CB No: MCA-M/CF/WRA/W-01

Invitation for Bids
For the Wastewater Recycling Plant Design-Build

ANSWERS TO CLARIFICATION QUESTIONS – ISSUE No. 4 (Questions 37-69)
September 17, 2021

Questions and Answers 1-32 were issued to all registered Bidders on August 24, 2021 Questions and Answers 33-35 were issued to all registered Bidders on August 27, 2021 Question and Answer 36 was issued to all registered Bidders on September 6, 2021	
Question 37:	Kindly advise if the Bidder can change the material of treatment tanks (i.e. MBBR tanks, Rapid mixing tanks, flocculation tanks, lamella clarifiers, Disinfection contact basin, waste basin,…) from concrete material to GLS material for example and if that change will be considered as an "executive summary" that the Bidder shall submit on September 27th, 2021.
Answer 37:	Changes of material from concrete material to glass line steel technologies for the water retaining structures and other tanks would require approval from the state regulation and design approval entities and would require modification to several parts of the ER (e.g. painting and protection requirements of the steel tanks and several other sections, cathodic protection for steelworks, etc.). The change would need to be in compliance with CNNDS "List of construction norm and normative documents" such as BNbD 40-04-16 "Building and Facility (pipeline) of the Water supply, Sewerage system". The change would have to be suitable for the environment in Mongolia. MCA would also like to understand the likely change in asset lifetime that any suggested material change would offer. The Bidder would have to include in its Executive Summary and discussion with MCA how the idea would meet these requirements and offer value to MCA. The description of the proposed change in the Executive Summary shall follow instructions in the IFB Appendix A to Section II – Bid Data Sheet. Note that the proposed change in the Executive Summary will be further evaluated as described in the IFB Section III. The rejection or approval or the proposed change will be notified to all Bidders at later dates specified in Addendum 2.
Question 38:	Kindly advise if the Bidder can change the type of filter from gravity filters to other types of filtrations system and if that change will be considered as an "executive summary" that shall be submitted on September 27th, 2021.
Answer 38:	Section 2.17 of the ER describes a base case conceptual design with granular media by conventional downflow dual-media filters. The Bidder may propose alternatives to the filtration system as described in the ITB. The Executive Summary and subsequent discussions with MCA shall demonstrate to MCA that the proposed change offers benefits to MCA and carefully consider future operation and maintenance issues. MCA will review the proposed changes and provide feedback on specific ideas as described in the IFB.
Question 39:	Kindly advise if the Bidder can change the disinfection system from chlorine dosing to UV system or to gas chlorinator and if that change will be considered as an "executive summary" that the contractor shall submit on September 27th, 2021.

Answer 39:	The end users (CHPPs) want the chlorine residual level in the recycled water and for this reason, the UV will not meet project goals and should not be considered further. Thank you for suggesting the innovation of using chlorine gas for disinfection. MCA and USUG (Ulaanbaatar Water Supply and Sewerage Authority) would NOT like to use gas chlorination due to the restriction applied by China and Russia in the transportation of chlorine gas (within their territory and through borders). The USUG has used chlorine gas before by importing either from China or Russia, however, since 2014 the restriction applied in the transportation of the chlorine gas, and USUG started using the Hypochlorite generator and not using the chlorine gas anymore. Therefore, the suggestion to use gas chlorinator probably may not be a preferred option to consider by the Bidder in the Executive Summary. Bidders are reminded that as described in the IFB any responses to questions like this will be issued to all bidders immediately while the process of reviewing ideas in executive summaries will be as described in the IFB to protect the value of Bidder's innovations to the extent possible.
Question 40:	Kindly advise if all Bidders will be provided with the new innovative ideas and if the bidders should price both the selected "new innovative ideas" and the "original requirements" at the same time so the contractors will submit the main offer and alternative offer.
Answer 40:	An Addendum outlining changes to the Employer's Requirements resulting from the Proprietary Meetings will be issued on **November 22, 2021, this being 17 weeks / 119 days** from the release of the Bidding Documents. This date has been selected to provide benefit to Bidders who generate innovative ideas and to allow time for completion of Bids based on these ideas. The Employer will make modifications to the Employer's Requirements which are as general as possible to further protect the innovative ideas of Bidders. To the extent possible the Employer will use language proposed by the team offering the innovative idea as described in the IFB. The changes to the Employer's Requirements will be written in such a way that accommodates the acceptance of bids that comply with the original requirements as well as Bids with innovative ideas. Thus, the Bids which are being developed based on the original requirements can still be submitted. **The Bidder should submit one Bid-Offer and not separate ones for the "innovative ideas" and the "original requirements**". The Employer will advise all bidders as soon as possible of innovative ideas which are NOT acceptable to reduce the time spent on un-acceptable ideas.
Question 41:	Kindly advise if a "new tender documents" will be issued for the "new innovative ideas".
Answer 41:	The following schedule of activities shall apply: **Activities** — **Dates** Submission of Executive Summary — September 27. 2021 Commencement of Proprietary Meetings — October 4, 2021 Addendum: Rejection of the Unacceptable Innovative Concepts — October 17, 2021 Addendum: Modifying ER to allow acceptable Innovative Ideas — November 22, 2021 After organizing Proprietary Meetings with Bidders who submitted the Executive Summary on innovative concepts, MCA-Mongolia will issue 2 amendments: one with the rejected innovative ideas and one with general modifications to the Employers Requirements that permit ideas that are deemed acceptable. These amendments will be written in a way that

	continues to allow the original ER's design requirements so that bids based on those original requirements will continue to be acceptable.
Question 42:	Kindly advise if the Bidders can suggest a sort of modification in the treatment steps of the existing CWWTP.
Answer 42:	No. The New CWWTP is now under construction by an EPC Contractor who signed an EPC Contract with the Government of Mongolia (Ministry of Construction and Urban Development) in the frame of another loan agreement (between the Government of Mongolia and the Government of the People's Republic of China). Thus, the Wastewater Recycling Plant (WRP) Design-Build Contractor will not be allowed to offer a proposal modifying the detailed design of the New CWWTP.
Question 43:	Kindly confirm that the ambient temperature as a minimum and maximum values are -40 Celsius and + 50 Celsius respectively.
Answer 43:	That is recorded highs and lows.
Question 44:	Referring to Employer Requirement (ER) clause 2.17 PROJECT SPECIFIC PLANT AND PROCESS REQUIREMENTS; kindly advise if the contractor should follow the dimensions of tanks mentioned under that clause or it is acceptable to make changes to the mentioned dimensions.
Answer 44:	Please refer to Section 2.2.1 of ER (WRP description) and section 2.17: The ER includes a base case conceptual design and all dimensions of plants and facilities given in section 2.17 are related to that base case. As a "base case", a general process flow diagram, a conceptual layout of each process, and assumptions are provided in section 2.17 of the ER documents. The Bidder may propose alternatives as described in the ITB and consistent with the constraints described for alternatives at the start of section 2.17 and in other locations in the ER. Only after an innovative idea has been accepted by the Employer and an addendum (which will be generalized to the extent possible as described above) has been issued which changes the ER would any option which does not meet the requirements of Section 2.17 as issued with the ITB for dimensions be acceptable.
Question 45:	Kindly advise when the "Technical Specification" will be issued to the contractors. I.e. it is not mentioned in Employer Requirements any technical specification for mechanical and electrical items such as efficiency, material, type, RPM, etc.…
Answer 45:	This bidding is for selecting a Design-Build Contractor who will sign a Design-Build Contract as per FIDIC's Yellow Book's (2nd edition 1999) contract conditions, therefore, the Employer's Requirements does not contain all specific detailed technical specifications like the scope of work of the Design-Bid-Build contract as per FIDIC's Red Book's (2nd edition 1999) contract conditions in which the Detailed Design documents have already been developed and detailed technical specifications have been determined clearly. In the case of the Yellow Book contract, the detailed design has to be developed by the Design-Build Contractor, therefore, the Employer's Requirements usually do not contain any detailed technical specifications but only some general specifications and requirements. The Employer's Requirements contains general specifications for example see Mechanical systems (2.19), HVAC systems (2.20), and Electrical systems requirements (2.21 and 2.22). The Employer's Requirements (ER) asks that the Bidder designs and executes the works in accordance with relevant internationally recognized technical standards as indicated in Section 2 and its sub-parts.

	The Bidder is required to submit their draft technical specification (see ER clause 2.6.4.1) with the bid that includes their preliminary design. This design should set out the key standards that have been applied.
Question 46:	Referring to Final Feasibility Report Clause 7.1 CAPITAL AND O&M COSTS; kindly advise if the capital cost of US $26,300,000 includes the cost of Transfer Pump Station # 1 and Transfer Pump Station # 2.
Answer 46:	Transfer pump stations #1 & #2 are part of the Wastewater Recycling Plant thus, the bidder should include this cost in their bid. FS capital cost estimated Transfer Pump Stations #1 & #2 is also part of the WRP. This estimation was made during the FS stage (in 2018). The Bidder shall prepare their bid based on the present market situation.
Question 47:	Kindly confirm that the requested head for Transfer Pump Station # 1 is 10 meters.
Answer 47:	Transfer Pump station #1 is responsible for pumping the influent water to the treatment process tank, so the initial head of the pump is suggested as 10 meters, but the bidder should finalize the parameters for this part of the work based on its design to meet the Employer's Requirements and determine through their own hydraulic and piezometric calculation the operating points of the TP #1 pumps including static and geometric head.
Question 48:	Referring to Employer Requirements; The capacity of Transfer Pump Station # 1 and Transfer Pump Station # 2 is 1,050 m^3/h and 2,100 m^3/h for each pump respectively. The total flow of Transfer Pump Station # 2 is double the plant capacity if two pumps are on duty. kindly advise if the contractors should follow the requested capacity for each pumping station in the Employer Requirements or the contractor can reduce the flow of Transfer Pump Station # 2 to be similar to Transfer Pump Station # 1(1,050 m^3/hr.).
Answer 48:	Kindly refer to Section 2.17 of ER. Transfer pump station #1 shall be equipped with 3 pumps each of 1,050 m^3/h capacity (2 duty, 1 standby) for the Phase 1 WRP with a <u>total design capacity of 2,100 m^3/h</u> or 50,000 m^3/h (this project). In Phase 2 WRP capacity will be increased under a separate project in the future to 100,000 m^3/h (with 2 more similar pumps that are not part of this contract). Transfer pump station #2 shall similarly be equipped with 3 pumps each of 1,050 m^3/h capacity (2 duty, 1 standby) for the Phase 1 WRP with a <u>total design capacity of 2,100 m^3/h</u> or 50,000 m^3/h (this project). Appropriate connections to allow future expansion of the TP #2 to 100,000 m^3/h shall be considered by the contractor (<u>connection only</u>, no pumps to be installed under this contract for WRP Phase 2) Note that the Bidder shall include sufficient additional capacity in the pump stations to allow for waste streams so that the final flow produced is 50,000 m^3/day. The flow rate for Transfer Pump Station 1 will therefore be higher than the nominal numbers provided based on the contractor's design for waste streams.
Question 49:	Kindly advise if a manufacturer representative will be requested for mechanical and electrical items and how many days.
Answer 49:	The Bidder/Contractor is responsible for delivering the work as described in the Employer's Requirements including installation, startup, and training. The Bidder/Contractor may determine to what degree it requires manufacturer's representatives to meet its commitments by assuming that the manufacturer representative is required for installation, commissioning, etc. of mechanical & electrical items. And not limited to the factory inspections. No Factory Acceptance Test (FAT) or any inspection can be done with a representative of the manufacturer. For testing and commissioning of plants at sites, it is frequent that a

	manufacturer representative is attending and even leading the test & commissioning of the items (equipment) he/she has supplied.
Question 50:	Referring to drawing # G-004; there is a piping after Transfer Pumping station # 2 that has the name of "reject/drain". Kindly advise us of the diameter, material, and length of that pipeline in case it is under this contract.
Answer 50:	See Section 2.23 of the ER. The pipeline is being designed to drain, by gravity, back to Transfer Pump Station #2. The Contractor shall design Transfer Pump Station #2 accordingly and shall coordinate its design with the pipeline design. Also, refer to 2.26.2.5 which requires that the WRP effluent shall be discharged to the CWWTP effluent channel during the 90-day commissioning period unless otherwise instructed by the Engineer. Also see drawing G-018 which provides additional information about the line "REJECT OR DRAIN WATER FROM DCB TO JUNCTION BOX/TUUL RIVER BY GRAVITY OR PUMPING BASED ON HEAD AVAILABLE". Reject drain will be under this contract, the bidder will be responsible for the design and calculation of this part. The Bidder shall determine the size and length of the drain to allow the full 50,000 m^3/day to be directed to the NCWWTP effluent channel based on its layout and the design of the transfer pumps.
Question 51:	Kindly confirm that pipelines from "Transfer Pumping station # 2" to CHPs are not under the scope of this contract.
Answer 51:	Please refer to section 2.23 of ER (Coordination with Transmission Pipeline Project). The transmission pipeline to the CHPP's are not part of the scope of this contract but the WRP Design-Build Contractor is responsible for coordinating with the Consultant responsible for transmission pipelines design (e.g. point of connection/limit of the contract, pressure head, hydraulic calculations, etc.)
Question 52:	Kindly confirm that the termination point will be at the discharge side of pumping station # 2.
Answer 52:	Termination point (Point of connection) will be downstream of the flow meter and valves shown on G-018 (these items are by the Bidder). The Bidder will determine the location of these items. The Bidder shall also refer to 2.17.11 which says that the "Contractor shall design connection point that would allow connecting to potential users in the future." This could be the same connection that allows. The exact point of connection (POC) will be finalized after the contract is awarded, but the POC will not be far from Transfer Pump Station #2 and the associated flow meter. The Bidder may assume that it will only need to provide three meters of pipe downstream of the reducer on the flow meter shown on G-018 or three meters beyond the outside of the wall of its building whichever is longer. The Bidder shall provide a flanged or similar connection to the pipeline which shall be coordinated with the designer of the pipeline.
Question 53:	Kindly confirm that the length of the pipeline from "sludge transfer pumps" to "train A primary clarifier at new CWWTP" is 800 meters.
Answer 53:	The estimated length from the sludge transfer pumps to the Train A primary clarifier is 800m but this may change based on the Bidder's design. The Bidder shall provide a sufficient length of pipe to convey the sludge from its designed location to the Train A primary clarifier and shall coordinate this pipe with the CWWTP contractor.
Question 54:	Referring to Table 2-13 of Employer Requirements; it is mentioned that the value of TDH is 12 meters. Kindly note that the value of TDH should be tuned as it will not cover the 800

	meters distance to reach "train A primary clarifier at new CWWTP". Kindly advise how to proceed.
Answer 54:	The final capacity and the head of the pumps should be calculated by the bidder to provide an operational facility.
Question 55:	Referring to Table 2-12 of Employer requirements; it is mentioned that the value of TDH is 60 meters. Kindly advise if that head will be enough to reach water to CHP's.
Answer 55:	The value of TDH is indicative and the final value will be established by the WRP Design-Build Contractor in coordination with the Design Consultant (responsible for transmission pipelines design). Please refer to section 2.23.3 of ER. The pipeline Design Consultant will select the pipeline diameter and will advise the WRP Design-Build Contractor of the system curves for the transmission pipeline which will be the basis to establish the final value of TDH as stated in 2.23.3 the Bidder shall base its proposal on the information in Table 2-12.
Question 56:	Referring to Table 2-13 of Employer requirements; kindly advise us with the length of Force main and its route.
Answer 56:	Please refer to question 54. Note the 800 m. is only an indicative value that corresponds to the base case adopted under section 2.17 (in this concept the dilute solids are removed from the Equalization Basin and pumped back to the 'A-train' primary clarifiers at the new CWWTP. An alternative concept may be proposed by the Bidder as part of his/her 'Executive Summary' and is based on the layout shown in the base case. The PIU of the NCWWTP stated that the sludge of the WRP will not be allowed to be discharged to the secondary clarifier and only be allowed to be discharged to the industrial wastewater line's primary clarifier's sludge disposing point.
Question 57:	Kindly advise us of detailed drawings for the sludge transfer pipeline in order to know how it will cross from "sludge transfer pumps" to "train A primary clarifier at new CWWTP",
Answer 57:	Please refer to question 56
Question 58:	In case of contradictions between documents; kindly advise which document will prevail. Is it Employer's Requirements, Environmental and Social Baseline Assessment or Final Feasibility Report?
Answer 58:	Employer's Requirements will be the main document when preparing the bid document, all other documents are supplementary documents for further information. This is confirmed by the GCC (FIDIC Yellow Book) Clause 1.5, Priority of Documents, the Employer's Requirements has higher priority than Environmental and Social Baseline Assessment and Final Feasibility Report.
Question 59:	Referring to the "Letter of Bid" section IV Bid Submission Forms; kindly advise us of detailed description for items 1.01, 1.02, 1.03, 1.04, 1.06, 1.07, 1.09, and 1.10; as it is not clear in the Employer Requirements where to find a detailed description for each item number.
Answer 59:	Please refer to section 1.1 of the ER, para. 5: "The Schedule of Prices to be completed by the Bidder is provided as Table 1 Schedule of Prices – **Fixed Price Lump Sum Items**". There is no detailed description given by item. The rates and prices in the priced Schedules of Prices shall include all construction plant, labor, supervision, materials, transportation to the construction site, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract

	Kindly note: Bid Form 1 - Letter of Bid of Section IV or Bid Submission Form contains the table for the Schedule of Prices Item 1.01 through 1.10. This must be completed and submitted in accordance with the requirements in the Bidding Document. The Employer's Requirement Section 1.0 provides a detailed description of each item. Bid Form 32 - Breakdown of Rates and Prices Schedules refers solely to the breakdown of Price Schedule 1.08. This must be completed and submitted in accordance with the requirements in the Bidding Document.
Question 60:	Referring to "answers to clarification question – issue No.1 (questions 1-32)"; kindly clarify "answer 16, point c" where it refers to Pump station #2 as shown in Table 2-14. However, that table refers to "CHPP #3 Pump Station Design Criteria" and not to Pump station # 2.
Answer 60:	Table 2-12 in the Employer's Requirements refer to Pump Station #2's design criteria.
Question 61:	Referring to "answers to clarification question – issue No.1 (questions 1-32)"; kindly clarify "answer 15" if mitigations percentage should be added under item 1.03 or item 1.09.
Answer 61:	Item 1.09 shall be an all-inclusive, **fixed-price, lump-sum item** (not a percentage) for the preparation and implementation of the Contractor's Construction Environmental and Social Management Plan (CESMP), as described in the Employer's Requirements, for the full duration of the Contract. Note that the Environmental and Social Base Assessment (ESBA), which is a reference, is not the same as the Environmental and Social Management Plan. The ESMP has identified mitigation measures. As explained in Answer 15 in Clarification 1, the percentage referenced in the ESBA is for planning purposes only. The Bidder is responsible for understanding mitigation measures identified in the ESMP and proposes a lump-sum cost for developing and implementing a CESMP. It is the Bidder's responsibility to determine which method the Bidder is using to determine such cost.
Question 62:	Referring to "answers to clarification question – issue No.1 (questions 1-32)"; it is requested in "answer 10" to comply with the oil limit mentioned in Table2-4. Kindly advise us of the oil value in the inlet stream as it will affect the treatment steps.
Answer 62:	The Bidder may assume an oil concentration in its influent of <20ppm.
Question 63:	Kindly advise if "CHPP #3 Pump Station Design Criteria" Table 2-14 is under the scope of this contract.
Answer 63:	We confirm that Table 2-14 "CHPP #3 Pump Station Design Criteria" is not in the scope of the WRP work. It belongs to the scope of work of the Consultant who will develop a detailed design of the water transmission pipeline and related infrastructure (water storage tank and pumping station nearby CHPP #3.
Question 64:	Referring to "answers to clarification question – issue No.1 (questions 1-32)"; it is requested in "answer 16" to install surge protection equipment. It is not clear what the contractor should supply. Kindly clarify what is to be supplied under this contract.
Answer 64:	Surge protection equipment will be designed and installed by the WRP Design-Build Contractor at the WRP (Pump station #2 discharge pipe) to protect the water transmission pipeline. The Pipeline Design Consultant will select the pipeline diameter and will advise the

	WRP Design-Build Contractor of the system curves for the transmission pipelines and the results of the surge analysis together with the dimensioning of the surge vessel(s) or similar protection equipment for the pumps (transfer pump station #2) and the transmission pipelines. The WRP Design-Build Contractor shall finalize the design and specification for the surge protection system. During the procurement, the Employer will determine initial details of the surge system and will provide it to the Bidders by an addendum.
Question 65:	Referring to "answers to clarification question – issue No.1 (questions 1-32)"; it is requested in "answer 16" to make coordination for the connecting points with the pipelines (outside of Pump Station #2). Kindly clarify what the contractor should supply for that coordination.
Answer 65:	See Question 52. The Bidder shall plan to be engaged in design meetings with the Consultant who is designing the pipelines to coordinate the location of the point of connection and the specific details of the connection (e.g. flange pattern). Note that other coordination with the pipeline is described in the ER. See the response to question 16.
Question 66:	Referring to "answers to clarification question – issue No.1 (questions 1-32)"; it is requested in "answer 21" that "some coordination will be required between the WRP Contractor and the Employer`s Training as part of the WSS Activity (refer to section # 2.27.4)". Kindly note that section # 2.27.4 no more exists in the revised Employer Requirements. Kindly advise if the Bidder should submit any coordination for that point.
Answer 66:	Please refer to section 2.28 (Requirements for Training Employer`s designated staff) which replaces the training requirements given in the old section 2.27.4).
Question 67:	Referring to the revised Employer Requirements; Kindly confirm that sections # 2.26.5.6 and 2.26.5.7 have been deleted.
Answer 67:	Section 2.26.5.6 (Trial Operation) is replaced by section 2.26.2.6 (Trial Operation) which shall be conducted for 30 days after successful completion of the commissioning tests of the WRP. Section 2.26.5.7 (Testing) is replaced by section 2.26.2.3 to 2.26.2.5. Tests on Completion of the works shall be completed in 3 distinct parts as follows: 1. Pre-commissioning tests (as per the procedures described under 2.26.2.4) 2. Commissioning tests (as per the procedures described in 2.26.2.5) 3. Trial operation (as per the procedures described in 2.26.2.6) The requirements for the above 3 distinct testing phases which constitute the Tests on Completion are further described in section 2.26.3 (for electrical, instrumentation, control& automation of the plant) and in section 2.26.4 (for the mechanical part). The requirements for the "Plan for Tests on Completion" are described in section 2.26.2.7 (covering all the 3 testing phases)
Question 68:	Referring to section # 2.23 COORDINATION WITH TRANSMISSION PIPELINE PROJECT; it is mentioned that At CHPP #3, there will be a pump station and storage tanks, to integrate that CHP into the Recycled Water System. The pipeline is being designed to drain, by gravity, back to Pump Station #2. The Contractor shall design Pump Station #2 accordingly and shall coordinate its design with the pipeline design". Kindly note that the design of pump station # 2 is already mentioned in Table 2-12. Kindly advise what should be submitted by the contractor concerning the design.
Answer 68:	Kindly see answer 16.c

Question 69:	Referring to section # 2.26 PLANT INSPECTION, TESTING, ERECTION AND COMMISSIONING AND TRIAL OPERATION OF EQUIPMENT. Kindly advise if the contractor should add the cost of consumables and electricity during that period.
Answer 69:	Please refer to question 26. The Contractor will be responsible for all costs (incl. consumables, chemicals, laboratory equipment, spare parts, fuel lubricants, tools, specialty tools. use of cranes, training costs, and electricity costs) for the facility up until the issuing of the Taking Over Certificate, meaning covering the following periods: - During plant inspection, testing, and erection (site inspection/equipment testing) - Prior to and during the pre-commissioning period - During commissioning period - During the trial operation period