule of Priced Activities and Sub-activities</p> <table border="1" data-bbox="523 645 719 1010"> <tr> <td>Activities</td> <td>Minimum or maximum ratio</td> </tr> <tr> <td>Design</td> <td>Maximum 3% of Total Bid Price</td> </tr> <tr> <td>Equipment</td> <td>Between 35 ~ 45% of Total Bid Price</td> </tr> <tr> <td>Construction</td> <td>Between 40 ~ 50% of Total Bid Price</td> </tr> <tr> <td>Operation (10 years)</td> <td>Minimum 15% of Total Bid Price</td> </tr> </table> <p>Clause For unbalanced or front-loaded proposal, the Employer had right to reject the proposal based on Clause 5.64 from “Procurement Regulation for IPF Borrowers”.</p>	Activities	Minimum or maximum ratio	Design	Maximum 3% of Total Bid Price	Equipment	Between 35 ~ 45% of Total Bid Price	Construction	Between 40 ~ 50% of Total Bid Price	Operation (10 years)	Minimum 15% of Total Bid Price	<p>This clause is included to prevent bidders from front loading their proposals. Hence, we intend to keep it as it is.</p>
Activities	Minimum or maximum ratio											
Design	Maximum 3% of Total Bid Price											
Equipment	Between 35 ~ 45% of Total Bid Price											
Construction	Between 40 ~ 50% of Total Bid Price											
Operation (10 years)	Minimum 15% of Total Bid Price											
45	<p>Part-2 Employer’s Requirement-</p> <p><b>1. Summary of Employer’s Requirements</b></p> <p><b>1.1 The Project</b></p> <p>The Project comprises the design, construction, supply, testing, commissioning, and operation and maintenance for 10 years of the 10 MLD Sewage Treatment Plant (STP) at Hulhumalé, including diversion of raw sewage from the pumping mains/pumping stations, that discharges sewage to outfall 1 and 2, to the inlet works of the STP. In addition to the above, the project includes design, procurement, installation and commissioning of In Vessel Sludge Composting Plant for treatment of sludge produced at the STP and Installation and commissioning of Odour Control System for the STP.</p>	<p>Most of the STPs will produce both effluent and sludge. Hence, we intend to keep in-vessel sludge composting component and odour control system with the STP. Sophisticated technologies that has alternative arrangements might be difficult to operate and maintain.</p>										
46	<p>Part-2 Employer’s Requirement-</p> <p><b>1. Summary of Employer’s Requirements</b></p> <p><b>(a) Effluent Discharge Requirements</b></p> <p>Treated effluent discharged from the Works shall at all times comply with</p>	<p>BOD 20mg/l and TSS 30 mg/l is acceptable, as per EPA guidelines. The corresponding COD limit can be adjusted accordingly</p>										



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	<p>water quality requirements for ground water recharge in the latest National Waste Water Quality Guidelines of EPA (Maldives) manual and also comply with EPA's requirement for discharging the effluent into the sea. EPA's water quality requirements are reproduced below for reference</p> <table border="1" data-bbox="475 1126 1236 1899"> <thead> <tr> <th data-bbox="475 1653 608 1899">Description</th> <th data-bbox="475 1126 608 1653">Max. Allowable limit (to comply EPA's Requirements in Table 6.3 National Water Quality Guidelines, Ground Water Recharge.</th> </tr> </thead> <tbody> <tr> <td data-bbox="608 1653 659 1899">pH</td> <td data-bbox="608 1126 659 1653">5-9.5</td> </tr> <tr> <td data-bbox="659 1653 710 1899">BOD</td> <td data-bbox="659 1126 710 1653">5 mg/l</td> </tr> <tr> <td data-bbox="710 1653 761 1899">COD</td> <td data-bbox="710 1126 761 1653">5 mg/l</td> </tr> <tr> <td data-bbox="761 1653 812 1899">TSS</td> <td data-bbox="761 1126 812 1653">15 mg/l</td> </tr> <tr> <td data-bbox="812 1653 863 1899">Nitrates</td> <td data-bbox="812 1126 863 1653">6 mg/l</td> </tr> <tr> <td data-bbox="863 1653 914 1899">Faecal Coliforms</td> <td data-bbox="863 1126 914 1653">10 org / 100 ml</td> </tr> <tr> <td data-bbox="914 1653 965 1899">E. Coliforms</td> <td data-bbox="914 1126 965 1653">0 org / 100 ml</td> </tr> <tr> <td data-bbox="965 1653 1016 1899">Residual Chlorine</td> <td data-bbox="965 1126 1016 1653">0.2-0.8 mg/l</td> </tr> <tr> <td data-bbox="1016 1653 1067 1899">Dissolved oxygen</td> <td data-bbox="1016 1126 1067 1653">2.0 mg/l</td> </tr> <tr> <td data-bbox="1067 1653 1118 1899">Conductivity</td> <td data-bbox="1067 1126 1118 1653">Equal or less than receiving ground water</td> </tr> <tr> <td data-bbox="1118 1653 1236 1899">Oil, grease and waxes (food related)</td> <td data-bbox="1118 1126 1236 1653">&lt;5mg/l</td> </tr> </tbody> </table> <p>Purchaser to review the Parameter again as achieving the BOD &amp; COD is same measured will not be possible. BOD 5 mg/l &amp; COD will be 25 mg/l with tertiary treatment is possible.</p>	Description	Max. Allowable limit (to comply EPA's Requirements in Table 6.3 National Water Quality Guidelines, Ground Water Recharge.	pH	5-9.5	BOD	5 mg/l	COD	5 mg/l	TSS	15 mg/l	Nitrates	6 mg/l	Faecal Coliforms	10 org / 100 ml	E. Coliforms	0 org / 100 ml	Residual Chlorine	0.2-0.8 mg/l	Dissolved oxygen	2.0 mg/l	Conductivity	Equal or less than receiving ground water	Oil, grease and waxes (food related)	<5mg/l	
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47	Has purchaser done any gas analysis on existing sludge deposit, Please share the same? In addition what are the gas permissible limits in ministry of environment or clean energy or any governing body?	Gas analysis has not been done. Bidder can use acceptable gas limits set for municipal waste water treatment plants constructed in Urban areas.
48	Purchaser intends to achieve the performance requirements, it may be necessary to suitably mix the dewatered sludge with <b>amendment and bulker</b> . Will it be provided by the Purchaser or the materials management is also part of the lifecycle cost as its not indicated in the tender specifically. who is responsible for Tipping fees or lifecycle cost payment mechanism has been assumed in the tender. We don't find any cost indicated for this part.	All materials required for operation should be supplied by the contractor
49	The Contractor shall liaise with WAMCO and ascertain that adequate composting materials are available to compost the daily production of sludge from the STP ?? who is responsible for Tipping fees or lifecycle cost payment mechanism has been assumed in the tender. We don't find any cost indicated for this part.	Contractor should bear these costs
50	Purchaser has indicated Power Consumption 90Kwh per tonne of sludge compost (optional)** But has this not been done for all the project component to make the lifecycle cost for easy comparison. Bidder would be able to optimize the parameter if the indicated load is provided with P.F as mandatory practice in tender. Please share the similar power consumption values for overall component of the project.	Detailed power demand assessment has not been done and so bidder can use estimates from similar municipal STPs to obtain power consumption
51	Part-2 Employer's Requirement- <b>1. Summary of Employer's Requirements</b> <b>1.2.3 Ancillary and Other Works</b> Design and construct all associated buildings and structures which are required for the plant. The Contractor shall study the existing pumping system of outfall 1 and 2 (and Outfall 3 which is under construction) and design and construct diversion works, including pumping mains, modify the wet well of key pumping stations, pumps, piping, valves, and associated electrical and instrumentation equipment and, everything else required, for diverting the sewage flows from Phase 1 area to the inlet works of the STP.	All components required for operation of STP should be constructed by contractor



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	<p>The Contractor shall design, build and connect effluent pipeline from the STP to the Outfall-1 and 3 (new), including modification of the outfall discharge diffusers as required disposing the treated sewage to the sea. The Contractor shall also design and build or modify emergency by-pass pipelines for discharging raw sewage in the event of an emergency or maintenance shutdown of STP. All the above work shall be done with necessary approvals from the authorities and in consultation with MWSC.</p> <p>Either Purchaser has to amend the clause in context or else exclude from bidder scope and hand it MWSC for execution as part of local tender process as it will save time and cost.</p>	
52	<p>As this is world bank Tender there is restriction in coordination and pre-feasibility study for site situations. We need more time to evaluate the real site conditions if purchaser is unable to deviate the above request. Please arrange site visit and then provide ample time to support the bidder to effectively make bid as per purchaser need.</p>	<p>Time extension cannot be given</p>
53	<p>We understand that all permission related to tree cutting including clearing of plants, bushes, rubbish, slush, necessary demolition and removal of all articles, objects and obstructions shall be arranged by client. Kindly confirm</p>	<p>Client will assist in obtaining permission. Contractor will have to submit request for permission to relevant authorities</p>
54	<p>Please provide geo investigation report of the proposed Sewage treatment plant area for civil structure design.</p>	<p>We don't have any report yet. Please consider allowable bearing capacity of soil as 150 kPa and Ultimate bearing capacity as 210 kPa.]</p>
55	<p>1. The onus of providing land for disposal of surplus earth is with Client. Please Confirm. 2. Please provide the distance of disposal site.</p>	<p>Client will discuss with HDC and show a nearby site in Hulhumale for sand disposal</p>
56	<p>Please confirm the Soil Bearing Capacity and Soil Resistivity for the civil structures to be constructed under this project</p>	<p>allowable bearing capacity of soil as 150 kPa and Ultimate bearing capacity as 210 kPa</p>
57	<p>Since this being a specific equipment that bidder's shall procure from a sub vendor, we request you to allow OEM/Equipment Manufacturer/Sub Contractor Experience to meet the Clause. The bidder should submit Manufacturer Authorization along with his bid.</p>	<p>The burden of providing a solution should be taken by the main contractor. Main contractor may associate with specialized subcontractor (within the allowed ceiling) to find a solution and this can be mentioned in the RFP accordingly</p>



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
	Please Confirm.	
58	The general practice is to Sun dry the dewatered sludge in confined pits (sludge drying beds) open to atmosphere thus obviating the requirement of Odour Control. However, since composting is part of Solid Waste Management hence we request you to allow Bidder to have an MoU with company having such Experience to meet the requirement. The Bidder should submit copy of MOU with the bid. Please Consider and Confirm.	In vessel composting is part of the project and so main contractor should demonstrate that he has the experience and capability to operate such a plant
59	For most of the projects funded by World Bank / IBRD / ADB / JICA etc. the ES Performance Security is for 1% of the accepted Contract Amount for the Design Build part. We request you to kindly consider 1% of the Accepted Contract Amount for the Design Build and in the same currency (ies) of the Accepted Contract Amount as the Environmental and Social (ES) Performance Security. Please Consider and Confirm.	The requirement for this project is 3% of Accepted Contract Amount
60	For such Specialized Project, thorough and in-depth working is required to submit a Technically sound and Cost-Effective Economical Solution. We request you to kindly extend the bid submission date by 3 weeks to provide sufficient time to submit the bid. Please consider and confirm.	Deadline cannot be extended
61	Please confirm that price variation due to change in statutory variation like change in Taxes / Import Duties / Customs duties shall be applicable.	Price variation will be given as per contract terms
62	Please confirm that Prices shall be subject to adjustment for components like Steel, Cement, Diesel, Labour, Pig Iron as per WPI.	Price variation will be given as per contract terms
63	During O&M Client shall provide the Electricity, Diesel, Chemicals, re-agents, Internet for SCADA & CCTV, Telephone etc. free of cost. Please confirm.	All operation costs should be borne by the contractor
64	Please confirm whether Tertiary Treatment is Optional or Mandatory.	Tertiary treatment is mandatory
65	We understand that Defect Liability Period is One Year from the date of commissioning. Please Confirm.	DLP period is one year from commissioning



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
66	As per general practice for tenders published the Total liability of the Contractor shall not exceed 110% of the total contract value. Please consider and Confirm.	Liability should not exceed 120% of total contract
67	As per tender, the submission requirement of these are application submission letter, kindly confirm can we submit a declaration on our letter head for these two items. Kindly confirm.	Yes, that is acceptable
68	a. We understand that H2S scrubber/removal system shall be considered under odour control experience. Please confirm. b. We understand that sludge thickening / dewatering followed by anaerobic digestion process using a combination of gravity sludge thickener and sludge digester units shall be considered as an experience under in vessel sludge composting system Please confirm.	This is a DBO project and so contractor should decide all items that must be included in the proposal This is a DBO project and so contractor should decide all items that must be included in the proposal
69	Kindly confirm the performance security shall be applicable on Construction amount of contract value or the whole value including O&M.	Performance security is for full project
70	Please confirm whether the proposal security for USD 150,000 can be submitted from any govt/pvt bank situated in India.	As long as contractor's bank is acceptable to donor, it should not be a problem
71	Please confirm when we can plan to visit the site as without seeing the site condition it is not advisable to quote the tender.	You can visit the site on your own. Please follow current Immigration and HPA guidelines when carrying out site visit
72	We could not found the details of general conditions against which the particular conditions can be read. The GC is only one page. Please provide the detailed General conditions.	General condition of contract is FIDIC Yellow Book. The book can be purchased online.
73	We understand that the construction power and water shall be provided by client free of cost. Kindly confirm	No, all such costs should be borne by the Contractor
74	Please provide the estimated capital & operation cost of the project.	This should be worked out by the bidder



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
75	Please confirm the period of trial run for the plant.	Trial run should be for 1 week
76	WE understand that the client has taken a loan of USD 16.5Million. Please confirm whether the loan taken is only for STP or it will be used for some other application.	There are other components that will be covered under this loan
77	Please confirm the defect liability period for this project.	DLP is 1 year
78	Kindly provide the following: a) existing pumping station as built drawing b) Existing pumps flow and residual head c) Location of Diversion point and schematic drawing d) Sewage pipe line route and specify if any scope of road restoration.	Relevant drawings are provided in the RFP
78	Kindly provide sea mean level and Natural ground level (NGL) of the proposed Sites.	NGL is MSL+2.0m
79	Kindly provide mention Drawing TTI/MUD/MAL/PL/ESN/001B for our working purpose.	Relevant drawings are provided in the RFP
80	Kindly provide interconnection detail.	Treated effluent will need to be connected to an existing HDPE pipe. The connection and supporting accessories needed to be decided by the contractor.
81	Please provide specification and Material of construction for sludge vessel and other plant component.	Contractor should propose these materials and equipment based on the details given in Technical Specification
82	We understand that power supply upto STP premises shall be provided by STELCO.	STELCO will lay the cable when requested. Contractor should be the cost of cable laying and power connection.
82	Please let us know the applicable charges if any payable to STELCO.	Installing the PV systems is not in the bidder's scope. All building roofs should be designed for this load.
83	We understand that the Photovoltaic (Solar Panels) system not in bidder scope of work.	
83	Kindly confirm.	
84	We understand that the approach road upto STP site already constructed.	The road is constructed.
84	Kindly confirm.	
85	We understand that 3mm thick spray applied Methyl Methacrylate or Polyurethane coating shall be applied inside surface of structure upto Water level.	The coating should be applied on all internal surfaces of structures that will received waste water

Item No.	Clarifications / Question	Responses / Confirmation / Addendum
	Kindly confirm	
86	We understand that our scope for providing drainage upto the battery limit of the plant i.e boundary wall. Please let us know the details of the external storm water network and length of the drain if it is the scope of bidder.	Bidder's scope is to provide drainage upto boundary wall of site
87	Please provide general arrangement drawing/proposal for the construction of emergency outfall.	This will be a general sea outfall. You can refer to existing sea outfall constructed in Hulhumale. Length can be worked out based on the location of STP and discharge point on sea, as seen from Google Earth.
88	Please provide the proposed length of the outfall structure inside the sea with MOC and also provide bathymetric survey for the outfall. We understand that the disposal of the compost from the plant is in the scope of the owner.	Disposal of compost arrangement will need to be discussed and agreed with WAMCO. They will come to STP site to collect the compost and a fee will need to be paid to WAMCO for this service.
89	If it is in bidder scope please specify the designated island-based storage area location with lead from STP. Please specify the scope distribution between WAMCO & Bidder.	Necessary charges for waste disposal will need to be borne by bidder
90	We understand that necessary charges for the waste disposal shall be directly paid by the owner to the disposal agency WAMCO. We understand that all fees related to permits and approvals shall be paid by the client to the respective agencies.	Client will assist in getting approvals. All necessary charges will need to be borne by bidder
91	Please allow Indian standard code (BIS) for the design and supply of the material.	BS code will be the primary code to follow
92	We understand that necessary permission and charges shall be in client scope. Kindly confirm	Bidder will have to bear these costs
93	The attached drawing is not readable, please provide auto Cadd format site plan for our working purpose.	CAD file is not available at the moment.
94	Please provide existing structures drawing	There are no major structures in the area
95	Please provide Depth of Water Table to be considered in Civil Design	Water table is 1.5m below NGL



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
96	Please provide soil report for preliminary studies.	Allowable bearing capacity is 150 kPa and Ultimate bearing capacity is 210 kPa
97	Please provide distance of storm water network from site. Also provide rain fall intensity of calculating surface drain sizes.	Storm water network is just outside the site. To get rainfall intensity, IFD curves will need to be plotted based on data collected from Maldives Meteorological Services (MMS). When you email them, they will send you the rainfall data.
98	Please provide existing structures drawing	There are no major structures inside the STP site area
99	Details is not given in the tender document (RFP).	Date of exchange rate is bid submission date and exchange rate is rate given by Bank of Maldives
100	Please provide the same. As per table for Effluent Discharge Requirements the BOD and COD requirement given as 5 PPM, we understand that these are typographical errors. Please review and re-confirm the exact parameters.	BOD limit is 20mg/l and TSS limit is 30 mg/l
101	As per table for Effluent Discharge Requirements only Nitrate is given as 6 ppm, please provide us the requirement of total nitrogen and Ammonical nitrogen in treated effluent discharge.	Please consider the following: TKN = 3 mg/L NO <sub>3</sub> -N = 6 mg/L TN = 9mg/L
102	As per tender, wet sludge cake shall have minimum solids content of 25%. Most of sludge dewatering system produce sludge cake with 20% ±2% solid consistency. Request you to revise the sludge consistency in dewatered sludge to 20% ±2% solid consistency.	Please following design limits given in RFP
103	As per tender, the contractor has to setup a composting plant within STP premises for composting the dewatered sludge cake. But as per pre bid meeting, it was said the dewatered sludge shall be handovered to waste management company. Please clarify whether the sludge of STP after dewatering shall be composted before hand over to waste management company or it shall be handover without	Contractor has to setup in-vessel composting plant at STP site and the compost will need to be handed over to WAMCO

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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
	<p>composting.</p> <p>Moreover, sewage sludge is not suitable for composting as it will already get stabilized in aeration process of treatment.</p>	
104	<p>Please clarify whether the Waste Management company shall collect the sludge from STP or contractor has to transport sludge from STP to Waste Management site.</p> <p>If yes then what is the road distance between STP &amp; Waste Management Site.</p>	<p>WAMCO will come to collect compost from STP site. There will be a collection fee and contractor will have to pay this fee</p>
105	<p>We understand that aeration blower shall be Twin Lobe with VFD.</p> <p>Kindly confirm.</p>	<p>Should be VFD controlled.</p>
106	<p>Please allow bidder to propose the fix type diffusers in aeration tank/ SBR Basin.</p>	<p>Please follow bid requirements given in RFP</p>
107	<p>As per tender specification, the tertiary treatment system shall be provided to achieve the required parameters of treated effluent.</p> <p>There are many technologies which can treat the sewage to required standard stipulated in tender document.</p> <p>Hence tertiary treatment may not be required with this technology.</p> <p>Kindly make the requirement of tertiary treatment optional as per technology requirement</p>	<p>Please follow tender specifications given. Sophisticated technologies maybe too expensive to operate</p>
108	<p>We understand that the separate blower shall be required for aeration of biological sludge sump.</p> <p>Kindly confirm</p>	<p>Additional blowers will need to be provided as and when required</p>
109	<p>We understand the emergency sludge storage tank for 3 days shall be separate tank to store liquid sludge from biological system (not for sludge cake) and aeration can be provided by the blowers of biological sludge sump.</p> <p>Kindly confirm.</p>	<p>Emergency sludge storage is for liquid sludge storage and aeration can be provided blowers</p>

Item No.	Clarifications / Question	Responses / Confirmation / Addendum
110	<p>We understand that odour control unit shall be provided for the pretreatment units (inlet chamber, screen channel and grit chambers) in STP only.</p> <p>Kindly confirm.</p>	Yes
111	<p>Kindly recheck the inlet design parameter H2S is given with respect to as 500 ppm. Generally H2s level in STP ranges from 20 – 100 ppm.</p> <p>Please review the design inlet parameters of odour control system.</p>	Please follow limits given in RFP
112	<p>As per Tender, Contractor shall carry out the Rehabilitation of existing pumping system of outfall 1 and 3 (New) and 2.</p> <p>Kindly provide the details of these existing facilities like flow, Detail of equipment, distance from STP, drawings of existing facilities etc.</p>	Contractor is to carryout rehabilitation of outfall which is to correct any misalignments in pipe and ballast blocks.
113	<p>Please clarify whether the contractor shall operate these existing facilities in O&amp;M period or during construction period also.</p>	Contractor is required to operate STP only
114	<p>Kindly provide</p> <ul style="list-style-type: none"> <li>• Average ground level (AGL) Finished ground level (FGL), level of disposal points.</li> <li>• Invert level of pipes of pumping stations</li> <li>• Average ground level (AGL) Finished ground level (FGL) of Pumping Station site.</li> </ul>	<p>Disposal points will be below MSL, which is usually 2m below MSL. Invert levels of pipe in pumping stations is 2.5m below FGL. Finished ground level of pumping stations is 2m above MSL.</p>
115	<p>Plant layout provided is not readable, kindly provide clear drawing.</p>	Please follow drawings given in RFP
116	<p>We understand that the power supply upto Tariff Meter shall be made available by STELCO and the cost shall be born by the Employer/client directly.</p> <p>i.e Contractor need not to consider this cost in their bidding price. Pl. confirm.</p>	<p>Stelco will lay power cable and provide connection to Control Panel. Contractor will have bear the costs of these works and materials.</p>
117	<p>We understand that the Employer/client shall install Solar power plant at their own cost. i.e Contractor need not to consider this cost in their bidding price. Pl. confirm.</p>	Contractor need not consider this cost.



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
118	<p>As per tender, the submission requirement of these are application submission letter, kindly confirm can we submit a declaration on our letter head for these two items.</p> <p>Clause specifies inlet parameters to be considered for STP design.</p> <p>Pertaining to range of values, different bidders may adopt any inlet parameter values in the range specified, which will be difficult to evaluate.</p> <p>Hence, we presume that higher values from the given range to be adopted for design in order to evaluate all bidders on same platform.</p> <p>Kindly Confirm.</p>	<p>Yes, that is acceptable</p> <p>Higher value can be used</p>
119	<p>There is ambiguity in outlet TSS requirement.</p> <p>Kindly recheck and confirm the TSS requirement.</p> <p>Sewage Temperature — 15 °C — 35</p> <p>The reference clause specifies range of Inlet Sewage Temperature to be considered for STP design.</p> <p>Kindly allow us to consider average temperature from the given range i.e. 25 °C for design purpose.</p> <p>COD — 5 mg/l</p> <p>COD — 50 mg/l</p> <p>There is an ambiguity in the tender document regarding the outlet COD Guarantee.</p> <p>We presume that outlet COD of 50 mg/l as mentioned in the Appendix 4 - Schedule of Performance Damages shall be considered for designing of STP.</p> <p>Kindly Confirm.</p>	<p>Please adopt the higher value given</p> <p>25 degree celsius can be used</p> <p>COD 50 mg/L can be considered for design</p>
120	<p>There is ambiguity in outlet TSS requirement.</p> <p>Kindly recheck and confirm the TSS requirement.</p> <p>Sewage Temperature — 15 °C — 35</p> <p>The reference clause specifies range of Inlet Sewage Temperature to be considered for STP design.</p> <p>Kindly allow us to consider average temperature from the given range i.e. 25 °C for design purpose.</p> <p>COD — 5 mg/l</p> <p>COD — 50 mg/l</p> <p>There is an ambiguity in the tender document regarding the outlet COD Guarantee.</p> <p>We presume that outlet COD of 50 mg/l as mentioned in the Appendix 4 - Schedule of Performance Damages shall be considered for designing of STP.</p> <p>Kindly Confirm.</p>	<p>Please adopt the higher value given</p> <p>25 degree celsius can be used</p> <p>COD 50 mg/L can be considered for design</p>
121	<p>There is ambiguity in outlet TSS requirement.</p> <p>Kindly recheck and confirm the TSS requirement.</p> <p>Sewage Temperature — 15 °C — 35</p> <p>The reference clause specifies range of Inlet Sewage Temperature to be considered for STP design.</p> <p>Kindly allow us to consider average temperature from the given range i.e. 25 °C for design purpose.</p> <p>COD — 5 mg/l</p> <p>COD — 50 mg/l</p> <p>There is an ambiguity in the tender document regarding the outlet COD Guarantee.</p> <p>We presume that outlet COD of 50 mg/l as mentioned in the Appendix 4 - Schedule of Performance Damages shall be considered for designing of STP.</p> <p>Kindly Confirm.</p>	<p>Please adopt the higher value given</p> <p>25 degree celsius can be used</p> <p>COD 50 mg/L can be considered for design</p>
122	<p>There is ambiguity in outlet TSS requirement.</p> <p>Kindly recheck and confirm the TSS requirement.</p> <p>Sewage Temperature — 15 °C — 35</p> <p>The reference clause specifies range of Inlet Sewage Temperature to be considered for STP design.</p> <p>Kindly allow us to consider average temperature from the given range i.e. 25 °C for design purpose.</p> <p>COD — 5 mg/l</p> <p>COD — 50 mg/l</p> <p>There is an ambiguity in the tender document regarding the outlet COD Guarantee.</p> <p>We presume that outlet COD of 50 mg/l as mentioned in the Appendix 4 - Schedule of Performance Damages shall be considered for designing of STP.</p> <p>Kindly Confirm.</p>	<p>Please adopt the higher value given</p> <p>25 degree celsius can be used</p> <p>COD 50 mg/L can be considered for design</p>



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
123	<p>Tender Specifies BOD 5 mg/l in the effluent, Which is very stringent and difficult to achieve for maximum Inlet BOD of 400 mg/l.</p> <p>Therefore, we request to kindly recheck and reconfirm the outlet BOD guarantee</p> <p>Tender Specifies            Fecal Coliforms - 10 org / 100 ml            E. Coliforms - 0 org / 100 ml in the effluent,</p> <p>Which is very stringent and practically difficult to measure during operation and maintenance.</p> <p>Therefore, we request to revise the same to Fecal Coliforms - 100 org / 100 ml</p> <p>E. Coliforms – 100 org / 100 ml</p> <p>In general for 2 Basins SBR configuration One set of Air Blower is provided with minimum one 1 Working and 1 Standby blower, which supply air in a single SBR basin at any given time.</p>	<p>Effluent BOD is 20 mg/L</p> <p>100 org / 100 ml is Okay</p>
124	<p>Therefore, we presume that Set of SBR tank (2 Nos) HAS its own duty and standby air blowers and the discharge mm any given blower shall be routed to not more than a single SBR basin at any. Given time.</p> <p>Kindly Confirm</p> <p>Generally, for SBR process, RAS and WAS pumps are 1 working per basin and 1 no. common store stand-by is provided as in case of maintenance of any of the pumps, the standbys pump replaces the pump requiring the maintenance without effecting the treatment cycle</p> <p>Therefore, we request you to consider 1 no. common store stand-by instead of dedicated standby for RAS and WAS Pumps.</p>	<p>Each SBR tank to have duty + standby blower</p> <p>1 Nos common store standby is acceptable</p>
125	<p>In many SBR installations in the world diffusers are of fixed type and they are working satisfactorily without any operational trouble.</p>	<p>Retrievable type is preferred</p>
126		
127		



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Item No.	Clarifications / Question	Responses / Confirmation / Addendum
128	<p>Diffuser of retrievable type have many operational problems. Also, nowadays diffusers are coming with self-cleansing type and require minimal attention and maintenance.</p> <p>Therefore, we request you to allow us to provide fixed type air grid along with non-corrosive material in addition to the retrievable type.</p> <p>Kindly Confirm:</p> <p>Polyurethane diffusers are widely used in STP.</p> <p>As a result of its impressive performance many diffuser manufacturing companies like EDI/ Rehau are manufacturing polyurethane diffusers.</p> <p>Non-continuous aeration applications such as Sequential Batch Reactors (SBR) require an Aeration System that can be operated on a non- continuous basis. Operational experience indicate that the flex fatigue characteristics of the membrane material are critical for the long- term performance of the diffuser. Results of extensive testing have established that Polyurethane has tremendous tensile, tear, abrasion and flex fatigue resistance when compared to EPDM.</p> <p>Therefore, we request you to allow Polyurethane Diffusers along with EPDM</p> <p>Kindly Confirm</p>	<p>EPDM type is preferred</p>
129	<p>Many reputed such as EDI, Rehau, OTT diffuser manufacturers provide diffuser membrane which withstand at temperature of 70-80 deg.C. Therefore allow us to provide diffuser membranes that can withstand temperature of 0-80 deg.C.</p>	<p>Please follow RFP specification</p>
130	<p>Kindly provide following Level for each STP,</p> <ol style="list-style-type: none"> <li>1. HFL</li> <li>2. AGL</li> <li>3. FGL</li> <li>4. Inver level of MPS AGL - 2.5m</li> </ol>	<ol style="list-style-type: none"> <li>1. HFL AGL + 0.3m</li> <li>2. AGL MSL + 2m</li> <li>3. AGL AGL+0.1m</li> <li>4. Inver level of MPS AGL - 2.5m</li> </ol>



Item No.	Clarifications / Question	Responses / Confirmation / Addendum
131	<p>All sludge dewatering machine manufacturers are offering maximum 20% as solid concentration for dewatered sludge for biological sludge.</p> <p>Therefore, kindly review the requirement of 25% and reconfirm the requirement.</p>	<p>Please follow RFP specification</p>

End of Document



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