DEPARTMENT OF PURCHASING & CONTRACT COMPLIANCE

Winner 2000- 2006 Achievement of Excellence in Procurement Award
National Purchasing Institute

Jerome Noble, Director

September 20, 2007

Re: 07RFP57405K-RS, Big Creek Water Reclamation Facility
Membrane System Technology

Dear Proposers:

Attached is one (1) copy of Addendum 3, hereby made a part of the above referenced Request for Proposal (RFP).

This addendum forms a part of the contract documents and modifies the original Request for Proposal (RFP) documents as noted below.

Except as provided herein, all terms and conditions in the RFP referenced above remain unchanged and in full force and effect.

Sincerely,

Rholanda M. Stanberry

Rholanda Stanberry,
Chief Assistant Purchasing Agent

cc: Public Works Department
File

Addendum Items:

Item No. 1

Section 1.2, Project Description

A. Add the following sentence to the end of the paragraph that begins: "Phase 2: The selected….":

The early start date for Phase 2 is anticipated to be January 7, 2008.

B. Add the following sentence to the end of the paragraph that begins: "Phase 3: When the Construction Project …":

The major milestones for Phase 3 are anticipated to be:

- Issue NTP to the Contractor – Early start date of January 5, 2009.
- Achieve Substantial Completion – Early finish date of April 1, 2011.
- Achieve Final Acceptance – Early finish date of July 1, 2011.

Item No. 2

Section 2.2, Definitions

Replace the definition for "Fixed Membrane System Price" with the definition below:

Fixed Membrane System Price	The factor, which is defined in Appendix 1, to be used to escalate the Fixed Membrane System Price to the month of the Construction Contract Date in the event the Construction Contract Date does not occur within 18 months of the Technology Proposal Submission Date.

Item No. 3

Section 3.4, Technical Proposal Format and Content

Delete the following two items on pages 3-8 and 3-9:

- Provide equations for calculating guaranteed maximum rate of temperature-corrected permeability decline as a function of mixed liquor temperature, MLSS concentration, and flux. Guaranteed maximum rate of temperature-corrected permeability decline shall have units of gallons per square foot per day

per pounds per square inch per day (gfd/psi-d).

- Provide equations for calculating guaranteed minimum membrane temperature-corrected permeability following a recovery clean. Guaranteed minimum membrane temperature-corrected permeability following a recovery clean may be expressed as a constant or as a function of mixed liquor temperature, MLSS concentration, and flux.

Item No. 4

Section 3.5, Cost Proposal Format and Content

A. Delete the last sentence from the paragraph that follows the "Section 1 – Introduction" heading.

B. Add the following sentence to the end of the paragraph that follows the "Section 2 – Derivation of Costs" heading:

The Proposer shall state all assumptions used to determine the Fixed Membrane System Price.

Item No. 5

Section 4.2.1, Technical Proposal Evaluation

Add the following sentence to the end of the paragraph that follows the "Technical Approach (25 points max)" heading:

The evaluation will also consider any exceptions that the Proposer has taken to the requirements of the Technology RFP and attached to Technical Proposal Form M.

Item No. 6

Section 5.2.13, Technical Requirements Certification

Replace this section with the following section:

5.2.13 Technical Requirements Certification

Proposers shall complete and submit Technical Proposal Form M, which certifies that the Proposer has read and agrees to meet the requirements of the Technology RFP except as specifically described and attached to this form. In addition, the Proposer certifies that the costs submitted in Cost Proposal Form A – Fixed Membrane System Price fully encompass and

reflect the requirements of the Technology RFP except as specifically described and attached to this form.

Item No. 7

Section 5, Technical Proposal Form C

Replace Technical Proposal Form C with the attached Technical Proposal Form C.

Item No. 8

Section 5, Technical Proposal Form M

Replace Technical Proposal Form M with the attached Technical Proposal Form M.

Item No. 9

Exhibit 2, Required Submittal Checklist

Replace Exhibit 2 with the attached Exhibit 2.

Item No. 10

Section 2.4 of Appendix 1

Replace the third sentence with the following sentence:

Maintenance cleaning of a given Membrane Basin shall not be performed more frequently than once in 3.5 days.

Item No. 11

Section 3.1.3, Items Provided By Others, of Appendix 1

Add the following to the list of items that are excluded from the Membrane System Scope of Supply and will be provided by the Contractor for the Construction Project:

- Anchor bolts, brackets, and fasteners for equipment provided in Section 3.1.1 above.

Item No. 12

Section 3.3.4, Additional Services, of Appendix 1

Add the following sentence to the end of the paragraph that follows the “Start-Up Assistance” heading:

The Membrane System Supplier shall provide all necessary laboratory services and operations and maintenance personnel directly related to the proper stat-up and testing of the Membrane System until the Membrane System has passed the Acceptance Test.

Item No. 13

Section 3.2.2, Functional Testing, of Appendix 1

Replace the first sentence of the first paragraph with the following sentence:

The Membrane System Supplier shall coordinate with the Contractor to perform functional testing of the Membrane System and shall provide onsite assistance based on a minimum of 2 trips and a minimum of 10 days (8 hours/day).

Item No. 14

Section 3.2.3, Acceptance Testing, of Appendix 1

Replace the second paragraph with the following paragraph:

The Membrane System Supplier shall submit an Acceptance Test Report within 7 days of completion of the test period. To perform the Acceptance Test, the Membrane System Supplier shall continuously (24 hours/day, 7 days/week) oversee and provide direction to the County representative who will operate the Membrane System over a 60-day test period. During the 60-day test period, the Membrane System Supplier shall collect and summarize data to demonstrate that the Membrane System meets the Acceptance Test requirements for the parameters listed below. In all cases, compliance shall be determined for each calendar day, and to successfully pass the Acceptance Test, the Membrane System must comply with requirements for each of the 60 days within the Acceptance Test period.

Item No. 15

Section 3.3, Commissioning, of Appendix 1

Replace the last sentence of the second paragraph with the following sentence:

During the 180-day Commissioning period, the County representative shall operate the MBR Treatment Train and the Membrane System Supplier shall provide the following:

- Onsite assistance based on a minimum of 6 trips and a minimum of 30 days (8 hours/day).
- 24 hour/day, 7day/week telephone support.
- Remote, online monitoring of the Membrane System.

Item No. 16

3.4, Membrane System Warranty, of Appendix 1

A. Replace the first sentence of the third paragraph with the following sentence:

The Membrane System Supplier shall repair or replace any small membrane subunit that fails within the GML Warranty Period at no to the Owner.

B. Delete the following listed condition following the fourth paragraph and renumber the subsequent listed conditions:

3. If the Membrane System can not achieve the design net flux rates specified in the Membrane System Supplier's Technical Proposal that corresponds to the Condition 1 net permeate production requirements specified herein.

C. Replace the second sentence of the fifth paragraph with the following sentence:

If the Membrane System Supplier is unable to correct the failure condition through repair and replacement of membrane subunits, adding additional membrane subunits, or increasing the membrane cleaning frequency, then the Membrane System Supplier shall be responsible for all costs associated with complete removal of the nonconforming Membrane System and for all costs associated with subsequent installation of an alternate system that meets the performance requirements.

D. Replace Table A1-6 with the following Table A1-6:

Table A1-6
GML MBR Treatment Train Operating Conditions

Parameter	Value
FOG (mg/L as measured in raw sewage)	≤ 100
MLSS (mg/L as measured in MLR)	6,000-13,000
Temperature (°C)	10-30
Ferric Dose (mg/L as $FeCl_3$)	0-100
Alum Dose (mg/L as $Al_2(SO_4)_3$* $14H_2O$)	0-150

Parameter	Value
Lime Dose (mg/L as $CaCO_3$)[1]	0-75
Caustic Dose (mg/L as NaOH)	0-80
pH (s.u.)	6-8
Alkalinity (mg/L as $CaCO_3$)	30-130
Total SRT (seven day moving average)	8-50 days
Notes: 1. Lime slurry will be prepared from pebble lime using a slaker followed by a grit settling tank. Lime slurry will be added upstream or downstream of the primary clarifiers.	

E. Replace the last paragraph with the following paragraph:

Membrane System Supplier agrees to hold the Owner harmless from liability of any kind arising from direct damage due to said defects in workmanship and materials during the specified warranty periods. Membrane System Supplier shall make all repairs and replacements promptly upon receipt of written orders for same from Owner. If within 10 days after Owner has notified Membrane System Supplier of a defect, Membrane System Supplier has not started to make the necessary corrections, Owner is hereby authorized to make the corrections or to order the work to be done by a third party, and the costs of the corrections shall be paid by the Membrane System Supplier. Repetitive malfunction of Membrane System material and equipment shall be cause for replacement and an extension of the warranty period for replaced material and equipment to a date one year following acceptable replacement. Include in the Proposal any tests and procedures required to continue the warranty following violation of a warranty or contract operating condition.

Item No. 17

Section 3.5, Fixed Membrane System Price Adjustment Factor, of Appendix 1

Replace this section with the following section:

3.5 Fixed Membrane System Price Adjustment Factor

The Fixed Membrane System Price shall be adjusted in the event the Construction Contract Date does not occur within 18 months after the Proposal Submission Date. The Fixed Membrane System Price Adjustment Factor (FMSPAF) shall be based on the Construction Cost Index (CCI) as published by the Engineering New Record (ENR). The following formula illustrates the

calculation of the FMSPAF to be applied to the Fixed Membrane System Price to adjust the price from a time 18 months after the Proposal Submission Date to the month of the Construction Contract Date:

$$FMSPAF = \left[n_{db} \left(\frac{CCI_{\text{month of the construction contract date}}}{CCI_{\text{18th month after the proposal submission date}}} - 1 \right) \right] + 1$$

(***where n_{db} = Percentage proposed on Cost Proposal Form A)***

Once the Fixed Membrane System Price is escalated from the 18th month after the Proposal Submission Date to the Construction Contract Date, no further escalation of the Fixed Membrane System Price shall occur.

In the event that the CCI is not available, the FMSPAF is to be calculated using a comparable index or price to be mutually agreed upon by the County and the Membrane System Supplier. If the base used in any such index or price is altered, the FMSPAF shall be calculated to reflect the actual percentage change in such index or price from the 18th month after the Proposal Submission Date to the Construction Contract Date.

Questions and Responses:

Item No.	Section	Page No.	Wording in question
C-1	Section 1	1-1	1.1 Fifth paragraph
Question			In this Article - the fifth paragraph (which begins with "The Membrane System Supplier....."), stipulates the Membrane System Supplier's conditions to any agreement executed with or any bid submitted by Membrane System Supplier to the County whereby the Membrane System Supplier will accept a PO from a Contractor not of their choosing. We respectfully request that the Article be modified to read as follows: "The County guarantees that the Construction Contractor (hereinafter "Contractor") selected by the County shall enter into an agreement with the Membrane System Supplier (hereinafter "Supplier") in accordance with the following terms and conditions: 1) that the Contractor shall provide the County with a Labor and Material Payment Bond in the full amount of the general contract, including Membrane System Supplier's contract amount; 2) that the Contractor's purchase order to Membrane System Supplier shall state "Supply of goods and services as per Membrane System Supplier's As-Sold Proposal to County as included in the tender documents for the contract between the County and the Contractor, with no new or additional terms and conditions whatsoever being imposed upon Membrane System

Item No.	Section	Page No.	Wording in question
			Supplier by the Contractor; 3) that if the Membrane System Supplier's sale of goods and services to the Contractor is not tax exempt, and Membrane System Supplier has not included the cost of such taxes in its Contract Price, Contractor shall be responsible for all applicable taxes arising out of the purchase of Membrane System Supplier's goods and services by Contractor; and 4) that the Contractor shall not have the right to assign Membrane System Supplier's Contract, other than to assign it to the County, without Membrane System Supplier's prior written approval, and such approval may be withheld at Membrane System Supplier's sole discretion.
Response			See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-2	Section 6	6-1	Prompt Payment Article
Question			Please consider the following modification of the last two sentences with the following: "Contractor shall make payments to Membrane System Supplier in accordance with the payment terms in Membrane System Supplier's Proposal."
Response			See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-3	Section 7 & 00490		Entire section on Insurance and Risk Management Provisions Entire Section
Question			Please note that this section is repeated in Section 00490. However, the insurance limits in Section 00490 are significantly higher than those specified in this section. In addition, Section 00490 includes environmental/pollution liability that is not included in section 7. As an Equipment supplier, Membrane System Supplier does not normally provide professional liability insurance. Typically, Membrane System Supplier will contract with a local engineer to design structural elements as required and require that engineer to carry the necessary professional liability insurance. The Membrane System Supplier does carry product liability insurance as a component of his/her comprehensive general liability policy, which adequately protects the customers against any claims for personal and property damages related to equipment failure. Builders all-risk insurance should be provided only by the Construction Contractor, and should list Membrane System Supplier as an additional insured. Similarly, environmental/pollution liability insurance

Item No.	Section	Page No.	Wording in question
			should be carried by the Contractor, as Membrane System Supplier will not be performing any operations activities whatsoever on the project site.
Response			The Proposer shall meet the insurance requirements contained in Section 7 and not those contained in Section 00490 of Exhibit 1. See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-4	Section 7	7-1	Paragraph beginning with “Certificates shall state ….”
Questions			At the end of this paragraph, please add the following to clarify what coverage is provided to additional insured under the Membrane System Supplier policies: “Membrane System Supplier agrees to extend its existing general liability insurance coverage to County and Contractor, but only to the extent of that work performed by or on behalf of Membrane System Supplier and only to the extent that the additional insured is held liable for the negligence or other culpability of Membrane System Supplier. Coverage under Membrane System Supplier's policy does not extend to liability arising out of the additional insured’s own negligence.”
Response			See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-5	Section 7	7-3	Indemnification and Hold Harmless Agreement
Question			The Membrane System Supplier can only be responsible for direct damages and to the proportional extent that the claims and resulting direct damages are attributable to the Vendor. Please revise the first two paragraphs in this Article as follows: In the 1st paragraph: please replace “losses (including death), claims, damages, liabilities, costs and expenses (including but not limited to all actions, proceedings, or investigations in respect thereof and any costs of judgments, settlements, court costs, attorney’s fees or expenses, regardless of the outcome of any such action, proceeding, or investigation),” with “claims for direct damages (including death)”; and then delete “(directly or indirectly)”; and, at the end of the first sentence add “but only to the proportional extent such claims and resulting damages are attributable to Vendor”. In the second paragraph, please remove “but is not limited to”.

Item No.	Section	Page No.	Wording in question
Response			See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-6	00100-4	J	Entire Article
Question			Please add the following at the end of this Article: “In the case of such termination for the Contractor’s default or for the County’s convenience, where the reasons for such termination are not attributable to Supplier, Supplier shall be entitled to receive payment for the work executed, and costs incurred by reason of such termination.”
Response			This article is in the sample Instructions to Bidders for the Construction Project and would apply to the Contractor. See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-7	00100-9	22	Entire Article
Question			Please replace “A successful Bidder is” with “Construction Contractor shall be”.
Response			This article is in the sample Instructions to Bidders for the Construction Project and would apply to the Contractor. See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-8	00700		Entire Article
Question			1.) Please confirm that the As-Sold Proposal submitted by the Membrane System Supplier to the County shall be the reference document used for the contract between the Construction Contractor and the Membrane System Supplier, as all parties are in agreement that the referenced document as written is for a contract between the County and the Construction Contractor and cannot be used as an agreement between the Contractor and the Membrane System Supplier. 2.) In addition, please confirm that the following interpretation of the RFP documents is correct: The Membrane System Supplier will not have a formal agreement with the County, excluding the final bid submission - As-Sold Proposal to the County. Once the Membrane System Supplier is selected, the Membrane System Supplier's bid is the commitment to the County that the Membrane System Supplier will enter into a contract with a

Item No.	Section	Page No.	Wording in question
			Construction Contractor of the County's choosing, for the supply of goods and services, and that the Membrane System Supplier will accept payment for the pre-construction contract work for the County, from the County, in the event that the construction contract does not proceed. In the event that the construction contract between the County and the Contractor does proceed, the Membrane System Supplier will receive a purchase order from the Contractor that will become the contract (PO) between the Contractor and the Membrane System Supplier. This PO will reference the Membrane Supplier As-Sold Proposal to the County, which should contain the RFP specifications that apply to the Membrane System Supplier and any revisions, clarifications and exceptions that the Membrane System Supplier has taken to the bid documents in the preparation of and the acceptance of the As-Sold Proposal to the County.
Response			Items #1 and #2 above are confirmed.

Item No.	Section	Page No.	Wording in question
C-9	Appendix 1	A1-15	4 First sentence
Question			The Membrane System Supplier will utilize all possible means to meet the Acceptance test requirements or provide additional equipment within the Membrane Supplier's scope. However, providing an alternate system (i.e. a competitor's product) is not an acceptable solution to the Membrane System Supplier. Please consider the following revision as an acceptable option: "and shall install an alternate system as required to meet the Acceptance Test requirements at the sole cost of the Membrane System Supplier and shall return all payments made by Contractor to Membrane System Supplier."
Response			The intent of the referenced language is to ensure that the proposed Membrane System Scope of Supply will result in passing the Acceptance Test without risk or additional cost to the County. Any exceptions to the referenced language will be considered in the evaluation.

Item No.	Section	Page No.	Wording in question
C-10	Appendix 1	A1-16	3.4 Second paragraph
Question			At the end of this paragraph, please add "or six months from the date of delivery of membranes, whichever occurs earliest". This additional six months is ample time to install and commission system. Membrane Subunits have a limited shelf life, therefore Membrane subunits warranty must begin on delivery when start-up is delayed or extended through no fault of the

Item No.	Section	Page No.	Wording in question
			Membrane System Supplier.
Response			The intent of the referenced language is clearly stated and is in the best interest of the County. The Membrane System Supplier will need to coordinate shipment of the membrane subunits with the Contractor to ensure that they are installed and tested within the shelf life. Any exceptions to the referenced language will be considered in the evaluation.

Item No.	Section	Page No.	Wording in question
C-11	Appendix 1	A1-19	3.4 Last paragraph
Question			At the end of the first sentence, please add “during the two year equipment warranty period.” Then, in the second last sentence, please add “for replaced material and equipment” after "the warranty period".
Response			See revised Section 3.4 of Appendix 1.

Item No.	Section	Page No.	Wording in question
C-12	Appendix 1		3.7 New Article entitled “Delay By County Or Contractor”
Question			Please add a new article that reads as follows: “Upon acceptance of Contractor’s Purchase Order or, alternatively, where specified in the Purchase Order, upon receipt of Contractor’s Notification to Proceed with Fabrication of Equipment that satisfies Membrane System Supplier’s requirements for meeting the delivery schedule, Membrane System Supplier shall commence fabrication of equipment. The place of delivery specified therein shall be firm and fixed, provided that Contractor notifies the Membrane System Supplier no later than 45 days prior to the scheduled shipment date of the products of an alternate point of delivery. Provided the parties agree to a Variation to take into account any additional cost [or delay] incurred by Membrane System Supplier in implementing this change, the alternate place of delivery shall become the agreed place of delivery for all purposes under this Agreement. In the event that Membrane System Supplier is prevented from delivering any of the products to the agreed place of delivery in accordance with the schedule for reasons not attributable to the Membrane System Supplier, or if Contractor requests a delay in delivery beyond the end of the month in which delivery was due to take place, Membrane System Supplier may deliver the products to a storage facility of its choice, whereupon Membrane System Supplier’s delivery obligation shall be complete. In such event the following conditions shall apply: (i) title and risk of loss shall thereupon pass to the Contractor; (ii) any amounts payable to the Seller upon delivery or shipment shall become payable;

Item No.	Section	Page No.	Wording in question
			(iii) any additional expenses incurred by the Membrane System Supplier in connection with such shipment to storage shall become payable by the Contractor upon submission of the Membrane System Supplier's invoice(s) (including but not limited to costs of any additional transportation, preparation for and placement into storage, handling, inspection, preservation, insurance, storage, removal charges and any applicable taxes); (iv) transportation of the products from the storage facility to their place of installation shall be the Contractor's responsibility; and, (v) if the Contract includes Services, subject to the terms and conditions in the Contract the Membrane System Supplier shall resume provision of Services to Contractor when instructed to do so by Contractor provided that all amounts due hereunder plus any costs incurred by Membrane System Supplier in delaying such Services have been paid."
Response			See revised Technical Proposal Form M, which allows the Proposer to state any terms and conditions for the subcontract with the Contractor.

Item No.	Section	Page No.	Wording in question
C-13	05050	3	2.01.A First sentence
Question			For clarification regarding scope of supply, after "Anchor bolts shall" add "be supplied by Contractor and shall".
Response			See revised Section 3.1.3 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-1	Section 3	3-8	Last Bullet Point
		3-9	1st Bullet Point
Question			The Membrane Supplier has two concerns with the requested equation in this section. Firstly, membrane permeability decline is dependant on flux, transmembrane pressure, mixed liquor filterability, colloidal TOC and other water quality parameters. It is therefore not possible to accurately predict the permeability decline with the parameter listed. Moreover GE-ZENON is not aware of a function that accurately predicts permeability decline as requested. We would therefore need to provide a very conservative equation that covers the entire range of TMP over the 10 year expected life of our membranes. The second concern is that this equation is then used to determine the interval between recovery cleans, which would be most conservative and unrealistically too frequent. Therefore, the Membrane Supplier respectfully requests that this requirement be removed from the specifications.
Response			This is acceptable. See revised pages 3-8 and 3-9 of Section 3.

Item No.	Section	Page No.	Wording in question
P-2	Appendix 1	A1-2	Anionic Polymer Addition Lime Addition
Question			Please also clarify what is the anticipated anionic polymer and its dosage. Please clarify where Lime will be added in the MBR System.
Response			Anionic polymer addition to the primary clarifier influent will be used as needed to allow operating in a chemically enhanced primary treatment (CEPT) mode. CEPT will NOT be the normal operating condition. Anionic Polymer will be Ciba MAGNAFLOC LT27 or similar type; dosage will be 0.5 to 1 mg/L when operating in the CEPT mode. Lime will be added to either the primary clarifier influent OR the primary clarifier effluent (regardless of metal salt used), prior to entering the BNR/AS basins. See revised Table A1-6 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-3	Appendix 1	A1-6	Membrane Cleaning Requirement
Question			The RFP has stated that the frequency of membrane cleaning shall not be performed more than once in 4 days. The maintenance clean operation is pre-programmed in the PLC and the operator can modify the frequency and day of occurrence if desired. It would be easier for programming purposes and for the Operator to keep track on the calendar days if the frequency is modified to once in 3.5 days so it is aligned with a calendar week. Please consider modification of the following sentence: "Maintenance cleaning of a given membrane basin shall not be performed more frequently than once in 3.5 days."
Response			This is acceptable. See revised Section 2.4 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-4	Appendix 1	A1-7	3.1.1 Membrane System Components
Question			Please clarify the following items for the Scope by Membrane System Supplier: 1.) Please confirm that the "Backpulse Pumping System, if required." should be included. 2.) Please confirm that the membrane chemical cleaning systems have to be designed in such a way that chemicals must be automatically injected into each large membrane subunit. 3.) Please confirm that the intent of this requirement is to allow for no operator involvement in the cleaning operation for directing chemical flow to the membrane system.

Item No.	Section	Page No.	Wording in question
Response			1.) Confirmed. 2.) Confirmed. 3.) Confirmed

Item No.	Section	Page No.	Wording in question
P-5	Appendix 1	A1-7	3.1.3 - Items Provided By Others
Question			Please add the following items in the Scope by Others for clarification purpose: 1.) Equipment Anchor Bolts, brackets, and fasteners for Membrane Supplied Equipment 2.) Laboratory services, operating and maintenance personnel during equipment checkout, start-up and Operation
Response			1.) This is acceptable. See revised Section 3.1.3 of Appendix 1. 2.) The Membrane System Supplier shall provide all necessary laboratory services and operating and maintenance personnel directly related to the proper start-up and testing of the Membrane System until the Membrane System has passed the Acceptance Test. See revised Section 3.1.4 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-6	Appendix 1	A1-7	3.14 – Additional Services
Questions			For electronic drawing files format, please confirm that Microstation is as equal to AutoCAD.
Response			Microstation is acceptable, however files shall be provided in format compatible for direct conversion to AutoCAD.

Item No.	Section	Page No.	Wording in question
P-7	Appendix 1	A1-13	3.2.2 Functional Testing
Question			Please state how long is anticipated for the Membrane System Supplier to be on site for the Functional Testing. For example, minimum of 10 days, minimum of 1 trip total.
Response			See revised Section 3.2.2 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-8	Appendix	A1-13	3.2.3 Acceptance Testing

Item No.	Section	Page No.	Wording in question
	1		First paragraph
Question			Please modify the second sentence in this article: "Since the membrane system is part of the MBR Treatment Train, during the Acceptance Test, the membrane system supplier should be responsible to support and assist the Contractor and the Owner in testing and operating the membrane system."
Response			The intent of the referenced language is clearly stated and is in the best interest of the County. Any exceptions to the referenced language will be considered in the evaluation.

Item No.	Section	Page No.	Wording in question
P-9	Appendix 1	A1-13	3.2.3 Acceptance Testing Second paragraph
Question			In the second sentence, please modify “Membrane System Supplier” to “Contractor and the Owner”. Membrane System Suppliers are not licensed operators and cannot be responsible to operate the plant. The Membrane System Supplier will only provide advice and assistance to help the Contractor and Owner operate the plant.
Response			See revised Section 3.2.3 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-10	Appendix 1	A1-13	3.2.3 Acceptance Testing
Question			Please state the total number of days and trips required by the Membrane Supplier during Acceptance Test Period. For example: 60 days - a minimum of 10 days on-site per month on site (1 shift (7.5 hrs) per day), minimum 2 trips total.
Response			See revised Section 3.2.3 of Appendix 1.
P-11	Appendix 1	A15	3.3 Commissioning
Question			Please state the total number of days and trips required by the Membrane Supplier during Commissioning Period. For example: 180 days - a minimum of 5 days per month on site (1 shift per day), minimum 6 trips total, continuous telephone 24/7 support, on-line monitoring capabilities.
Response			See revised Section 3.3 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-12	Appendix 1	A1-16	3.4 Membrane System Warranty - Last paragraph
Question			Please confirm that the Membrane warranty should be guaranteed and provided by "Membrane Manufacturer", and not the Membrane System Supplier (Equipment Suppliers). To be fairly and equally evaluated, please consider indicating the same membrane warranty period for all Membrane System Suppliers. For example: a 5 year repair and replace membrane warranty shall be provided by the Membrane Manufacturer.
Response			The intent of the referenced language is clearly stated and is in the best interest of the County. Any exceptions to the referenced language will be considered in the evaluation.

Item No.	Section	Page No.	Wording in question
P-13	Appendix 1	A1-17	The paragraph following 3.4.7 Failure or lack thereof shall be demonstrated at the Membrane system. If the membrane System Supplier is unable to correct the failure condition through replacement of membrane subunits or addition of membrane subunits, then the membrane system supplier shall be responsible for all costs associated with complete removal of the nonconforming membrane system and for all costs associated with subsequent installation of a membrane system that meets the performance requirements.
Question			Repairing Membrane subunits or increasing cleaning frequency could be the corrective measures to meet performance requirements. Please consider there are alternative measures to meet performance requirements. We respectfully request that a competive membrane system would not be installed as an alternate option and the article below as modified would be acceptable: If the membrane System Supplier is unable to correct the failure condition through **repair and replacement of membrane subunits, addition of membrane subunits, increasing membrane cleaning frequency or etc.**, then the membrane system supplier shall be responsible for all costs associated with complete removal of the nonconforming membrane system and **shall return all payments made by Contractor to Membrane System Supplier.**
Response			See revised Section 3.4 of Appendix 1. The intent of the revised language is to ensure that the proposed Membrane System Scope of Supply will not meet any of the listed Membrane Failure or End of Membrane Life conditions throughout the GML Warrantee Period without risk or additional cost to the County. Any exceptions to the referenced language will be considered in the evaluation.

Item No.	Section	Page No.	Wording in question
P-14	Appendix 1	A1-17	Item 3. If the Membrane System cannot achieve the design Net flux rates specified in the Membrane System Supplier's Technical Proposal that correspond to the Condition 1 net permeate production requirements specified herein.
Question			In item 2 of Section 3.4, there is a requirement to meet production capacity. The request in item 3 to meet flux rates is not required as the Membrane System Supplier must meet production capacity per item 2, and the membranes operate at a flux rate to meet the capacity. In addition, if the Membrane System Supplier adds membrane subunits or modifies the system to meet the performance requirements as per RFP Section 3.4 (A1-17) to meet capacity, the flux rates could be different but the ultimate goal of meeting capacity will be met. Therefore item 3 is not relevant if membrane subunits are added to the system to correct the permeate production. It is respectfully requested that item 3 be deleted, and item 2 remains as is for the Membrane System Supplier to guarantee permeate production.
Response			This is acceptable. See revised Section 3.4 of Appendix 1.

Item No.	Section	Page No.	Wording in question
P-15	Appendix 1	A1-18	Table A1-6: GML MBR Treatment Train Operating Conditions
Question			Temperature range is stated between 10 to 30°C. Please clarify if the minimum Temperature is 10°C as it is stated as 11.9°C on A1-5.
Response			The minimum day mixed liquor temperature is 11.9°C.

Item No.	Section	Page No.	Wording in question
P-16	Appendix	A1-19	Last Paragraph - Equipment Warranty
Question			Please modify the following sentence as to include a sunset clause: For example, "All other equipment supplied by the Membrane System Supplier and not specifically mentioned above shall be warranteed against defects in workmanship and materials for a period of two (2) years from the successful completion of the Acceptance Test and the Substantial Completion date of the MBR Treatment Train, or 30 months from date of shipping, whichever occur first."
Response			The intent of the referenced language is clearly stated and is in the best interest of the County. Any exceptions to the referenced language will be considered in the evaluation.

Item No.	Section	Page No.	Wording in question
P-17	Attachment 1		General
Question			1.) Please confirm if the latest version of Biowin 3.0 is acceptable (instead of version 2.2). This new version provides a more realistic simulation results with latest kinetics information. 2.) It is assumed that Steady State Modeling will be used. Please confirm.
Response			1.) BioWin 2.2 with the specific parameters and modifications detailed in Attachment 1 of Appendix 1 shall be used. 2.) Steady state modeling is acceptable. However, if total air scour airflow is not continuous to each Membrane Basin, dynamic modeling must be used to simulate the DO impacts from the proposed air scour protocol.

Item No.	Section	Page No.	Wording in question
G-1			General
Question			Please provide an electronic copy (in Word or Excel Format) of the following Technical Proposal forms: - Technical Proposal Form I - Membrane System - Technical Proposal Form J - Equipment & Systems
Response			Technical Proposal Forms I and J will be made available electronically as Word documents.

Item No.	Section	Page No.	Wording in question
G-2	Section 1 Section 2	1-3 2-19	Due Dates
Question			Please consider an extension of the proposal due date to October 12th and questions to the RFP extended to Oct 2. This additional time would assist greatly to incorporate the answers from the questions attached and provide the most comprehensive and economical proposal for Fulton County.
Response			See Addendum 2.

Item No.	Section	Page No.	Wording in question
G-3	Section 1		General
Question			Please provide an anticipated project schedule for the Big Creek WRP. In the RFP, it is anticipated that the construction contract will be awarded to a contractor on or about Jan 2009. When will be the anticipated shop drawing submission for the County's review and approval? Would that be 6 months before contractor bid?

Item No.	Section	Page No.	Wording in question
			Please also clarify when will be the estimated equipment and membrane delivery and anticipated substantial completion date? This approximate schedule is required to accurately prepare cost taking into consideration inflation for the project duration.
Response			See revised Section 1.2 of Section 1.

Item No.	Section	Page No.	Wording in question
G-4	Section 2	2-28	10. Prices are to be quoted F.O.B. destination, and must include all costs chargeable to the Offeror in providing the Membrane System Scope of Supply, including Taxes
Question			Please confirm the specific Tax rate for the Cost Proposal Forms.
Response			The Proposer shall determine the cost of all applicable taxes.

Item No.	Section	Page No.	Wording in question
G-5	Section 3	3-3	3.4 Technical Proposal Format and content
Question			The technical proposal is limited to 150pgs, excluding drawings and Proposal Forms. Please confirm that Appendices such as information of Financial Reports, Terms and Conditions, Installation list, Resume and etc., will not be counted in the 150 pgs limit.
Response			Confirmed

Item No.	Section	Page No.	Wording in question
G-6	Section 3	3-7	2nd Bullet Point
Question			The MBR treatment train including related elements to be provided by the Contractor (such as BNR/AS basins and associated equipment, ML screening equipment, and etc.) are not within Membrane System Supplier's scope of supply and will be difficult to estimate accurate sizing information for a layout. In addition, the layout and cross-sections of Electrical Building adjacent to the membrane building will have the electrical gear which will be provided by the Contractors, and not the membrane system suppliers so it will be difficult to estimate sizing as well. Therefore, we respectfully request that the layout drawing provided only include equipment in the Membrane System Supplier's scope of supply.
Response			The calculation of the NPV takes into account the construction cost of the BNR/AS Basins and associated equipment. Therefore, the Proposer shall provide a layout of the BNR/AS Basins that is optimized for their proposed Membrane System.

Item No.	Section	Page No.	Wording in question
G-7	Section 4	5-44	Cost Proposal Forms
Question			Please confirm the calculation of membrane replacement cost for the 20-year lifecycle evaluation period. i.e. please clarify whether a full set of new membrane subunits or used membrane subunits will be expected at the end of the 20 year lifecycle period. For example, if GML is to be 5 years, **3 or 4** sets of new membrane subunits will be included in the lifecycle evaluation?
Response			If the GML is equal to 5 years but less than 6 years and 8 months, then a total of 4 sets (including the original set) will be required. If the GML is equal to 6 years and 8 months but less than 10 years, then a total of 3 sets (including the original set) will be required. If the GML is equal to 10 years then a total of 2 sets (including the original set) will be required.

Item No.	Section	Page No.	Wording in question
G-8	Section 4 Section 5	5-42, 5-43	Cost Proposal Form B&C
Question			Please clarify the calculation of power and chemical consumption for the 20-year lifecycle evaluation period. Specifically, how are the power and chemical consumptions at startup and at end of membrane life used to calculate the lifecycle costs for the 20-year period?
Response			The calculations will be based on the average of “startup” and “end of membrane life”.

Item No.	Section	Page No.	Wording in question
G-9	Section 5	5-31	7. Mixed Liquor Conveyance
Question			The Concrete Channel Dimensions, velocity @ Qmin and @ Qmax are not specific to the Membrane System Suppliers and can be optimized by the Design Engineer. Please consider deletion of this requirement by the Membrane System Supplier.
Response			The calculation of the NPV takes into account the construction cost of any major piping and conveyance channels. Therefore, the Proposer shall provide the dimensions of the mixed liquor conveyance infrastructure that is optimized for their proposed Membrane System.

Item No.	Section	Page No.	Wording in question
G-10	Section 6 Section 7	6-2 7-1	Last Paragraph
Question			Please clarify where the Insurance & Risk Management Provisions Form will be placed. Should this form be placed in the Contract Compliance Package

Item No.	Section	Page No.	Wording in question
			in a separate sealed envelope?
Response			See revised Exhibit 2.

Item No.	Section	Page No.	Wording in question
E-1	16161-2.05	16161-4	Wire Identification
Question			Please confirm if it is acceptable to use page and rung number as a basis for Wire Identification, but not the I/O list?
Response			All digital and analog signal wires for the Project will be labeled with their appropriate tag number from the I/O schedule.

Item No.	Section	Page No.	Wording in question
E-2	17030-1.07	17030-5	Interconnection Diagrams
Question			Membrane supplier's typical I/O schematics will meet the requirement for interconnection wiring diagrams. Note that details of field cables and conduits requirements such as circuits, lengths and sizes are largely dependent upon installation, physical conditions and environments. Please confirm if I/O schematics are acceptable.
Response			This is acceptable.

Item No.	Section	Page No.	Wording in question
E-3	17030-1.07	17030-5	Instrument Loop Diagrams
Question			Membrane Supplier I/O schematics with elementary diagrams will provide the same level of detail as a typical loop diagram. Please confirm if it is acceptable to include schematics that are arranged on a PLC module-per-page basis, but not on a loop-per-page basis as per ISA5.4 loop diagrams?
Response			This is acceptable.

Item No.	Section	Page No.	Wording in question
E-4	17040	17040-1	Control and Information System Training
Question			Some requirements in the training section stated in Section 17040 would need to be provided by SCADA and PLC software vendors. This could result

Item No.	Section	Page No.	Wording in question
			in significant high cost for the training. Please clarify if SCADA and PLC software Vendors must be required for this training. Another alternative is to have the Membrane Supplier qualified representative to attend the training. Please confirm if this is acceptable?
Response			Please provide the control and information system training related to the Membrane System as specified in Section 17040.

Item No.	Section	Page No.	Wording in question
E-5	17071	17071-1	Factory Acceptance Test
Question			Clarification: For all loose-ship equipment supplied by the Membrane Supplier, the control system's hardware and software will be tested separately.
Response			This is acceptable.

Item No.	Section	Page No.	Wording in question
E-6	17120-2.01-E	17120-2	PLC Type, large/mid-size projects either GE/Zenon Fanuc 90-70 or 90-30
Question			GE-ZENON recommends using the Latest Fanuc PLC for Large-Scale MBR plant such as Big Creek. GE-ZENON's Fanuc RX3i for processor and communication and VersMax Remote I/O PLC panels (1 per train) are the most recent and up to date versions. Common equipment and I/O communication are recommended to be GE-ZENON Fanuc Genius Bus. As well, processor to HMI and Plant Communication is recommended to be Ethernet.
Response			The specifications have been provided to establish the minimum standards of quality. The Proposer has the option of proposing a different model or manufacturer as long as it is of equal or greater quality.

Item No.	Section	Page No.	Wording in question
E-7	17200-2.02-A	17200-2	Redundant SCADA Servers
Question			Please clarify the type of SCADA Servers are required. Industrial PCs Panel Mounted Type or Desktop PCs?
Response			Please provide desktop PCs.

Item No.	Section	Page No.	Wording in question
E-8	17500-3.01-C.1 3.01-C.2/3	17500-3	Panels shall be well ventilated through vermin-proof louvers… Air blowers to be installed in NEMA 12 carbinets…
Question			The Membrane Supplier's control panels will be located in a controlled environment and are rated in NEMA 12 standard. The design will not have ventilated control panels with louvers as it compromises the NEMA/IP rating of the enclosure. Please confirm this is acceptable.
Response			This is acceptable.

Item No.	Section	Page No.	Wording in question
E-9	17500-3.02 17510-2.01 17520	17500-4 17510-1 17520-1	Enclosure paint Control Cabinets Construction Field Panel Specs
Question			As Hoffman is the recommended Manufacturer for the Panels and Control Cabinets in the RFP, this manufacturer has its own standard painting color for panels and control cabinets construction. Please accept Hoffman's standard paints and construction.
Response			This is acceptable.

Item No.	Section	Page No.	Wording in question
M-1	Appendix	A1-21	TABLE A1-5: Minimum Standards of Quality - Equipment: Valve Actuators: Use electric actuators for typical Open/Close and Modulating applications.
Question			Several MBR operations for our membranes require faster valve open/close times, which can be only be achieved through the use of pneumatic actuators. Therefore, Zenon will be supplying pneumatic actuators where required. Please confirm that Bray and Tyco/Morin Actuators are a acceptable manufacturers.
Response			Pneumatic actuators are acceptable where required. The Membrane System Supplier shall supply their standard actuators. The purpose of Table A1-5 is to demonstrate the minimum standard of quality. Equipment that meets or exceeds this minimum standard is acceptable. Please refer to Paragraph 3.1.2 on page A1-8 for additional details.

Item No.	Section	Page No.	Wording in question
M-2	15101	15101-1	2.01 A. Butterfly Valves (Water Service) - Conform to AWWA C504
Question			It is assumed that the reference to the AWWA Standard C504 is intended to set a minimum requirement for isolation valves on process piping throughout the plant. In addition to cyclic air service, there are other MBR system applications that necessitate the use of non-AWWA valves specifically rated to provide the higher number of cycles required. Please confirm where valves necessitate a higher # of cycles that Bray and Tyco are acceptable manufacturers. Please refer below for a detailed explanation on AWWA C504 vs. Non-AWWA Resilient Seated Butterfly Valves with respect to cycles and materials. Cycles: • AWWA C504 valves - Have only been designed for 100,000 cycles and are primarily used as transmission valves where they are rarely cycled. • Specific Models of Bray and Tyco valves (non-AWWA C504) - Have been designed for and tested to over 1,000,000 cycles. The higher cycle rating is important for the actuated valves which will see regular cycling daily. Materials: • Each valve has a Cast Iron body. • AWWA C504 valves - Some manufactures offer an NSF seat that is recessed and bonded in the body. Part of the coated metal I.D. is exposed to the media creating an area for tuberculation (rust) to occur. • Specific Models of Bray and Tyco valves (non-AWWA C504) - Have an EPDM seat that envelops the body isolating the media from the body coatings or metallurgy. It is important to ensure that all valves are designed to protect against corrosion which could deposit particulate into the water and damage the membranes or reduce the valves ability to open and close properly.
Response			The Membrane System Supplier shall supply their standard valves. The purpose of Table A1-5 is to demonstrate the minimum standard of quality. Equipment that meets or exceeds this minimum standard is acceptable. Please refer to Paragraph 3.1.2 on page A1-8 for additional details.

Item No.	Section	Page No.	Wording in question
M-3	15104	15104-4	2.02 A. Ball Valves (PVC/CPVC)
Question			Please confirm if George Fisher is an acceptable manufacturer.
Response			George Fisher is an acceptable manufacturer.

Item No.	Section	Page No.	Wording in question
M-4	15105	15105-2	2.01 A. Swing Check Valve (Water/Wastewater Service) 2.04 A. Ball Check Valve (PVC/CPVC)
Question			Please confirm if Centreline is an acceptable manufacturer. Please confirm if Chemline is an acceptable manufacturer.
Response			These are acceptable manufacturers for the stated service.

Item No.	Section	Page No.	Wording in question
M-5	15012	15012-6	A1-22 - Table A1-5: Min. Std of Quality 2.04 A. Stainless Steel Piping
Question			In Table A1-5, Piping Material requested to be SS316 as a minimum quality. However Section 2.04 specifies to use 304L SS for Air piping and water services. Please note difference. Please confirm that piping for Air and Permeate Headers within the membrane basins are constructed in 304LSS as a minimum.
Response			316 SS is required for all piping below and directly above the water surface of the Membrane Basins. The transition to 304L SS shall be a minimum of 2 feet outside of the Membrane Basin envelope. Air and Permeate headers within the Membrane Basins shall be 316 SS as a minimum. 304L SS is acceptable for exposed air piping outside of the Membrane Basin envelope. Please refer to article 2.02.A of Section 05010.

Item No.	Section	Page No.	Wording in question
M-6	15200	15200-8	2.05B … valve sizing pressure shall be based on 60 psi.
Question			For proper pneumatic actuations for MBR operations, 80 psi is required for design of valves and air compressors. Therefore, Zenon will be supplying air compressors and valve sizing of 80 psi.
Response			Air compressors and valve sizing shall be as required - 60 psi is a minimum.

ACKNOWLEDGEMENT OF ADDENDUM NO. 3

The undersigned bidder acknowledges receipt of this addendum by returning one (1) copy of this form with the bid package to the Purchasing Department, Fulton County Public Safety Building, 130 Peachtree Street, Suite 1168, Atlanta, Georgia 30335 by the Bid due date and time on **Monday, October 29, 2007** at 11:00 A.M**.**

This is to acknowledge receipt of Addendum No. 3, _____ day of _____, 2007.

_____
Legal Name of Bidder

_____
Signature of Authorized Representative

_____
Title

TECHNICAL PROPOSAL FORM C
CERTIFICATE OF ACCEPTANCE OF TECHNICAL RFP REQUIREMENTS

This is to certify that on this day, Offeror acknowledges that he/she has read this solicitation document, pages #_____ to #_____ inclusive, including any addenda # _____ to #_____ exhibit(s) #_____ to #_____, attachment(s) #_____ to #_____, and/or appendices #_____ to #_____, in its entirety, and agrees that no pages or parts of the document have been omitted. Furthermore, unless specifically stated otherwise and attached to Technical Proposal Form M, that he/she understands, accepts and agrees to fully comply with the requirements therein, and that the undersigned is authorized by the offeror to submit the proposal herein and to legally obligate the offeror thereto.

Company:_____

Signature:_____

Name: _____

Title:_____ Date: _____

(Affix Corporate Seal)

TECHNICAL PROPOSAL FORM M
TECHNICAL REQUIREMENTS CERTIFICATION

By submitting this Technical Proposal Form, the Proposer certifies that it has read and agrees to meet the requirements of the Technology RFP except as specifically described and attached to this form. In addition, the Proposer certifies that the costs submitted in Cost Proposal Form A – Fixed Membrane System Price fully encompass and reflect the requirements of the Technology RFP except as specifically described and attached to this form.

The Proposer shall attach a detailed description to the form of any and all exceptions to the requirements of the Technology RFP including any related cost savings to the County and any terms and conditions for the subcontract with the Contractor.

_____
Name of Proposer

_____
Name of Authorized Signatory

_____
Signature

_____
Title

TECHNICAL PROPOSAL FORM I
MEMBRANE SYSTEM

Parameter	Value
1. Membranes	
Material (e.g., PVDF)	
Type (hollow fiber, flat sheet)	
Proprietary descriptor of membrane	
Designation of large membrane subunit (e.g., cassette, rack)	
Designation of small membrane subunit (e.g., module, cartridge)	
Nominal pore size (microns)	
Absolute pore size (microns)	
Membrane thickness (mm)	
Membrane backing thickness (mm)	
Hollow fiber inside diameter (mm)	
Hollow fiber outside diameter (mm)	
Acceptable pH range during normal operation	
Acceptable pH range during maintenance cleaning	
Acceptable pH range during recovery cleaning	
Allowable free chlorine exposure (ppm-hours/year)	
Allowable combined chlorine exposure (ppm-hours/year)	
Small membrane subunit wetted feed-side surface area (sqft)	
Maximum dry weight of clean large membrane subunit filled with small membrane subunits (lb)	
Maximum wet weight of clean large membrane subunit filled with small membrane subunits (lb)	
Maximum transmembrane pressure during permeate production (psi)	
Maximum transmembrane pressuring during backwash (psi)	
Liquid displacement per small membrane subunit (cuft)	
Liquid displacement per large membrane subunit with all small membrane subunits removed (cuft)	

Parameter	Value
2. Membrane Basins	
Number of membrane basins	
Number of installed large membrane subunits per membrane basin	
Number of uninstalled spare large membrane subunits per membrane basin	
Number of installed small membrane subunits per large membrane subunit	
Number of uninstalled spare small membrane subunits per large membrane subunit	
Inside length of each membrane basin (ft)	
Inside width of each membrane basin (ft)	
Water depth at upstream end of membrane basin (ft)	
Water depth at downstream end of membrane basin(ft)	
Minimum freeboard in membrane basin (ft)	
Total volume (all membrane basins including freeboard)	
Recommended protective lining/coating system for inside of membrane basins (system, number of coats, thickness/coat)	
3. Service Cycle (Small Membrane Subunit Basis)	
Duration of repeating service cycle (min:sec)	
Amount of time producing permeate per cycle (min:sec)	
Amount of time relaxing per cycle (min:sec)	
Amount of time backwashing per cycle (min:sec)	
Instantaneous backwash flow rate [per small membrane subunit] (gpm)	
Source of backwash water (e.g., permeate)	
First chemical added to backwash water (e.g., none, NaOCl)	
Concentration of first chemical added to backwash water (e.g., mg/L as Cl_2)	
Second chemical added to backwash water (e.g., none, citric acid)	
Concentration of second chemical added to backwash water (e.g., mg/L $C_6H_8O_7$)	
Number of times per service cycle that air scour starts and stops	

Parameter	Value
Total amount of time using air scour per cycle (min:sec)	
Maximum instantaneous air scour flow rate [per small membrane subunit] (scfm)	
4. Membrane Maintenance Cleaning (Membrane Basin Basis)	
Cleaning interval (days)	
Duration of cleaning event (minutes)	
First chemical used for cleaning (e.g., none, NaOCl)	
Amount of first chemical used per cleaning event [per membrane basin] (e.g., lb as Cl_2)	
Second chemical used for cleaning (e.g., none, citric acid)	
Amount of second chemical used per cleaning event [per membrane basin] (e.g., lb $C_6H_8O_7$)	
Range of pH at membrane basin walls and floor (s.u.)	
Range of residual Cl_2 at membrane basin walls and floor (mg/L)	
5. Membrane Recovery Cleaning (Membrane Basin Basis)	
Cleaning interval (days)	
Duration of cleaning event (minutes)	
First chemical used for cleaning (e.g., none, NaOCl)	
Amount of first chemical used per cleaning event [per membrane basin] (e.g., lb as Cl_2)	
Second chemical used for cleaning (e.g., none, citric acid)	
Amount of second chemical used per cleaning event [per membrane basin] (e.g., lb $C_6H_8O_7$)	
Range of pH at membrane basin walls and floor (s.u.)	
Range of residual Cl_2 at membrane basin walls and floor (mg/L)	
6. Membrane Air Scour	
Submergence of air scour diffusers in membrane basins (ft)	
Average air scour flow rate per online membrane surface area (scfm/sqft)	
Average air scour flow rate per offline membrane surface area (scfm/sqft)	
Frequency of intermittent air scour for offline membrane basin (e.g., four times per day)	
Duration of intermittent air scour for offline membrane basin (min:sec)	

Parameter	Value
Number of air scour aerator flushes per day per membrane train	
Duration of each aerator flush (min:sec)	
Manufacturer of Air Scour Blowers	
Blower Type (ie. centrifugal, etc.)	
Blower Model Number (attach catalog cut)	
Number of Duty Blowers	
Number of Standby Blowers	
Capacity of Each Blower (scfm)	
Operating Discharge Pressure of Each Blower (psig)	
Blower noise level at design point (dBA at 1 meter)	
Blower Motor Size (HP)	
Blower Motor Speed (rpm)	
Blower Motor Efficiency (%)	
Blower Motor Power Supply (volts/phases/hertz)	
Blower Coupling Type	
Blower Coupling Materials	
7. Mixed Liquor Conveyance	
From BNR/AS Basins to Membrane Basins (MLF):	
-Type (ie, pumped, gravity, etc)	
-Firm Capacity (MGD)	
-Average Flow Rate (MGD)	
-TDH Required at BNR/AS Basins	
-Nominal Discharge Header Pipe Size (inches-diameter)	
-Concrete Channel Dimensions (ft x ft x ft)	
-Velocity @QMIN (fps)	
-Velocity @QPK (fps)	
From Membrane Basins to BNR/AS Basins (MLR):	
-Type (ie. pumped, gravity, etc)	
-Firm Capacity (MGD)	
-Average Flow Rate (MGD)	
-TDH Required at Membrane Basins	
-Nominal Discharge Header Pipe Size (inches)-diameter	
-Concrete Channel Dimensions (ft x ft x ft)	
-Velocity @QMIN (fps)	

Parameter	Value
-Velocity @QPK (fps)	
Mixed Liquor Recycle (MLR) Pumps	
-Number of duty pumps or control valves	
-Number of standby pumps or control valves	
-Pump manufacturer	
-Pump model number (attach catalog cut)	
-Pump flow at design point (gpm) (attach pump curve)	
-Pump head at design point (ft)	
-Pump flow at minimum speed (gpm) (attach pump curve)	
-Pump head at minimum speed (ft)	
-Pump noise level at design point (dBA at 1 meter)	
-Pump Best Efficiency (%)	
-Pump efficiency at design point (%)	
-Pump efficiency at minimum speed (%)	
-Pump net positive suction head suction head required at design point (ft)	
-Pump net positive suction head required at minimum speed (ft)	
-Pump casing material	
-Pump impeller material	
-Pump shaft material	
-Pump base plate material	
8. Permeate System	
Method of permeate production (pumped or gravity flow through control valves	
Firm capacity of permeate system (MGD)	
Permeate Header Size (inches diameter)	
Number of duty pumps or control valves	
Number of standby pumps or control valves	
Pump manufacturer	
Pump model number (attach catalog cut)	
Pump flow at design point (gpm) (attach pump curve)	
Pump head at design point (ft)	
Pump flow at minimum speed (gpm) (attach pump curve)	
Pump head at minimum speed (ft)	

Parameter	Value
Pump noise level at design point (dBA at 1 meter)	
Pump Best Efficiency (%)	
Pump efficiency at design point (%)	
Pump efficiency at minimum speed (%)	
Pump net positive suction head suction head required at design point (ft)	
Pump net positive suction head required at minimum speed (ft)	
Pump casing material	
Pump impeller material	
Pump shaft material	
Pump base plate material	
Pump motor type	
Pump motor size (HP)	
Pump Motor speed (rpm)	
Pump Motor efficiency (%)	
Pump motor power supply (volts/phases/hertz)	
Pump coupling type	
Pump coupling materials	
9. Compressed Air System	
Average compressed air flow for air extraction	
Manufacturer of receiver-mounted air compressors	
Model number of receiver-mounted air compressors	
Number of duty compressors	
Number of standby compressors (minimum 1)	
Capacity of each compressor (scfm)	
Operating discharge pressure of compressor (psig)	
Compressor noise level at design point (dBA at 1 meter)	
Compressor motor size (HP)	
Compressor motor speed (rpm)	
Compressor motor efficiency (%)	
Compressor motor power supply (volts/phases/hertz)	
Number of air receivers	
Volume of each air receiver (actual cuft)	
Minimum and maximum receiver discharge pressure (psig)	

Parameter	Value
Maximum and allowable receiver working pressure (psig)	
Manufacturer of desiccant air dryer	
Model number of desiccant air dryer	
Number of duty dryers	
Number of standby dryers (minimum 1)	
Rated outlet flow of each dryer (scfm)	
Pressure dew point of dryer (F)	
Dryer motor size (HP)	
Dryer motor speed (rpm)	
Dryer motor efficiency (%)	
Dryer motor power supply (volts/phases/hertz)	

10. Proposer-Selected Activated Sludge Process Design Parameters	**Condition[1]**	
	1	**2**
Total volume of activated sludge tankage (Mgal)		
Maximum 30-day average mixed liquor suspended solids (MLSS) concentration in Mixed Liquor Feed (MLF) (mg/L)		
Corresponding 30-day average MLSS concentration in mixed liquor recycle (MLR) (mg/L)		
Maximum 7-day average MLSS concentration in MLF (mg/L)		
Corresponding 7-day average MLSS concentration in MLR (mg/L)		
Maximum daily average MLSS concentration in MLF (mg/L)		
Corresponding daily average MLSS concentration in MLR (mg/L)		
Minimum biological process solids retention time (days)		
Maximum opening size of secondary influent fine screen (millimeter)		
Type of flow from activated sludge tankage to Membrane System (MLF) (pumped or gravity)		
Maximum MLF flow rate (MGD)		
Type of flow from Membrane System to activated sludge tankage (MLR) (pumped or gravity)		
Maximum MLR flow rate (MGD)		
Note 1: As described in Appendix 1		

TECHNICAL PROPOSAL FORM J
EQUIPMENT AND SYSTEMS

Proposer shall provide specifications for all equipment included in the Membrane System Scope of Supply. Proposer may submit specification sheets in the Proposer's standard form or copy and use this form as necessary. Proposer shall attach supplemental catalog information and performance data to each completed specification sheet.

General Information	**Proposer-Specified Information**
Name of Equipment/System	
Manufacturer	
Identification/Model No.	
Number of Units	

Design/Operational Parameters (1)	**Proposer-Specified Information (2)**
Capacity	
Size/Dimensions	
Weight	
Horsepower/Amps	
Voltage/Phase	

Materials of Construction (3)	**Proposer-Specified Information (4)**

Other Features	**Proposer-Specified Information**

Notes:

1. Proposer shall include all additional parameters regarding the design/operational requirements that are applicable to the given system and/or equipment. This shall include items such as flow rates, ratios, or other appropriate measurements.
2. Proposer-specified information shall include the appropriate measurements and units (i.e., gpm, volts, ft^2, etc.).
3. Proposer shall identify each major component of the equipment and system (i.e.: casings, shafts, enclosures, etc.).
4. Proposer shall identify the corresponding material of the listed component (i.e., concrete, type of metal, etc.).

EXHIBIT 2
REQUIRED SUBMITTAL CHECKLIST

The following submittals shall be completed and submitted with each Proposal (see table below "Required Submittal Checklist."). Please check to make sure that the required submittals are in the envelope before it is sealed. Failure to submit all required submittals may deem your Proposal non-responsive.

Item #	Required Submittal Checklist	Check (√)
1	One (1) Technical Proposal marked **"Original"** and five (5) copies: • Section 1 – Executive Summary (include Membrane System Supplier Proposal Security) • Section 2 – Project Plan • Section 3 – Proposer Qualifications • Section 4 – Relevant Project Experience • Section 5 – Technical Approach • Section 6 – Financial Information (see Item #2) • Section 7 – Proprietary and Confidential Information • Section 8 – Technical Proposal Forms (see Item #3) • Section 9 – Location of Proposer (see Item #5)	
2	One (1) Financial Information package marked **"Original"** and included with the "Original" Technical Proposal and one (1) copy submitted in a separate sealed envelope: • Annual Report and financial statement for last three (3) years, income statements, balance sheets, change in financial position. • Latest quarterly financial report, description of any material change in financial position since last the last annual report. • Most recent Dun & Bradstreet and/or Value Line Reports.	
3	Technical Proposal Forms (to be included with the Technical Proposal): • Technical Proposal Form A - Certification Regarding Debarment • Technical Proposal Form B - Non-Collusion Affidavit of Bidder/Offeror • Technical Proposal Form C - Certificate of Acceptance of Technical RFP Requirements (see Item #6) • Technical Proposal Form D - Disclosure Form and Questionnaire • Technical Proposal Form E – Declaration of Employee-Number Categories	

Item #	Required Submittal Checklist	Check (√)
	• Technical Proposal Form F – Georgia Security and Immigration Contractor Affidavit/Agreement • Technical Proposal Form G – Georgia Security and Immigration Subcontractor Affidavit • Technical Proposal Form H - Proposal Transmittal Letter • Technical Proposal Form I - Membrane System • Technical Proposal Form J - Equipment and Systems • Technical Proposal Form K - Disclaimer Statement • Technical Proposal Form L - Information Certification • Technical Proposal Form M - Technical Requirements Certification • Technical Proposal Form N - Royalty and License Fees	
4	BioWin Modeling Report (to be included as an appendix to the Technical Proposal)	
5	Local Preference Documentation: • Copy of occupational tax certificate (business license) or • Copy of a lease or rental agreement or • Proof of ownership interest in a location within the geographical boundaries of Fulton County	
6	Acknowledgement of each Addendum (to be included after Technical Proposal Form C)	
7	Six (6) CD-ROMs of the Technical Proposal in a separate sealed envelope	
8	One (1) Cost Proposal marked **"Original"** and five (5) copies (submitted in a separate sealed envelope): • Section 1 – Introduction • Section 2 – Derivation of Costs • Section 3 – Cost Proposal Forms (see Item #9)	
9	Cost Proposal Forms (to be included with the Cost Proposal): • Cost Proposal Form A – Fixed Membrane System Price • Cost Proposal Form B – Maximum Power Consumption • Cost Proposal Form C – Maximum Chemical Usage • Cost Proposal Form D – Guaranteed membrane Life and Guaranteed Membrane Replacement Cost	

Item #	Required Submittal Checklist	Check (√)
10	One (1) set of Contract Compliance exhibits marked **"Original"** and two (2) sets of copies: • Exhibit A - Promise of Non-Discrimination • Exhibit B - Employment Report • Exhibit C - Schedule of Intended Subcontractor Utilization • Exhibit D - Letter of Intent to Perform as Subcontractor or Provide Materials or Service • Exhibit E - Declaration Regarding Subcontractor Practices • Exhibit F - Joint Venture Disclosure Affidavit • Equal Business Opportunity Plan (EBO Plan)	
11	Risk Management Insurance Provisions Form (to be included at the end of Section 8 of the Technical Proposal)	