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

Invitation for Bids for the Wastewater Recycling Plant Design-Build

ANSWERS TO CLARIFICATION QUESTIONS – ISSUE No. 7 (Questions 91-138)
November 23, 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 Questions and Answers 37-69 were issued to all registered Bidders on September 17, 2021 Questions and Answers 70-85 were issued to all registered Bidders on September 24, 2021 Questions and Answers 86-90 were issued to all registered Bidders on November 04, 2021	
Question 91:	Referring to employer requirements; 1.1 PREAMBLE TO THE SCHEDULES OF PRICES *Schedule of Prices. Items 1.03: shall include general and preparatory works such as: submission of Monthly reports, construction photographs, monthly schedules & programmes; Manuals/maintenance programme; Record drawings and as-build DWG with GIS data; Office equipment and accessories for the Engineer and QA/QC organization, Engineer's Site Office (Service for the engineer), equipment, office premises; QA/QC plan and procedures; Details of sampling, material/plant certificates; Costs of employing a QA/QC and provision pf related laboratories, etc.; Vehicles on rent with fuel and lubricant including maintenance during construction period for the use of the Engineer and QA/QC; Provision of set of survey equipment in site office of the Engineer; Provision of signboards; Provision of construction safety equipment; Provision and maintenance of all contractor's temporary facilities including cost of water, electricity, etc., and other services such as Inspection and factory testing during manufacturing etc*. Kindly confirm that the items below items should be priced under item 1.03; • *Office equipment and accessories for the Engineer and QA/QC organization;* • *Engineer's Site Office (Service for the engineer);* • *Vehicles on rent with fuel and lubricant including maintenance during construction period for the use of the Engineer and QA/QC;* • *Inspection and factory testing during manufacturing.*
Answer 91:	We confirm that the listed items should be priced under item 1.03
Question 92:	Referring to 2.7.1 - Inspection and Factory Testing During Manufacturing. It is mentioned that the products requiring factory, shop, supplier or Sub-Contractor's inspection are identified in each relevant Specification. Kindly provide details of the testing that should be priced by the Bidders so that all Bidders shall price the same testing
Answer 92:	The particulars of Inspection and Factory Testing during manufacturing will be specified by the Contractor in his **QA/QC Plan**. Bidders shall refer to Section 2.6.20.3 of ER, "Identification of Subjects of the QA/QC Management System", Subject 3.2: Control of Procurement and Supplies including: 3.2.1 Procurement of Equipment and Materials 3.2.2 Equipment Manufacturing 3.2.3 Factory Inspection of Equipment and Materials 3.2.4 Control of Mounting and Erection of Equipment and Piping

	3.2.5 Site Inspections, Controls and Testing 3.2.6 Receipt, Registration, Handling and Storage 3.2.7 Control of Supplier Contracts Kindly note that the products (equipment and material) requiring factory, shop, supplier or QA/QC subcontractor inspection and factory testing are identified in each relevant ER section for instance (not limited to): - Section 2.19.5 for factory inspection of mechanical equipment - Section 2.20.12 for heating, ventilation and air conditioning (HVAC) equipment - Section 2.21.1.5 to 2.21.1.7 for inspection and tests of electrical equipment - Section 2.25.10 for factory testing of instrumentation & control equipment - Section 2.25.10.1 to 2.25.10.4 for factory inspection and FAT (factory acceptance tests) of SCADA system hardware and software, PLC HMI hardware, PLC panels, communication equipment and computer equipment. However, the requirements included in the Employer's Requirements are very general and not describing the factory acceptance test related requirements in detail. Therefore, MCA-Mongolia is planning to an amendment to the Employer's Requirements with the purpose to clearly determine the factory acceptance test related requirements.
Question 93:	Referring to the response to Q49 contained in IFB Clarification 4 issued to all registered Bidders on September 17, 2021, It is not clear what the Bidder shall consider for testing. Kindly confirm that factory testing, FAT and manufacturer representative are requested for all mechanical and electrical equipment.
Answer 93:	Factory inspection and testing (in presence of manufacturer representative) are requested for all equipment listed in the respective Sections of the ER. Please refer for instance (but not limited to) the listed Sections given in answer to question 92, inclusive of all mechanical, electrical and instrumentation & control equipment, such as: - Mechanical - all related equipment; pumps, safety equipment, pipe, valve, gate, pressure gauge, safety valves, flow meter, coating painting, etc. - Electrical - all related equipment/items such as switchyard equipment, transformers, HT& LT switchgears & MOCCs, Motors, motor soft starters, control & relay panel, capacitor banks, generator set, battery & battery charger, Lighting Panels, poles & fixtures, cables & wires, conduits, cable trays, grounding materials etc., - Air conditioning, A/C ducts, etc. - Instrumentation & control related equipment' Local SCADA system (all related equipment) and communication equipment
Question 94:	Kindly advise if civil works shall be priced under item 1.03 of schedule of prices.
Answer 94:	Items 1.03: shall include general and preparatory works inclusive of works related to the Engineer's Site Office (e.g. installation of mobile office containers on concrete platform), erection of office premises, installation of signboards, etc. Permanent works involving civil works shall be priced under: ▪ Item 1.08 for construction of **all structures & building of the WRP**, including: - All major components of the WRP listed in the ER project scope description under para. 2.2.1 - All WRP auxiliary facilities (Administration building, chemical storage house, garage, external lightening, internal roads, landscaping works, building services, pipelines and connection for piping with WRP (at

	connection point of water, wastewater & heating utilities, with the NCWWTP), drainage works, chain link fence, etc.) - Elements of the recycled water transmission pipelines incl. appurtenances (fittings, valves, insulation, control & metering structures) up to a Point of Connection located 3 m. outside of Transfer Pump Station #2 ▪ Item 1.10 for construction of **power supply facilities** at the WRP site including: - Extension of the NPTG's substation by a complete set of two 10kV feeders - About 2.0 km double-circuit 10kV OHTL - 10/0.4 kV complete set substation with 2x1,250 kVA capacity at WRP site - Standby power system related building (e.g. stand-by generator), etc. ▪ Item 1.07 for construction of a new supervisory control and data acquisition **(SCADA) system,** inclusive of SCADA Operational Room and other civil related structures. Note: for the Item 1.10 an English translation of the Power Supply Technical Condition will be provided to Bidders through issuing an amendment to the ER.
Question 95:	As understood that "Inspection and factory testing during manufacturing" should be included under item 1.03, accordingly kindly advise if manufacturer representative should also be considered under item 1.03.
Answer 95:	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 factory testing during manufacturing. In which case all costs related to Inspection and Factory Testing (incl. services by: QA/QC entity of the Contactor, manufacturer representative(s), external & independent third parties that may be engaged by the Contractor such as Third Party Inspection agencies or testing laboratories) shall be considered under item 1.03.
Question 96:	As per the Engineers Requirements (ER) 2.6.17 Engineer's Vehicles; Two (2) four-wheel drive utility type vehicles are to be provided. Kindly advise under which item of schedule of prices shall be priced and shall the contractor also keep with the Vehicles on rent with fuel and lubricant including maintenance during construction period for the use of the Engineer and QA/QC.
Answer 96:	Item 1.03 covers: - Vehicles on rent with fuel and lubricant including maintenance during construction period for the use of the Engineer and QA/QC entity (hired by the Contractor) - Duration: for the entire construction period and a minimum of 30 days after the Taking Over Certificate has been issued
Question 97:	As per the ER; a road is requested. Kindly advise under which items of Schedule of prices shall be priced.
Answer 97:	The costs of the following **roadworks** shall be priced under item 1.08: - All temporary access and haul roads to the various working areas, borrow areas and disposal areas as required for the Works. - All permanent (internal) roads within the WRP property (incl. road drainage) Kindly note that the costs related to the **design** of internal roads, drainage and other facilities (landscape, fence) shall be priced under item 1.05. Kindly note also that the permanent access road to the WRP will be built by others. Details

	and boundary limits of this access road can be found in Section 9.0 of the TOR (Annex 6, Sheet No 3 to No 9).
Question 98:	As per the ER; buildings are requested. Kindly advise us with technical details (description) and under which items of Schedule of prices shall be priced.
Answer 98:	Please refer to answer 94. Item 1.08 covers the costs of construction of the WRP auxiliary facilities including **permanent buildings**: - Administration building (inclusive of Laboratory and SCADA Operational Room as well as a separate Communication & Server Room) - Chemical storage house - Garage - Others, e.g. buildings of campus areas of pumping stations, maintenance facilities (e.g. workshop/store room with adequate space for tools, spare parts, other storage). Item 1.10 covers the costs of buildings or structures related to the construction of **power supply facilities** at the WRP site including substation building and standby power system related building (e.g. backup generator house) Item 1.03 covers the costs related to temporary field buildings incl. Engineer and QA/QC office buildings.
Question 99:	Kindly advise if the internal road, drainage, building services, cable schedules, lightening, landscape & fence details shall be priced under item 1.08.
Answer 99:	Yes, the design and construction of these auxiliary facilities shall be priced under Item 1.08.
Question 100:	Kindly advise if any cost should be considered by the Bidder for Assessment; project Feasibility and Resettlement.
Answer 100:	Costs for 'Assessment' or '**Appraisal Works'** shall be considered under Item 1.04 if this relates to: site investigations and engineering surveys, incl. costs of topographic surveys, geotechnical/soil surveys, costs of complementary wastewater and sludge quality tests There are no costs associated with 'Feasibility". **Resettlement costs** are borne by the Govt. of Mongolia via MCA-M.
Question 101:	If Assessment, feasibility… should be considered by the Bidder, then kindly advise under which items of Schedule of Prices should be priced.
Answer 101:	Please refer to answer 100 for costs related to 'Assessment' or 'Appraisal Works'
Question 102:	Kindly advise if any cost should be considered by the Bidder for storm drainage system as it is mentioned in feasibility report file (page 119/137).
Answer 102:	Please refer to answer 97. The Bidder shall consider the following costs: - Under item 1.04: **Additional site investigations**. The Contractor is responsible to determine the conditions of access roads and identify specific surveys that may be required for design, construction and maintenance of drainage or bridge/culverts. - Under Item 1.05: **Design of drainage facilities related to the WRP**, incl. stormwater drainage from buildings and surface drainage from open space areas, box culverts, and minor road drainage structures. The Bidder/Contractor` design team shall include a Hydrologist/Drainage Engineer for this purpose (refer to Table 2 5 for the Minimum Personnel Educational and Experience Guidelines for this position). - Under item 1.08: **Construction of temporary road drainage works** related to temporary access and haul roads (to the various working areas).

	- Under item 1.08: **Construction of permanent drainage / stormwater facilities** incl. drainage and stream crossing facilities associated with the permanent internal roads of WRP as well as other surface drainage and building drainage facilities. Kindly note that the permanent main access road (to WRP and New CWWTP) and related drainage facilities will be built by others (Refer to ER Section 9.0, Annex 6).
Question 103:	Referring to feasibility report file (page 119/137). It is mentioned different cost for Sludge EQ Basin Recirculation Pumps and Sludge EQ Basin Transfer Pumps; although it should be the same pump has the same capacity and head as mentioned in the employer requirements. Kindly advise us with the flow and head requested for each pump.
Answer 103:	Please refer to answer 54 for the capacity and head of the sludge transfer pumps to Train A Primary clarifier at new CWWTP. Please refer to answer 53 and table 2.13 of ER. Kindly note the length of sludge transfer pipeline (800 m), pipe diameter (DN 200) as well as the TDH (12 m.) of pumps and pump motor (25 hp) are only indicative. These values along with the pump arrangement (2+1) and capacity (275 m3/h) shall be confirmed in the Bidder`s proposal (preliminary design).
Question 104:	Referring to feasibility report file (page 119/137). It is mentioned different cost for Effluent Pumps to CHP-3, Effluent Pumps to CHP-4 and Effluent Standby Pump; although it should be the same pump that has the same capacity and head as mentioned in the employer requirements. Kindly advise us with the flow and head requested for each pump.
Answer 104:	The approach to the pump stations and the pipelines changed between the feasibility study and the Employer's Requirements. The Employer's Requirements take precedence. Information on the appropriate head / pressure for the effluent pumps to be installed at the Transfer pump station # 2 (to feed the CHP-3 and CHP-4) can be found in answer to question #55. 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/head of pumps. As noted in Answer 55 the Bidder may base its proposal on the information in Table 2-12.
Question 105:	After checking the tender documents and drawings very carefully; we are not able to verify the head of pumping station 1, sludge transfer pump and pumping station 2 In order to determine the appropriate Head / pressure for the pumps within the WRP; you need to provide us with drawings to show the elevation of the pump set, elevation of the structure where water will be pumped to, maximum water level in that structure, pipeline route, material of construction, diameter and length or layout with dimensions. Kindly advise how to proceed.
Answer 105:	Please refer to answer to question #78 and kindly note the following: a) from Transfer Pump station #1 to process tanks: Please refer to answer 47 b) from Transfer pump station # 2 to CHP: Please refer to answer 55 c) from Transfer pump station # 2 to CWWTP effluent channel: Please refer to Answer 50. no pump is required. d) from sludge transfer pumps to Train A Primary clarifier at new CWWTP: Please refer to answer 54

	No other drawings than those already provided in Section V of IFB are available. Please refer to the drawings set contain in "ER and its Annexes" (3.1. WRP.pdf) and Feasibility Study Vol II (page 38, proposed WRP preliminary hydraulic profile).
Question 106:	The Bidders are expecting to get technical description for surge system for pumping station 2. Kindly advise if the Bidders can get the technical description soon in order to avoid any delay in pricing.
Answer 106:	Kindly refer to answer 81. The addendum related to the surge system will be issued by MCA-M to all Bidders by the time others (Pipeline Design Consultant) completes the hydraulic and piezometric calculations along with the basic design of the hydraulic and mechanical devices (incl. the initial details of the surge system). This is foreseen during the first part of Dec. 2021 latest.
Question 107:	Kindly advise if the drawing file 3.1 WATER RECYCLING PLANT (WRP) is available in AutoCAD format.
Answer 107:	Only PDF format for the drawings is available.
Question 108:	Referring to Table 2-10 Dual Media Filtration Design Criteria; the Backwash rate is mentioned as 56 m/h. Kindly advise if the contractor shall keep with that value as the average value of BW rate should be 25-30 m/h.
Answer 108:	MCA agree that 56 m/h could be a higher backwash rate than is required. The Contractor shall provide a minimum of required is 40 m/hr or 16 gpm/ft2, and shall provide fluidization of both the anthracite and sand and achieve at least a 30% bed expansion with the combined air scour backwash that is required by the Employer's Requirements.
Question 109:	It is mentioned in the ER that "*The Contractor is not responsible for treating heavy metals in its treatment process (at the Wastewater Recycling Plant). The Bidder, however, shall describe in its Bid the expected removal levels of the heavy metals that could be achieved from its proposed treatment process".* Kindly note that process mentioned in clause 2.17 will not be able to remove heavy metals and kindly advise where the description in the Bid will take place. Is it part of a Tech Form? If so, which Tech Form?
Answer 109:	It is confirmed that the ER process mentioned in clause 2.17 will not be able to remove heavy metals. The WRP is not intended to provide heavy metal removals, although some incidental removals may occur via filtration of colloidal metal precipitates formed in the Central WWTP unit processes, but not removed there because filtration is not included in those facilities. Therefore, if Bidders intend to follow the coagulation scheme laid out in the Feasibility Study for the WRP, then supplemental heavy metal removal is not an evaluation consideration.
Question 110:	Referring to ER 2.2.2 *"Recycled Water Transmission Pipeline, Tanks and Pump Stations Description" where it is mentioned that the major components of the Recycled Water Transmission Pipeline construction are expected to include:* • *Transmission Main.* • *Fittings.* • *Valves.* • *Insulation.* • *Control and Metering Structures.* Kindly advise if above mentioned Transmission main will have a length of 3 meters length and what is the insulation that should be considered by the contractor and advise if insulation

	is requested for more pipeline.
Answer 110:	The Recycled Water Transmission Pipeline will convey treated effluent from a POC that is three meters immediately outside of Transfer Pump Station #2 at the WRP. Please refer to ER section 2.19.59 for the specifications of pipe insulation that are applicable: - To below ground pipe incl. the small section of recycled water transmission pipe outside of Transfer PS #2 as well as: All buried pipelines within the WRP (e.g. all buried connecting pipelines between structures); Buried sludge transfer pipelines connecting to the New CWWTP; Building service pipelines connecting the new CWWTP utilities incl. water and heating pipelines) and other buried pipelines. - To above ground pipes, e.g. connection pipes, suction and delivery pipe manifolds and assemblies at Transfer Pump Stations, etc.
Question 111:	Referring to ER 2.3.1 Time for Completion; At *the date of issuance of the Taking Over Certificate, the Contractor shall leave all chemical tanks full and shall have provided all spare parts specified.* Kindly advise if the Bidder shall price the filling of chemical tanks under item 1.08 schedule of prices.
Answer 111:	Item 1.08 covers the costs for the following till issuance of the Taking-over Certificate, not limited to (please refer to para #17 of Section 1.1 of ER - Preamble of Schedules of Prices): - Chemicals (all chemicals tanks to be full till successful Tests on Completion and Trial Operation, meaning till issuance of TOC) - Laboratory equipment and consumables - Mandatory spare parts and fuel lubricants - Tools, specialty tools. use of cranes Item 1.06 covers the costs for the following Contractor`s duties, not limited to (please refer to details of the duties as set out in ERs Sections 2.26 and 2.27, and 2.28): - Contractor`s Tests during the construction phase inclusive of testing of civil works - Contractor's Testing & Commissioning of mechanical, electrical and instrumentation, control and automation plant and equipment, inclusive of: ▪ Pre-Commissioning checks; Site tests; Electrical & mechanical plant tests ▪ Commissioning tests - Contractor`s Trial Operation duties inclusive of ▪ Trail run tests ▪ Final Test on Completion - Contractor`s Assistance for Handover of facilities after DNP inclusive of: ▪ Receiving inspection, checklists, O&M manuals, etc. ▪ Completion certification - Training of Employer`s staff during all above periods inclusive of: ▪ Training during factory acceptance tests ▪ Training during commissioning period ▪ Training during trial run period ▪ Training and support during Defects Notification period Kindly note also that: ▪ Costs of electricity consumed at the WRP to carry out all above duties till issuance of the TOC shall be priced under item 1.06 (please refer also to answer to question 80) ▪ Costs for paying during the DNP the Contractor`s labor and on-site superintendent costs, plus warranty-related repairs shall also be priced under item 1.06.

Question 112:	Referring to ER 1.0; it is mentioned that the prices entered in the Bid by the Bidder shall include all taxes and charges imposed on the production, manufacture, importing and sale of the equipment, and materials to be supplied under this Contract, at the country of origin other than Mongolia. Kindly advise us with the taxes, charges, importing and sale of the equipment that shall be added by the contractor.
Answer 112:	Section 2.8 of the Compact clearly states that "…all MCC Funding is free from the payment or imposition of any existing or future taxes, duties, levies, contributions or other similar charges… of or in Mongolia" /emphasis added/. Therefore, all bidders should note that tax exemption provisions of both the Compact and the Program Implementation Agreement shall apply to certain taxes, duties, levies, contributions or other similar charges which are applicable in Mongolian territory only. However, tax exemption treatment will not apply to any taxes, duties, levies, contributions or other similar charges imposed in countries other than Mongolia. On this basis, the bid price shall include applicable taxes which are not exempted under the Compact and the Program Implementation Agreement. See below answer for details. All taxes are exempted, according to the Compact clause 2.8 and Program Implementation Agreement (PIA) clauses 2.13 and Annex V. In accordance with the Compact clause 2.8, MCC Funding is free from the payment or imposition of any existing or future taxes, duties, levies, contributions or other similar charges. The mechanisms to implement this tax exemption is set forth in detail in Annex V of the Program Implementation Agreement. Therefore: a. Detailed procedure for the exemption of different types of taxes are set forth in Annex V of the Program Implementation Agreement. Each type of tax has a different set of procedure to be followed in order to implement the exemption. For instance, VAT for all local purchases will be exempt by utilizing a VAT relief purchase registration number issued by the local Tax Authority. The procedure to apply for such registration number is provided in detail in the above-mentioned Annex V of the Program Implementation Agreement. b. Tax exemption period will be effective throughout the full contract term. c. Please refer to Program Implementation Agreement Annex V- Tax Schedules, Schedules D, E, F for more detailed information. In general, Contractor's local staff, defined as natural persons who are either citizens or permanent residents of Mongolia, will not be exempted of the applicable tax and social insurance payments. Staffs who are neither citizens nor permanent residents of Mongolia will be exempted of the applicable taxes. d. If the equipment and spare parts are imported by the Contractor solely for the Compact purposes, custom tax will be exempted. For detailed information on the custom tax exemption procedure, please refer to Program Implementation Agreement Annex V- Tax Schedules, Schedule B.
Question 113:	Referring to ER 2.3.2.3 Access Roads. *The Contractor is responsible for maintenance of the existing access roads to and around the site during the period of construction, and for improvements thereto and construction of extensions if necessary, to facilitate the completion of the works*.

	Kindly provide us with the description of work that should be included for the maintenance of the existing access roads and if its cost will be under schedule of prices 1.08.
Answer 113:	Please refer to ER section 2.6.5: The Contractor is responsible to determine the conditions of access roads to the CWWTP and WRP sites, and identify specific surveys that may be required for maintenance of road sections, drainage or bridge/culverts. Such as additional or specific surveys, geotechnical testing needs, field and laboratory investigations etc. shall be identified by the Bidder in the Design Proposal. There is no further description of the roadworks and related maintenance of access roads. Bidder can familiarize himself with the actual status of the access roads (those common to the WRP and New CWWTP) and those specific to the WRP (incl. temporary access and haul roads, borrow areas, disposal areas, and areas that may be foreseen for storage of material and concrete batch plant etc.) by visiting the WRP site. The costs for the maintenance of the existing access roads can be considered: - Under item 1.04 for the additional investigations or surveys, e.g. topographic survey of the access roads/tracks to the site prior to the roads and tracks being used. - Under item 1.04 for the costs related to the to the permit / use of any existing roadways for access to the site during the construction period. - Under item 1.05 for the design of the access (new) roads, if relevant. Under Item 1.08 for the construction and maintenance of the roads (existing & new)
Question 114:	Referring to ER 2.3.5 Qualifications of Manufacturers; kindly advise if such qualification shall be submitted at Bid stage and shall we consider it as part of Form TECH – 1 Design proposal.
Answer 114:	The Bidder/Contractor shall submit a list of major equipment and materials manufacturers in the bid documents. Information can be obtained by the Bidders from technical manufacturer`s brochures. In particular: - Detailed information such as Key Vendors Information Sheet (**Form ELI-2**) and Construction Equipment (**form TECH-7**) shall be provided in the Bid Proposal. - A **list of proposed major project components** with a value for the item exceeding $25,000 shall be provided with **TECH-1** (Design Proposal), including for each item, identify the item of the project component (Table at end of TECH-1) the following: ▪ Name of supplier(s), model number, and country of origin ▪ Specifications shall be accompanied by manufacturers' brochures and details of the main items and equipment. Kindly note that all manufacturers and materials providers are subject to the approval of the Engineer.
Question 115:	Referring to ER clause 2.6.5 Additional Site Investigations; it is mentioned that The Contractor is responsible to determine the conditions of access roads to the CWWTP and WRP sites, and identify specific surveys that may be required for maintenance of road sections, drainage or bridge/culverts. Kindly provide us with the description of the works that is requested by the contractor and if its cost shall be part of item 1.08 Schedule of prices.
Answer 115:	Please refer to answer to question 113. The Bidder may consider under item 1.08 the cost for the construction and maintenance of the access roads. Costs for additional Site investigations and specific surveys may be considered under item 1.04.

Question 116:	Kindly advise if three years spare parts are requested to be priced and if the contractor shall consider its cost under item 1.08 Schedule of prices.
Answer 116:	Please refer to answer to question 111. Item 1.08 covers the costs for the **mandatory spare parts**. These parts shall be provided for the three-year warranty period starting from issuance of the Taking Over Certificate. The spare parts are tentatively listed in Section 2.7.3.2 of the ER, but do not represent the final list of mandatory spare parts to be provided by the Contractor. The 3-year equipment warranty certificates of all key equipment and parts shall be annexed to the O&M Manual. Kindly consider that **lists for non-mandatory spare parts** shall also be provided by the Contractor during design phase, as follows: ▪ A list of spare parts that may be recommended by the equipment manufacturers shall be listed in the Spare Parts Inventory section of the Contractor`s O&M Manuals. This may include a list of critical replacement parts that may have long delivery times associated with them (more than 60 days) ▪ A list of "five-year Supply of Manufacturer's Recommended Spare Parts" for each piece of equipment. This list is for parts not required by the ER, and shall include contact information for each equipment manufacturer.
Question 117:	Kindly advise if five years spare parts shall only be submitted as price list and it is not requested to be part of the Bid price.
Answer 117:	Yes. Only a priced list of "five-year Supply of Manufacturer's Recommended Spare Parts" with information on equipment manufacturer etc. shall be provided. These non-mandatory spare parts are not to be provided by the Contractor and shall not be priced in the Bid Proposal.
Question 118:	Kindly advise under which Bidding Forms the contractor shall submit the price list of five years spare parts.
Answer 118:	There is no provision/requirements under any Bidding Form for submission of: - The list of non-mandatory "five-year Supply of Manufacturer's Recommended Spare Parts": this will be submitted by the Contractor as part of his 'O&M Manual" or at later stage as part of the checklist of items to be examined at the end of the DNP.
Question 119:	Kindly advise there is no technical description/ quantity for laboratory equipment. Also, kindly advise what the Bidder shall price so that all bidders shall price the same.
Answer 119:	The Contractor is responsible for ensuring that the required laboratory equipment and consumables meet the required standards and functional requirements detailed below; and these items requirements must be included in the Bidders Design and Price in its Bid Submission: The analytical and process control laboratory shall include as a minimum dedicated areas and equipment for each of the following: Organics Preparation, Nutrients Analysis, Microbiology, Metals Analysis, General Chemistry, and BOD and Solids Analysis. Provide corrosion resistant laboratory casework with epoxy resin countertops throughout lab area. Provide fixed equipment (including a fume hood, canopy hood, oven, water purification system, safety shower, refrigerator, and glassware washers) and loose equipment (bench-top analysis equipment, testing materials and chemicals, scales, glassware, all loose accessories, and all safety equipment). For breakable items such as glassware a minimum of ten items shall be provided. For chemicals and reagents enough to perform at least 400 tests shall be provided.

	Facilities in the laboratory shall be suitable for completing all analyses shown below based on "Standard Methods" https://www.standardmethods.org/ Laboratory equipment, furnishings, and supplies shall be provided which are adequate to perform all required tests and analytical functions for plant operations, process control, quality control, and operator oversight. Analyses required to be able to be conducted in the laboratory: - Nitrate - Nitrite - Ammonia - TKN - Total Nitrogen - Total Phosphorus - Orthophosphate - Total Organic Carbon - Coliform bacteria - E. Coli - Faecal coliforms - Free chlorine - Alkalinity - Calcium - Chloride - Conductivity - Hardness - Magnesium - pH - Sodium - Temperature - BOD - COD - Total suspended solids - Dissolved solids - Settleable solids - Total solids - Volatile solids
Question 120:	Kindly advise there is no technical description/Quantity for instruments. Kindly advise what the contractor shall price so that all bidders shall price the same.

Answer 120:	Kindly note there are various type of 'instruments': 1. For the **permanent works:** instruments for process instrumentation equipment, instruments for control panel and controls, for SCADA system (communication instruments) and PLC network, for flow measurement, for level measurement (e.g. ultrasonic and differential Pressure transmitters), for pressure measurement (transmitters, gauges & switches), for water quality measurement (e.g. transmitter for Dissolved Oxygen, Ammonia, Turbidity/TSS measurement etc.). These instruments will be shown on the Contractor`s draft **drawings a**nd will be listed in the **Specifications Lists** to be provided by the Contractor as part of his Preliminary Design. The final quantity of 'instruments' will be established from this List of Specifications. The Bidder`s Preliminary Design proposal shall indeed comprise drawings and draft technical specifications for the following ▪ PFDs and P&IDs. ▪ SCADA system hardware and software integration block diagrams. ▪ Electrical design. ▪ Instrumentation and control details. ▪ Control system architecture and SCADA facilities, including WRP, CWWTP and CHP sites It is therefore the Bidder`s responsibility to price under item 1.07 (for the SCADA system) and item 1.08 (for other instrumentation & control systems of the WTP) the costs for all related instrumentation equipment and works. **2.** For future **operations and maintenance** of the WRP facilities: these may relate to O&M instruments listed in the ER (section 2.7.3.2 of ER,) for instance: ▪ Supply of five spare sets of arithmetic units, transducers, transmitters, buffers, indicators, displays, etc. for each type and size of instruments to be provided by the Contractor; ▪ Supply of spare parts for analyzers, incl. 2-year supply of reagents and powders for the analyzers, two sets of spares for each type analyzers etc**.** These instrumentation spare parts shall be priced by the Bidder under item 1.08 (as part of the mandatory spare parts) to be provided by the Contractor.
Question 121:	The drawings to determine the path of pipeline DN 200 from waste tank to train A is not clear. kindly advice how to proceed.
Answer 121:	Please refer to answers to question 53 and 103. The route alignment, length of sludge transfer pipeline, pipe diameter as well as the TDH of pumps are only indicative. These values shall be confirmed in the Bidder`s proposal (preliminary design) which will have significant impact on the requirements. For example, the bidders design may have less backwash waste and therefore require a smaller motor than indicated. The Bidder shall make reasonable assumptions and the contract will be administered in accordance with the Conditions of Contract.
Question 122:	It is understood that pumping station 2 will transfer recycled water to CHPs. from drawings we noticed that water shall be delivered to CHPP4 and not to CHPP3 as it is far away. The head of pump station 2 can't be confirmed with the available drawings due to unclearness. Kindly advise if the head of Pumping station 2 will be confirmed by the contractor or by the consultant.

Answer 122:	The Recycled Water Transmission Pipeline will convey treated effluent from the Transfer Pump Station #2 at the WRP to designated points at CHPP #3 (future balance tank to be located near CHPP #3) from where a separate booster station to be built by others will transfer recycled water to CHPP #3). A separate branch line from the main Transmission Pipeline will also feed the CHPP #4 (existing ground tank within the CHPP #4 premises). For the determination of head of PS #2: kindly refer to answer to question 55. The value of TDH is indicative and final value will be established by the Contractor in coordination with the Design Consultant (responsible for transmission pipelines design). The Bidder shall base its proposal on the information in Table 2-12.
Question 123:	Referring to 2.6.15.3 Requirements for Facilities; kindly advise if the cost of clause 2.6.15.3 Requirements for Facilities will be under item 1.08 schedule of prices.
Answer 123:	Please refer to answers to questions 91 and 94. Works related to the Engineer's Site Office shall be priced under item 1.04. The office facilities (buildings, office premises) may relate at the request of Contractor to the supply and installation of mobile buildings).
Question 124:	Referring to 2.7.3.2 Spare Parts; kindly advise if we have to price spare parts for each individual item or for each set of equipment. For example; in case of pumping station 1 where we have to supply three pumps (2+1); kindly advise if the contractor shall price spare parts for each individual pump. Same scenario for other equipment.
Answer 124:	Please refer to answer to question 111 and 116. The spare parts are tentatively listed in Section 2.7.3.2 of the ER, but do not represent the final list of mandatory spare parts to be provided by the Contractor as part of his O&M Manuals. For pricing purpose, the Bidder shall use the list in section 2.7.3.2 of the Employer's Requirements.
Question 125:	Referring to page 108/350 of the ER that; Kindly advise if priced spare parts shall be for three years or five years. • Pumps (per pumping-unit): • Sufficient seals, sealing rings, wear ring, O-rings, shaft sleeves, packing, gaskets, etc. and replacement parts for annual or shorter service periods for each unit over five years. • MBBR Units, including aeration blowers (supplemental ammonia removal): Sufficient spares for five years • Lamella Plate Clarifiers (final sedimentation): Sufficient spares for five years; According to above mentioned paragraphs; kindly confirm if three years spare parts or five years spare parts should be priced under item 1.08 schedule of prices
Answer 125:	Please consider for the pricing of three years, **mandatory spare parts** listed in ER section 2.7.3.2 under item 1.08. See answer to Question 116.
Question 126:	Referring to ER 2.16; The WRP is to be designed with a high level of flexibility, complete "N+1" redundancy. Kindly confirm that standby unit should be submitted to all equipment; mixers, dosing pumps, etc…and in case of mixers shall the contractor install a standby mixer in each rapid mixing tanks and slow mixing tanks.
Answer 126:	The Bidders proposal shall show how the level of redundancy will be achieved in this Design Proposal. This will be shown in particular in the preliminary drawings that will be part of the

	Bid submission. This Proposal shall demonstrate system reliability by: ▪ Installing firm capacity for process treatment equipment such as pumps (N+1), blowers, and chemical feed pumps - meaning that if one unit of any such item is out of service then the full WRP output capacity can still be achieved. This applies also for mixers, hence the Bidder`s proposal for number of stand-by pumps, blowers, dosing pumps, mixers shall be considered in his Proposal ▪ Stocking the required inventory of spare parts for all installed equipment, please refer to list of mandatory spare parts listed in answer to question 124. ▪ Providing a shelf space for items such as flocculation mixers and settling basin sludge collectors mechanisms, for which installed firm capacity is not feasible. ▪ Providing sufficient numbers of isolation valves/gates to allow for expansion (up to a capacity of 100,000 m3/day net) without the need for taking existing facilities out-of-service. ▪ Providing cross connections so that taking one major basin out of services does not prohibit the use of major parts of the plant which are connected to that individual basin
Question 127:	Referring to ER 2.16; it is requested to supply the following: • stocking the required inventory of spare parts for all installed equipment, and • Providing a shelf space for items such as flocculation mixers and settling basin sludge collectors' mechanisms, for which installed firm capacity is not feasible Kindly clarify what shall be priced by the contractor. Shall the contractor price spare parts for three years? shall the contractor price duty / standby for each equipment? Shall the contractor price shelf equipment?
Answer 127:	The Bidder shall price all required equipment (duty/stand-by), shelf equipment and spare items / spare parts in commensurate with the level of redundancy and system reliability demonstrated in his Design Proposal.
Question 128:	Referring to ER 2.16; it is requested to include the following: The Contractor shall include in its bid to run its pipe through a non-direct path to the "A" train primary clarifiers in the event that the most direct route cannot be coordinated with the EPC Contractor of the CWWTP. Kindly note that provided drawings are not clear in order to determine the path. Also, the A train primary clarifiers cannot be found. Kindly advise how to proceed.
Answer 128:	The route alignment, length of sludge transfer pipeline, pipe diameter and the total dynamic head (TDH) of pumps are only indicative. These values shall be confirmed in the Bidder`s proposal (preliminary design).Please also refer to answer of question 121
Question 129:	Referring to ER 2.16; the following is requested: Chemical storage capacity shall be sufficient for 45-days continuous operation at maximum throughput and all specified conditions. The storage capacity for each type of chemical (aluminum sulfate, polymer, chlorine/salt, others if required e.g. caustic soda) shall be based on the supplier's standard delivery quantity plus an allowance of 14 days. It is not clear what the contractor shall supply. Kindly clarify the storage capacity
Answer 129:	The Contractor shall provide chemicals as per his Process Design, with a minimum storage for 45 days' operation of the plant at designed flow capacity.

Question 130:	Referring to junction box and pumping station 1; kindly clarify if there is a distance between these structures as per DRW C-100 or to consider these structures as one unit as per DRW D-101.
Question 130:	The Bidder shall propose in his Design Proposal (preliminary design and drawings) an optimal solution (as one unit or separate junction box and transfer pump station). The Bidder shall also consider in his design the fact that the effluent channel (to feed the junction box of the WRP) will be designed and built by others (separate contractor).
Question 131:	Referring to 2.16; it is mentioned that: • Any alternative may not require a chemical cost of more than 25% more than the base case described herein for Mongolian conditions and prices and the Bidder must demonstrate this comparison in its bid. The bidder shall clearly state all chemicals which are required for any alternative solution in its Bid regardless of quantities to be used. • Any alternative design shall not include any major consumable which will have an average operating or replacement cost of more than $50,000 per year to produce 50,000 m3/day unless formally approved by the Owner. The Bidder shall include all relevant details of any consumable in its Bid. The bidder shall clearly state all consumables which are required for any alternative solution in its Bid regardless of quantities to be used Kindly confirm that these statements are not valid anymore as no alternative design will be submitted.
Answer 131:	The two bulleted comments are pertinent only if an alternative chemical feed approach is proposed by a bidder. No bidder proposed alternatives related to chemical feed approach in the Executive Summaries and Proprietary Meetings. Bidders shall follow requirements in the ER, and the considerations are not pertinent and do not need to be addressed by that bidder.
Question 132:	Referring to 2.16; it is mentioned that: The base case design for the WRP is estimated that the total annual power use for producing and pumping 50,000 m3/day is approximately 7 million kWh/year and no alternative design shall use more than 10 million kWh/year. The total calculated annual power consumption shall be calculated and submitted in the bid with clear calculations and demonstration of reasonable assumptions for the Owner to review In order to guarantee this value, you are kindly requested to advise us with head of pumping station 2 as the info provided by you is not enough to calculate the head with enough certainty
Answer 132:	Please refer to answer of question 55 and 104. The Bidder may base its proposal on the information in Table 2-12 (for the head of pumping station #2)
Question 133:	Referring to 2.19 MECHANICAL SYSTEMS; it is requesting the following piping: Materials and coatings used shall be unconditionally resistant to the conveyed fluids. Pipework shall be as follows: • Raw sewage, rising main, process piping, potable water (including supernatant): Ductile Iron Cement Mortar Lined (pumped) • HDPE Pipe & Fittings (pumped & gravity) • Coated Steel. Gravity (pumped) or Polyethylene, uPVC (gravity) • Drainage: uPVC or reinforced concrete pipe (RCP)

	• Sludge: Ductile iron or coated steel • Sampling: uPVC, ABS, or 316 stainless steel Air: Galvanized mild steel or ABS • Instrumentation: Copper or stainless-steel tubing Kindly confirm that the contractor can choose HDPE for pumped and Polyethylene/HDPE for gravity.
Answer 133:	HDPE Pipe & Fittings (pumped & gravity) and PE are choices the Bidders can made among others (ductile iron, coated steel) for raw sewage, rising main, process piping, and potable water piping. The rational of the Contractor`s piping design will be demonstrated in his Design Proposal, incl. the draft list of Specifications and Drawings and the details of Standards, design philosophy, key Criteria and any Assumptions used. Materials Analysis and Recommendations will need to justify the selected choice of gravity and pumped piping technology and material.
Question 134:	Referring to D-101; kindly clarify if inlet piping / inlet valve / fittings from CWWTP to Pump station 1 is under the scope of the contractor and what is the length of piping to be considered.
Answer 134:	Please refer to answer to question 130. The Bidder shall propose in his preliminary design Proposal an optimal solution. This could be a direct inlet piping from the effluent channel (to be built by others) to the junction box and onwards to the suction chamber of the transfer pump station #1). The length of piping may differ from one solution to another.
Question 135:	Kindly advise if any motorized valves for certain locations shall be supplied by the contractor.
Answer 135:	For gate valves: valves above of size 300mm and up to 500mm shall be provided with a manual enclosed gear arrangement and do not required to be motorized. Valves above 600mm size shall be provided with an electric actuator arrangement and shall be motorized. Kindly note that valves above 600 mm are usually of 'butterfly' type and equipped with SCADA-controlled actuators. For electrical actuators: please refer to the specifications provided in ER sect. 2.19.55. Kindly note that the Contractor shall clearly identify in his design (Design proposal) the location and type/draft specifications of valves and electrical actuators considering his proposed: ▪ Process and instrumentation diagrams ▪ Instrumentation and control details. ▪ SCADA system hardware and software integration block diagrams. ▪ Control system architecture and SCADA facilities, including WRP, CWWTP and CHP sites.
Question 136:	Referring to ER 2.23 COORDINATION WITH TRANSMISSION PIPELINE PROJECT; 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 advise us what is requested by the bidder to be priced and what is the flow of drain that will be pumped from CHP3 back to pump station 2.
Answer 136:	The SCADA system of WRP should be able to control, adjust and keep storage tank nearby the CHPP #3 full. Please be informed that the Bidder shall not price any piping (inclusive of drain) system for

	return of flow from CHPP #3 to the Pump station 2. The return pipeline from CHPP #3 originally foreseen to be executed by a separate Contractor is cancelled. Hence no special arrangement shall be considered by the Bidder/Contractor at PS #2 for this purpose.
Question 137:	It is requested by the bidder to provide breakdown of rates and prices schedules of no less than 500 line items and The Bidder shall provide an Excel version of the breakdown as part of the Bid submission. Kindly advise if that breakdown is for payment purposes or is it measured project
Answer 137:	Please refer to Section I (Instruction to Bidders), ITB 15.5: The Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules included in Section IV. Bid Submission Forms. Under Bid submission form #32 (Breakdown of Rates and Prices Schedules), the Bidder shall provide break down of lump-sum price for the Schedule of Prices item 1.0 in no less than 500-line items. The breakdown will be used for understanding bidder's lump-sum price during bid evaluation.
Question 138:	Please inform us where we can find the Bid Guarantee Number which needs to be written on the Form of Bid Security.
Answer 138:	As set forth in Instructions to Bidders (ITB) 20.2 of Section II of the Bidding Documents, the Bid Security shall be in the amount of US $250,000.00 - in USD only. The template Form of the Bid Security (Bank Guarantee) to be used by the Bank is Bid Submission Form 3, included in of Section IV of the Bidding Documents. The Bid Guarantee Number is to be completed by the bank. **The Bidder retains full responsibility for ensuring that all requirements of ITB 20 are met.**