



Preserving The Environment •
Improving Water Quality

REQUEST FOR PROPOSAL

ENGINEERING SERVICES FOR JONES ISLAND GAS TURBINE REPLACEMENT PROJECT

CONTRACT NO. J06037D01

The Milwaukee Metropolitan Sewerage District (District) is inviting engineering consulting firms (Consultant) who have experience in the management, design and construction of gas turbine facilities utilizing landfill and natural gas energy sources to submit sealed proposals for engineering services relating to the Jones Island Gas Turbine Replacement Project.

GENERAL PROJECT SUMMARY

The Jones Island Gas Turbine Replacement Project will install five (5) new 4.6 MW turbine systems capable of running on landfill gas (LFG) and/or natural gas (NG). The facility planning level construction cost estimate for this project is \$43,200,000. This project will be a high profile undertaking and ultimately replace two (2) existing 18 MW General Electric Model MS5001 turbine generator package units. The District has submitted to the Wisconsin DNR, Addendum 3 to its recently adopted 2020 Facilities Plan outlining the recommended Biosolids Management System for the Jones Island Water Reclamation Facility (WRF). These improvements will enable the District to continue production of its 84 year old Milorganite® fertilizer product utilizing landfill gas for biosolids drying at significant savings over existing natural gas facilities. The consulting firm selected for this project will be one that has shown it has the expertise to manage a complex, time critical project taking a concept plan through detailed design, construction and start-up by January 2013.

The ideal consulting firm will assemble a design team that has the knowledge and expertise to visualize the engineering design services that will be necessary to review the existing planning recommendation and ultimately develop construction bidding documents for this project that will meet professional design standards. The ideal consulting firm will have the ability to lead a design team in taking a conceptual plan and work with an owner to develop and refine engineering plans and specifications meeting owner needs in a fast-track project that will combine overlapping Preliminary Engineering and final design phases to meet design, bidding and construction milestones. The ideal consulting firm will lead a design team that has the expertise to perform the design, construction support services and startup of LFG/NG turbine facilities in a public agency environment. The ideal consulting firm will lead a design team that is familiar with State and Federal air regulations and air permitting requirements. The ideal consulting firm will lead a design team with experience in working with District CAD and specification standards in the preparation of equipment purchase and construction contract documents. The ideal consulting firm will lead a

design team with the electrical and I&C expertise to develop design features and construction documents that will efficiently and effectively blend new power generation systems with old existing systems in a smooth and successful phased transition from old to new. The ideal consulting firm will lead a design team that has the associated supporting geotechnical, structural, process, mechanical and other disciplines to provide technical expertise to round out a highly qualified engineering design team. The ideal consulting firm will lead a design team that can and will provide the necessary staff to meet project milestones even when that commitment will require effort outside a normal 5 day, 40 hour workweek.

The engineering services shall include the following major tasks:

- 1) PROJECT MANAGEMENT
- 2) DESIGN
- 3) BID AND AWARD
- 4) ENGINEERING SERVICES DURING CONSTRUCTION (ESDC)
- 5) TRAINING, OPERATION, AND MAINTENANCE MANUALS, STARTUP AND RECORD DRAWINGS
- 6) APPLICATION ENGINEERING (AE)

BACKGROUND INFORMATION

The District's 2020 Facilities Plan initiative has recommended a cost-effective biosolids plan that will continue the District's long-term production of Milorganite® with new facilities that utilize LFG and new turbines to provide waste heat for use in Milorganite® drying and electric power generation at the Jones Island Water Reclamation Facility. This plan will replace existing turbine generation facilities that have supplied waste heat and electricity since 1971.

SPECIFIC PROJECT SUMMARY

This project will provide for 5 turbine systems in an expanded facility that will accommodate three (3) of the new turbine systems and all ancillary facilities in a configuration that allows the existing turbines, compressors, electrical equipment, etc. to fully function while the new facilities are constructed. The improvements as conceptually defined require relocation of existing waste heat/hot water boilers to make room for the new systems. This Request for Proposal (RFP) revises that element of the facility plan with the requirement that the design process provide adequate facility expansion capability to accommodate these equipment systems. The expansion of the existing turbine building will, at a minimum, have to accommodate space for three (3) new turbines (Turbines 1, 2, and 3), laydown areas, provisions for future maintenance/ accessibility, associated gas compression equipment, relocated boilers, new electrical room(s) and all other ancillary systems while allowing operation of the existing turbine systems. Turbines 4 and 5 and their ancillary systems will be installed after successful startup of the first 3 systems. The installation of Nos. 4 and 5 will also require electrical modifications associated with exporting of electrical power to WE Energies in accordance with a negotiated agreement. The completion of the first phase of turbines will include decommissioning of one of the existing turbines in accordance with

requirements of a final air permit. Installation of Nos. 4 and 5 will occur in the area where the 2 existing turbines are located.

It is possible that this project could evolve into a design-build project whereby this contract could be modified and re-negotiated to prepare an RFP document for design-build proposals and possible assistance as Owner's representative. If the District would decide to proceed with a design-build approach after this contract is signed, the selected consultant under this contract will not be eligible to participate on the design-build team.

A detailed Scope of Services is shown in **Attachment A**.

GENERAL

Firms wishing to be considered in the consultant selection process must submit seven (7) copies of their technical proposal and one separate sealed compensation envelope **no later than June 4, 2009, 10:30 A.M., local Milwaukee time.**

The complete proposal package shall be plainly marked as shown in the box below. A complete proposal package shall consist of two individual envelopes that are both placed within a single complete proposal package. The first envelope shall contain the proposal transmittal letter and the firm's technical and qualification proposal (seven (7) copies), without the proposed compensation. A second sealed envelope shall also include the proposal transmittal letter and the proposed compensation (one copy). The single complete proposal package and each of the two individual envelopes shall be marked as shown in the box below.

**Mr. James P. Morgan
Senior Contract Administrator
Milwaukee Metropolitan Sewerage District
260 West Seeboth Street
Milwaukee, WI 53204-1446**

(Label as appropriate: COMPLETE PACKAGE, TECHNICAL AND QUALIFICATION ENVELOPE, or COMPENSATION ENVELOPE)

Project Name: Jones Island Gas Turbine Replacement Project

District Contract No: J06037D01

Submittal Date: June 4, 2009

Firm Name: _____

The proposal transmittal letter shall be on company letterhead signed by a person authorized to submit and sign a proposal, clearly identifying the firm name, address, telephone number, the name of the person authorized to submit/sign the proposal, and his/her title, telephone number, and e-mail address.

Proposals received after the designated time will not be considered in the selection process and will be retained unopened until after award. The District reserves the right to accept or reject any or all proposals and to waive informalities or irregularities in the selection process.

If it becomes necessary to revise any part of the RFP or otherwise provide additional information, all addendum issued by the District will be posted on the District's website in the Procurement section.

The District will not be liable for any costs incurred by the respondents in replying to this RFP. In addition, the District is not liable for any costs for work or services performed by the selected consultant prior to a written Notice to Proceed.

Requests for further information or questions regarding this Request for Proposal should be addressed only to the individual listed below. UNAUTHORIZED CONTACT REGARDING THIS REQUEST FOR PROPOSAL WITH ANY DISTRICT EMPLOYEE MAY RESULT IN DISQUALIFICATION. Any oral communication will be considered unofficial and non-binding. Proposers shall rely only on written addenda issued by the individual listed below.

**Mr. James P. Morgan
Senior Contract Administrator
Milwaukee Metropolitan Sewerage District
260 West Seeboth Street
Milwaukee, WI 53204-1446
Telephone: 414-225-2132
Fax: 414-271-0829
e-mail: jmorgan@mmsd.com**

This RFP is available on the District's Website at www.mmsd.com.

The District is a unit of local government obligated to comply with Wisconsin's Public Records Law, Wisconsin Statutes secs. 19.31 through 19.39. The presumption under the law is that public records shall be open to the public unless there is a clear statutory exception, unless there exists a limitation under the common law, or unless there is an overriding public interest in keeping the public record confidential. As such, Proposers should assume that their Proposals will be subject to disclosure under the Public Records Law.

Proposals will only be accepted from firms authorized to do business in the State of Wisconsin.

SMALL, WOMEN AND MINORITY BUSINESS ENTERPRISE PARTICIPATION

It is the policy of the District that Small, Women and Minority Business Enterprises (S/W/MBE) shall have the opportunity to participate in all RFPs. The participation goals for the District for this specific project are 25% total involvement which is comprised of 5% for small business, 2% for women business, and 18% for minority business enterprises. Minority and women-owned businesses proposed to participate on the contract must be certified as Minority or Women Business Enterprises. Small

businesses must be registered with the District and are defined as businesses not exceeding \$2.5 million in gross sales during the recent calendar or fiscal year.

The Proposers are expected to take affirmative steps to assure the S/W/MBEs are utilized in this contract. Information on Minority Business Enterprise (MBE) or Women Business Enterprise (WBE) certification may be obtained by contacting José Galván, the District's S/W/MBE Coordinator, at 414-225-2238 or jgalvan@mmsd.com.

The District will recognize the following certifications performed by the organizations below, provided that the vendor supplies a current hard copy verifying the certification and that the vendor also register online with the DISTRICT. This list is not exclusive, other certifications may be considered upon DISTRICT review and approval.

- **Small Business Enterprise (SBE)** certifications by the DISTRICT of companies that are defined as small businesses not exceeding \$2.5 million in gross sales during the recent calendar or fiscal year. www.mmsd.com
- **Existing Women Business Enterprise (WBE) and Minority Business Enterprise (MBE)** certifications determined by the Joint Certification program until those certifications expire.
- **Minority Business Enterprise (MBE)** certification by the Wisconsin Department of Commerce, Bureau of Minority and Women Business Development. www.commerce.wi.gov/BD/
- **Women Business Enterprise (WBE)** certification by the Wisconsin Department of Commerce, Bureau of Minority and Women Business Development. www.commerce.wi.gov/BD/
- **Minority Business Enterprise (MBE)** certification by the Wisconsin Supplier Development Council. www.suppliercouncil.org/certification.html
- **Disadvantaged Business Enterprise (DBE)** certification by the Wisconsin Department of Transportation provided they reflect minorities or women-owned status. <http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm>.
- **Disadvantaged Business Enterprise (DBE)** certification by the Milwaukee County Office of Disadvantaged Business Development Programs, provided they reflect minorities or women-owned status. <http://www.county.milwaukee.gov/CertificationService12282.htm>
- **Small Disadvantaged Business (SDB)** certification by the U.S. Small Business Administration, provided they reflect minority or women-owned status. Contact: Business Opportunity Specialist, 414-540-9380, or <http://www.sba.gov/localresources/district/wi/index.html>
- **Women Business Enterprise (WBE)** certification by the Women's Business Enterprise National Council. <http://www.wbenc.org/GetCertified/>

- **Disadvantaged Business Enterprise (DBE)** certification by the U.S. EPA's Office of Small and Disadvantaged Business Utilization provided they reflect minorities or women-owned status. <http://www.epa.gov/osdbu/grants.htm>

Those firms interested in obtaining a District Small Business Enterprise (SBE) certification with the District should contact José Galván, the District's S/W/MBE Coordinator, at 414-225-2238, or jgalvan@mmsd.com.

A firm selected by the Proposer can only satisfy one of the three categories. The same firm may not, for example, be listed for participation as an MBE organization and an SBE organization even if the level of participation exceeds each category's goal.

All firms must be registered or certified prior to the submittal of the proposal. A Proposer is at risk in that there may be an issue of time to certify or register if it intends to use a firm that is not certified or registered at the time the RFP is submitted.

NON-DISCRIMINATION

The District has adopted a Non-Discrimination and Equal Employment Opportunities policy. The following is an excerpt from that policy:

"It is the District 's policy to encourage equal employment opportunity practices on the part of private businesses. Persons seeking to do business with the District are expected to comply with applicable Federal and Wisconsin State laws, regulations and orders relating to equal employment and non-discrimination with regard to employees and subcontractors. To this end, the District shall include equal employment opportunity and non-discrimination requirements as part of the District 's purchasing and contracting procedures."

In accordance with that policy, the District requires that the Proposer complete and submit the Certification of Non-Discrimination (**Attachment B**) and the Equal Employment Opportunity Data form (**Attachment C**) with the Proposal.

INSURANCE

The Consultant shall provide and maintain from insurance companies acceptable to the District, insurance to protect himself, his employees, his subcontractors, the public, and the interests of the District and its authorized agents against hazards or risk of loss. The Consultant shall include the District as additional insured in all his liability policies with the exception of Worker's Compensation, Employer's Liability and Professional Liability.

At a minimum, the types and amount of such insurance shall be as set forth herein. The Consultant shall deliver a Certificate of Insurance, evidencing the required coverage, to the District prior to commencing work under the AGREEMENT. The Consultant shall obtain a commitment from its insurers to notify the District thirty (30) days in advance of the cancellation of any insurance policies.

The Consultant will maintain throughout this AGREEMENT the following insurance:

- a. Wisconsin Statutory Worker's Compensation Insurance, and in addition, Employer's Liability Insurance in a limit not less than \$1,000,000 for each occurrence, \$1,000,000 aggregate disease, \$1,000,000 disease each person, for all of his employees to be engaged in work on the project under this Agreement. The Consultant shall also have his Worker's Compensation Insurance endorsed to contain the "all states" endorsement to cover him against Claims for injury, disease, or death of employees which for any reason, may not fall within the provisions of Wisconsin Worker's Compensation Law. Where work under this Agreement includes any water or navigational exposure, coverage shall be included to cover the Federal Longshoremen's and Harbor Worker's Act and the Federal Jones Act. Where the work under this Agreement includes any railroad hazards, coverage shall be included for the Federal Employee Liability Act.
- b. Commercial Automobile and Vehicle Liability Insurance covering claims for bodily injury and property damage arising from use of motor vehicles, including onsite and offsite operations, and owned, non-owned, or hired vehicles, with \$1,000,000 combined single limits.
- c. Commercial General Liability insurance covering damages for bodily injury, property damage and personal/advertising injury arising out of any covered occurrences involving actual or alleged negligent acts or omission of the Consultant or any of its employees, agents, or subcontractors, with limits of no less than \$1,000,000 per occurrence, including the products-completed operations hazard, and in the aggregate.
- d. The Consultant shall maintain during the life of this Agreement, in addition to individual limits set forth herein, Umbrella/Excess Liability coverage in excess of all of the above required coverage with limits of not less than \$5,000,000 per occurrence, including the products-completed operations hazard, and in the aggregate. Umbrella/Excess Liability shall include a drop down Provision to protect, on a primary basis, the Consultant, and the District, in the case of exhaustion of the aggregate primary limits.
- e. Professional Liability Insurance covering actual or alleged wrongful acts committed during the course of, or arising out of the provision of services under the Agreement with limits of not less than \$5,000,000 per claim and \$5,000,000 in the aggregate, including coverage for defense costs. Coverage shall be maintained during the term of the Agreement and for a period of no less than three (3) years after the termination of the Agreement.

The District shall have the further right to examine the required insurance policies and endorsements at any time, upon reasonable notice to the Consultant, or to require the Consultant to furnish certified copies of the policies and endorsements. Any adjustments to these insurance requirements may be made only with the approval of the District's Risk Management Coordinator.

SELECTION PROCESS AND SCHEDULE

The proposals considered in the selection process will be evaluated by a Consultant Selection Advisory Committee (CSAC) according to the criteria and point system presented below. The District will not release the names of committee members and requires that Proposers direct any questions to the aforementioned District Contact Person.

The CSAC will evaluate the proposals utilizing the proposal evaluation criteria (except compensation). The District, because of time constraints and depending upon the thoroughness of the proposals, may at its sole option award a contract based upon the initial proposal submittal. Do not assume there will be an opportunity for submittal of additional information. Submit your proposal as if it were your “best and final offer.”

Following evaluation of the technical proposals, the CSAC will recommend to the Selection Overview Committee (SOC) to either select a consultant based solely on the proposals, or to interview the highest-rated Proposers.

If the District intends to hold interviews, the Proposers to be interviewed will be contacted to schedule an interview. The interview will further evaluate the Proposer in the following categories: (1) Project Manager/Key Personnel; (2) Overall Qualification of Firm/Team; and (3) Project Approach. The point values or ratings for these categories are subject to change based upon the interview.

After completing the technical evaluation, compensation packages of only the highest-rated proposals will be opened. There will be no required number of compensation packages opened. Following selection of the highest rated Proposer, a letter will be sent to all Proposers informing them of the District’s selection and the date of anticipated District Commission meeting to award the contract. The District will negotiate contractual terms, level of effort, and scope of services with the highest rated Proposer and, upon successful negotiations, an award recommendation will be made to the District Commission. Contract award will be made to the Proposer whose proposal best complies with the RFP and will be the most advantageous to the District, as indicated by the final score based upon evaluation of both technical and compensation proposals.

The following is the proposed schedule for this project:

May 4, 2009	Issue RFP
May 11, 2009	Pre-Proposal Meeting - 10:00 AM at DISTRICT Headquarters
June 4, 2009	Deadline for Receipt of Proposals (10:30 a.m.)
TBD	Complete Contract Negotiations
June 29, 2009	Commission Award
June 29, 2009	Design Notice to Proceed
TBD	Design milestones will be included by Addendum

PROPOSAL EVALUATION CRITERIA

The following information must be included in each Proposal and will form the basis of the evaluation. The point number is the weight of each criterion. Interviews may be conducted to obtain additional information regarding the proposal.

Generally, when scoring proposals, the District intends to use the entire point range for most categories. For example, the highest ranked proposal for "Project Manager/Key Personnel" will receive 35 points, while the lowest ranked proposal for that category will receive 0 points. All other proposals will be scored between 0 and 35 points, based on their relative rank. The points are not intended to reflect the qualifications of the consultant for that criterion; rather it is reflective of relative ranking. Zero points does not mean the firm is unqualified; rather it means they were lowest ranked.

PROJECT MANAGER / KEY PERSONNEL – 35 points

The name and qualifications of the Project Manager (PM) to be assigned to this project. Include the PM's prior similar experiences on:

- Projects which best illustrate his/her expertise to perform the requested services.
- Meeting schedules and budgets
- Developing and implementing cost effective design processes
- Use of Construction Specifications Institute (CSI) specifications

For any projects listed include the name and phone number of the owner's representative in charge of the project.

Provide the identity and qualifications of Key Personnel (both prime and subconsultants) to work on this project, including the adequacy and appropriateness of their credentials and capabilities, expected project assignments, the extent of their project participation, and the relevance of their prior experience to this project.

Provide an organizational chart illustrating the relationship between the PM, QA/QC Coordinator, and Key Personnel. Identify subconsultants in the organizational chart by name, firm, and S/W/MBE designation (if applicable).

Provide resumes of PM and Key Personnel only.

OVERALL QUALIFICATIONS OF FIRM / TEAM - 25 points

Provide a brief description of the overall qualifications of your firm and project team.

Provide examples (not more than three) of similar projects performed by your team within the last five years. The examples should include the nature of your involvement in the project, any special environmental, political, or technical problems involved in the project, how the problems were resolved, the Consultant's experience with sustainability principles and practices, the name and phone number of the owner's representative in charge of the project, the Consultant's contracted amount for the project, the total project cost, and when the project was performed.

PROJECT APPROACH - 20 points

The proposed project approach should include the following:

- A statement of project understanding.
- A management/technical approach that should describe the utilization of specific methodologies and techniques to perform the tasks outlined in **Attachment A**. Clearly explain reasons for modifications or expansions of tasks.
- A proposed level of effort document which includes:
 - A listing of all major tasks (see **Attachment A**).
 - A detailed inventory of all proposed project personnel by task.
 - Proposed hours for all project personnel (including subconsultant personnel) by task. QA/QC effort for required documents.
 - Modifications or expansions of tasks should be clearly delineated in the level of effort documents.
 - Summary of the level of effort. Use the form included as **Attachment F** as a template. For this purpose, fill in only the "Labor Hours" column.

The District will closely scrutinize the proposed level of effort portion of the proposal. It is crucial that Proposers submit proposals that contain ample time and effort to perform the work described under this RFP to a thorough and detailed level. If in review of the proposed level of effort, the District believes that Proposers have not submitted adequate time and effort, Proposers will be significantly penalized in terms of points received.

- The Proposer must list and describe all assumptions used in developing the level of effort document.
- A detailed schedule for all tasks. The proposed schedule should meet the timeline set forth in the RFP. The schedule should highlight key milestones.
- Include a detailed description of the quality control plan that will be utilized during this project. The plan should include specific procedures to be used in assuring that the quality of the design deliverables meets the District's criteria and the standard of ordinary professional care. The plan should detail the products to be reviewed for this project, reviewer's identity, review timing and frequency, review documentation, dispute resolution procedure, and sign-off requirements.
- A geotechnical methodology which describes the locations, number, and depths of borings, and numbers and types of tests proposed. Provide reasoning for your selections.
- **The proposer is encouraged to identify alternative project delivery concepts that have the potential to shorten the project delivery time. Alternative ideas must maintain the same electrical generation and waste heat capabilities as provided under the proposed plan.**

S/W/MBE INVOLVEMENT - 15 points

Provide a list of S/W/MBE firms proposed to work on this project. The list should include the proposed percentage and experience in the type of work for each S/W/MBE firm. These goals are separate initiatives and one firm cannot be used to satisfy more than one goal. The percent involvement, the meaningfulness of the involvement, and the capability of the S/W/MBE firm to perform the work will be evaluated under this criteria. The S/W/MBE participation goal for this specific project has been set at 25% with the following breakdown of 5% SBE, 2% WBE and 18% MBE.

For this project, second tier subcontractor participation may be counted towards S/W/MBE goals subject to approval of the DISTRICT's S/W/MBE Coordinator. Proposers shall submit to the DISTRICT all documentation for second tier SBE/WBE/MBE subcontractors, including without limitation copies of subcontractor agreements and other S/W/MBE reporting requirements.

PREVIOUS EXPERIENCE WITH THE DISTRICT – 10 points

Firms who have done business with the District have been evaluated by District PMs. This evaluation reflects firms' performances relative to 1) quality of work, 2) performance against schedule, and (3) performance against budget. A maximum of 10 points will be awarded to firms based on these evaluations. If a firm has no previous experience with the District, 5 points will be awarded. Firms with previous experience should provide a list of the District projects they have worked on.

LOCAL OFFICE PREFERENCE – 5 POINTS

It is a District goal to maximize the local economic impact of the District's annual operating and capital spending for the benefit of the District's taxpayers and to take advantage of increased levels of customer service provided by local firms. As such, firms responding to this RFP shall describe within their proposal the following information concerning their presence in the Sanitary Sewer Service Area (SSSA):

Provide a table that describes the amount of work (based on hours) to be performed by each project team member (see example below). In this case, some of the prime firm's work is being performed in another office, which is located outside of the District's SSSA.

Firm	Percent of work performed within SSSA (based on hours)	Percent of work performed outside of SSSA (based on hours)	Percent of all work performed (based on hours)
Firm A (prime)	50%	15%	65%
Firm B (subconsultant)	25%	0%	25%
Firm C (subconsultant)	10%	0%	10%
Total	85%	15%	100%

Provide the following additional information relating to the prime Consultant.

Describe the prime Consultant's local office's function within the overall company. For example, is it the headquarters of the company? Is it a branch office? What functions are performed at this office?

Provide the total number of employees at this office.

MENTOR PROTÉGÉ RELATIONSHIP – 5 POINTS

The District desires to include a mentor protégé component for certified S/W/MBE firms located within the SSSA as part of this project.

The mentor protégé relationship will be evaluated based on the quality of the proposed developmental assistance plan to increase the technical and/or managerial capacity of the local, certified S/W/MBE firm. The plan should clearly identify the mentoring and technical assistance components to be included in the mentor protégé relationship.

The proposed mentor-protégé plan may include:

- Management guidance
- Business development / business services expansion
- Temporary assignment of personnel to the protégé for the purpose of training
- Technical training
- Any other types of permissible mutually-beneficial assistance

See **Attachment D** as an example of a sample mentor protégé agreement.

The District would expect the consultant who is awarded the contract to furnish a copy of a mentor protégé agreement if said arrangement was included in the proposal. A quarterly report shall be submitted to the District indicating the capacity building activities of the mentor protégé relationship.

COMPENSATION REQUIREMENTS - 15 points

Present a separate sealed envelope with the proposal that is plainly marked, "Compensation Envelope." All costs shall be shown in U.S. dollars. The compensation proposal shall include the following to complete the proposed scope of services as identified in **Attachment A**:

- A list of all major tasks. Use the spreadsheet included as **Attachment F** as a template for the format and level of detail required.
- A detailed inventory of all proposed project personnel by task.
- Proposed hours (level of effort) and hourly rates (raw and billable) for all project personnel (including subconsultant personnel) by task.
- Proposed indirect cost rate and fee.
- Identification of subconsultant's involvement by task.
- Itemization of expenses by task.
- A spreadsheet of the total costs associated within the proposal by your firm and those subconsultants/subcontractors you are utilizing, along with the percentage of

participation of each subconsultant/subcontractor that is based on the proposed total dollar amount of the project. The grand total dollar amount shall be clearly indicated.

- **\$2,000 as an allowance for additional copies of plans and specifications required by the construction contractor, design team, and DISTRICT staff.**
- Provide a subtotal proposed cost that includes an **allowance of \$40,000** (total set amount for four (4) elements) as a separate line item for BID AND AWARD ACTIVITIES TASKS (see **Attachment A**, under RESPONSIBILITIES OF THE CONSULTANT, Section C).
- Provide a subtotal proposed cost that includes an **allowance of \$1,200,000** (total set amount) as a separate line item for ENGINEERING SERVICES DURING CONSTRUCTION TASKS (see **Attachment A**, under RESPONSIBILITIES OF THE CONSULTANT, Section D)
- Provide a subtotal proposed cost that includes an **allowance of \$305,000** (total set amount) as a separate line item for TRAINING, O & M MANUALS, START-UP, AND RECORD DRAWING TASKS (see **Attachment A**, under RESPONSIBILITIES OF THE CONSULTANT, Section E)
- Provide a subtotal proposed cost that includes an **allowance of \$400,000** (total set amount) as a separate line item for APPLICATIONS TASKS (see **Attachment A**, under RESPONSIBILITIES OF THE CONSULTANT, Section F)
- Provide a Grand Total proposed cost that includes an **allowance of \$750,000** as a separate line item for a GENERAL DESIGN CONTINGENCY in the cost proposal. The following criteria must be satisfied prior to any use or distribution(s) of the general design contingency and allowances: 1) CONSULTANT shall obtain written approval and authorization by the DISTRICT prior to conducting any proposed level of effort that would require expending all or any part of the general contingency and allowances.

The District will closely scrutinize the proposed level of effort portion of the proposal. It is crucial that Proposers submit proposals that contain ample time and effort to perform the work described under this RFP to a thorough and detailed level. If, in review of the proposed level of effort, the DISTRICT believes that Proposers have not submitted adequate time and effort, Proposers will be significantly penalized in terms of points received.

The District has a budget range for the Consultant scope of work of \$5,497,000 to \$6,197,000, (including all contingencies, allowances and estimated hours translated to estimated costs). The intent of providing this budget range is to provide information to the Consultant on the general level of compensation the District believes is appropriate. The Consultant may request the District make adjustments to this budget range prior to the proposal due date. Requests for adjustments to this requirement must be submitted in writing to the District's Procurement Office at least ten (10) business days prior to the proposal due date for an adjustment to be considered. Such requests must be in writing and include justification for the requested adjustment. If, upon review, the evidence indicates a need to adjust the budget range, an addendum will be issued prior to the proposal due date.

Further, the Consultant is welcome to submit cost proposals outside of this range, but must give detailed information as to why the proposed compensation is outside of the range.

Any additions, deletions, or clarifications to the Scope of Services must be identified separately from the “base” proposal.

The District standard contract is based on a Fixed Hourly Rate Plus Expenses Not To Exceed Agreement.

GENERAL FORMAT

All proposals shall be written in English. All proposals shall contain concise written material and may contain illustrations. Legibility, clarity and completeness are essential. All submittals must use 8-1/2” by 11” portrait format, but may be supplemented using 8-1/2” by 11” landscape or 11” by 17” illustrations. A twelve point font shall be used. All submittals must have the following tabbed headings and be limited to the length indicated:

- Proposal Transmittal Letter
- Project Manager / Key Personnel, (5 page maximum)
- Overall Qualification of Firm / Team (5 page maximum)
- Project Approach (10 page maximum)
- S/W/MBE Involvement (1 page maximum)
- Previous Experience with the District (1 page maximum)
- Local Office Preference and Mentor Protégé (2 page maximum)

And in a second, sealed envelope:

- Proposal Transmittal Letter
- Compensation Requirements

Resumes are to be no longer than one page each and are to be included in an appendix, along with District forms **Attachments B and C**, which require the Proposer’s signature. Marketing brochures are not allowed.

The RFP, and the successful Proposer’s proposal will become part of the contract. In the event of any conflict between the RFP and the Proposal, the RFP will govern. The successful Proposer is expected to enter into a contract with the DISTRICT.

ATTACHMENT A

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT CONTRACT NO. J06037D01

SCOPE OF SERVICES

The Consultant is responsible to provide all necessary resources to complete the work described in the Scope of Services defined. The work shall be performed in strict accordance with the policies and procedures of the Milwaukee Metropolitan Sewerage District (District).

RESPONSIBILITIES OF THE CONSULTANT

The Consultant shall be responsible for the professional quality, technical accuracy, clarity, and completeness of all work required under this contract. The Consultant shall perform all work required by this contract under the direction of a Professional Engineer, registered in the State of Wisconsin.

The Scope of Services is defined in the following sections:

- A. PROJECT MANAGEMENT TASKS**
- B. DESIGN SERVICE TASKS**
- C. BID AND AWARD TASKS**
- D. ENGINEERING SERVICES DURING CONSTRUCTION TASKS**
- E. TRAINING, OPERATIONS & MAINTENANCE MANUALS, START-UP, AND RECORD DRAWING TASKS**
- F. APPLICATIONS ENGINEERING TASKS**

A. PROJECT MANAGEMENT TASKS

Provide Design Team management services under the direction of a Design Project Manager (PM) who shall have overall responsibility for coordination, management, and reporting of the Design Team activities to the District's PM.

Project Management services, at a minimum, will include the following:

1. Within one week of issuance of the Notice to Proceed, coordinate, prepare for, and attend one initial project kick off meeting to be conducted at the District and attended by appropriate District, Veolia Water Milwaukee, LLC (Veolia) and Consultant team members. Consultant staff in attendance shall include the Design PM and all key personnel. The purpose of the meeting will be for staff to meet and to discuss general topics such as: project goals, procedures, issues, schedule, information needs, coordination with Veolia, etc.

2. Meet with District and Veolia staff within 2 weeks of a Notice-to-Proceed (NTP) to discuss specific project details. The purpose of this meeting will be to develop a general schedule of meetings with District and Veolia staff for the Consultant to discuss and obtain information on such areas as, though not limited to, existing operations in general, issues with existing operations that could be improved in the new design, proposed improvement concepts from Owner/Veolia/Consultant viewpoints, operational/O&M historical information / data, design improvement considerations that might be applied to this design, important features/capabilities to consider in this design, etc. The District and Veolia will work with the Consultant to develop a series of meetings to address these issues while still allowing Veolia staff to perform their prime responsibility of operating and maintaining treatment facilities. The Consultant must propose timely and well planned meeting outlines, information requests, discussion agendas, etc. that will allow for maximum feedback from all parties with as little disruption to Veolia as possible. The development of this series of meetings must also take into account schedule milestone requirements related to particular subelements of the project.
3. Prepare and submit a design schedule including key milestones and cash flow projection within 2 weeks of the meeting outlined in Item 2 above. using a bar chart format so that design progress can be monitored. The overall schedule shall be in the form of a time-scaled format and shall show the work activities, including sequences of performance and interdependency. Each activity shall be labeled with a complete description and the estimated duration in days. An activity is defined as a time or resource-consuming element of work. The activities selected for inclusion in the overall schedule shall be discrete. When necessary, discrete activities shall be subdivided into smaller discrete activities so that the dependency relationships may be shown. The level of detail shall be sufficient to enable the District to determine that the project has been adequately planned and to facilitate the determination of the real progress as the work is performed.
4. Provide monthly design progress status reports. The monthly reports shall consist of narrative status reports and design schedule and cost updates in the format shown in **Appendix E** and shall be submitted to the District within two weeks of the month-end accounting cutoff dates. The status reports should include an identification and evaluation of project constraints and issues that may affect project design or construction costs.
5. Coordinate, prepare for, and attend monthly design progress meetings with the District to discuss the following information, but not limited to: project status, schedule, issues affecting project progress, potential issues that may arise, budget, and the following month's activities and action items. Progress meetings shall be conducted at the District headquarters.
6. Provide design coordination and management of all Consultant subconsultants

and other team members.

7. Prepare for and attend a 3-hour training session on the construction bidding contract document with District staff. The training will cover the structure, parts, sections and miscellaneous components of the construction contract documents, as well as the recommended procedure in editing District's master specifications. The training session shall be presented by District staff and conducted at the District's Headquarters, 260 W. Seeboth Street, Milwaukee, Wisconsin, 53204 to discuss and clarify District's master specifications as they will be applied on this project.
8. Provide general support, as requested, to the District's Air Permit consultant on information that the Permit consultant requires to submit and obtain approval of a new air permit for the District, which address the proposed improvements. The Consultant shall assume a total of **150 hours** for this effort. Use of this effort shall be documented in monthly invoicing when requesting reimbursement.
9. Provide general support as requested to the District's effort to negotiate an agreement with WE Energies on selling of electricity back to the utility from Turbine Nos. 4 and 5. The Consultant shall assume a total of **100 hours** for this effort. Use of this effort shall be documented in monthly invoicing when requesting reimbursement.
10. Distribute selected sections of District Master Specifications and electronic media to team members. Ensure that design team members are trained in the proper use and application of these specifications. Ensure that design team members are instructed in the development of drawings in accordance with District graphics standards as defined under Construction Plans Requirements (See B.2.3).
11. Ensure that all project construction and equipment procurement documents meet District requirements that procurement of equipment and services be open and competitive ("or equal"). If there are project-specific issues that cannot be addressed through competitive bidding, the Consultant shall prepare the necessary documentation and recommendation for District review and approval prior to expending effort not in compliance with competitive bidding.
12. Ensure project team members are utilizing current base information relating to District coordinate information, utilities, and other on-going projects.
13. Coordinate the work in progress with the District's PM and Veolia. The District's PM will contact appropriate District personnel to provide interpretation of general District concerns.
14. Coordinate the design tasks and construction activities with other capital

projects occurring at the Jones Island Water Reclamation Facilities during the course of this project.

15. Prepare and submit a Plan(s) of Operation for the proposed construction elements of this project that meet the requirements of the Clean Water Fund Loan Program (CWFP), which is administered by the Wisconsin Department of Natural Resources (WDNR). (See **Appendix A**) The Consultant shall submit the Plan of Operation to the District's PM. The Consultant shall coordinate with the District's loan administrator and project manager during the execution of the CWFP process. The Consultant shall also prepare and submit the following CWFP-related form (See **Appendix A**) to the District's PM to assure approval of a CWFP loan.
 - 15.1. WDNR Form 8700-293, Plan of Operation Certification Checklist (10-01)
16. Prepare opinions of probable costs for the construction and if applicable, equipment procurement services. Opinions shall be prepared each year at the beginning of District budget cycle during the duration of the design contract, and at the Preliminary, Essentially-Complete and Bid Opening stages. (See **Appendix A**) Include permit costs, and all other construction-related costs and fees in the probable cost opinion. Determine life cycle costs for all recommended equipment, including annual and incremental Operation and Maintenance (O&M) costs as compared to current O&M.
17. Assist the District in obtaining WDNR approval of each set of contract documents. Attend one joint meeting with the District and the WDNR for each set of construction documents. Incorporate District-approved comments and WDNR review comments into the construction drawings and specifications.
18. Prepare and distribute meeting agenda seven days prior to all meetings and workshops. The agenda shall include a listing of issues that require discussion including issues raised by the District and Veolia and a listing of data and information that are requested (See above items for additional detail).
19. Prepare meeting minutes (draft and final) for all meetings and workshops and distribute within three and seven days, respectively, of all meetings.
20. Provide timely response to District comments regarding "exceptions" reports that are provided by the Consultant in response to prior District comments on review products noted herein. (See **Appendix A**)
21. Assist the District in identifying and obtaining necessary approvals from other governmental agencies on Codes and other issues affecting the project.
22. Ensure timely identification of relevant records and other information available from the District (see above for additional detail) and necessary for the design

process. Assemble relevant information and review for suitable use in establishing design parameters and criteria to be used in the design process.

23. Provide all survey and mapping services required for design.
24. Coordinate the development of design drawings, as early as the Preliminary Review set, with the District's electronic bidding firm. Ensure print drivers, layers, shading, etc. will produce the finest quality bid documents.
25. Prepare and submit a draft and final memorandum for use by the Resident Engineer (RE) for each set of construction documents. This memorandum shall include, at a minimum, the following information as a guide to field personnel during construction. The draft memorandum shall be submitted to the District for review before finalization.
 - 25.1. A list of construction submittals required by the contract documents to be reviewed by the Consultant during construction including submittals critical to construction scheduling.
 - 25.2. A description of special or unique construction conditions that require special attention by project management or construction field staff. Reference the pertinent details or specifications relating to the special or unique conditions identified. Special conditions include, but not limited to: 1) handling of flows during construction, 2) coordination with other contractors, (3) utility interruptions, (4) coordination with Veolia, (5) formally written plans for operation of the water reclamation facility during construction and (6) the final list of critical operations and respective construction strategies, (See B.2.1.8) (See **Appendix A**).
 - 25.3. A list of specification sections that contain special insurance requirements, hold-point inspections or special testing and acceptance criteria for items not covered by standard technical references.
 - 25.4. A list of equipment and materials that may require special handling or site storage requirements.
 - 25.5. A list of vendor training, O&M manuals, warranties, and spare parts to be provided under this contract.
26. The Consultant (and subconsultants) shall adhere to Veolia's safety requirements. These requirements include safety awareness training for all Consultant employees. The Consultant's staff shall wear safety glasses, hard hats and safety shoes at all times while at either water reclamation facility or any MMSD-owned property along the IPS pipelines.

B. DESIGN SERVICES TASKS

1. General Scope

The Consultant shall prepare four (4) separate sets of construction documents and associated Draft and Final Design reports in conformance with the information herein. The construction documents will provide for: 1) Construction of Turbine Replacement Phase 1, 2) Construction of Turbine Replacement Phase 2, 3) Prepurchase of New Turbines and 4) Electrical Modifications. Design activities will occur under Preliminary Engineering and Final Design phases as described below. As noted under Project Management Tasks, District and Veolia staff will work with the Consultant in developing a series of meetings whereby the design team can obtain District and Veolia input on existing conditions, O&M information as may be applicable, etc.

Design services shall provide for all improvements necessary for the District to implement the Turbine Replacement Project that will provide for 5 turbine systems in an expanded Power House facility. The first phase of the project will accommodate three (3) of the new turbine systems and all ancillary facilities in a configuration that allows the existing turbines, compressors, electrical equipment, etc. to fully function while the new facilities are constructed. The improvements, as conceptually defined, will require relocation of existing waste heat/hot water boilers to make room for the new systems. The expansion of the existing turbine building will, at a minimum, have to accommodate space for three (3) new turbines, laydown areas, associated gas compression equipment, relocated boilers, new electrical room(s), HVAC systems, equipment lifting systems and all other ancillary systems while allowing operation of the existing turbine systems. The first construction contract will provide for prepurchase of five (5) 4.6 MW turbine systems suitable for use with LFG and NG. The completion of the first phase of turbines will include decommissioning of one of the existing turbines in accordance with requirements of a final air permit or discussions with DNR. Turbine Systems 4 and 5 and their ancillary systems will be installed after successful startup of Turbine Systems 1, 2 and 3. Turbine Systems 4 and 5 will be installed in the area vacated by the existing turbines. The installation sequence will involve removal of the decommissioned turbine and installation and startup of Turbine System 4 and all ancillary systems. Turbine System 5 and its ancillary systems will then be installed in the space vacated by removal of the last existing turbine. The installation of Nos. 4 and 5 will also require electrical modifications associated with exporting of electrical power to WE Energies in accordance with a negotiated agreement. Installation of Nos. 4 and 5 will occur in the area where the 2 existing turbines are located.

The following information is provided in Appendix E. These documents are provided for reference only and are not representative of a complete list of information that the Consultant may need to research and review.

- 2020 Facilities Plan - Addendum No. 3

- Construction drawings for Contract J007GX020 – Jones Island Wastewater Treatment Plant Turbine Modifications Phase II B October 1995
 - o These drawings include information regarding an addition to the original Powerhouse facility as well as the original Dryer House/Filter Press Building Facilities that were demolished as part of the contract.
- Construction drawings for Contract 848 from the original Powerhouse construction contracts. The original facility drawings provide, in part, information on pile plans and wall/footings. There may be some later building modifications that may not be included. If those changes are important the District will attempt to locate those drawings.
- A copy of the Dynamic Pile Testing Summary report that was prepared under the J007GX020 project. This report includes the results of the dynamic pile testing and analyses performed relating to pile bearing capacity of selected piles. The report also includes Soil Boring Logs and Pile Driving Records. The Facility Planning team reviewed this data and believed that the information provided appeared to support the concept that the piles had adequate capacity to support the new loads.
- Project Schedule
- Planning level conceptual layout information

This RFP has defined the District's concept of the ideal design team for this project. The first concept stated "The ideal consulting firm will assemble a design team that has the knowledge and expertise to visualize the engineering design services that will be necessary to research, review, refine and ultimately develop construction bidding documents for this project that will meet professional design standards." The following information represents the District's best attempt to include known issues, available information, specific design concerns, project elements that may not have been fully explained in the Facility Plan Addendum, etc. and/or might not be known to all consultants.

The above noted J007GX020 project demolished existing surface facilities to a point several feet below the surface. Piles, footings, basement structures and partial walls may still remain and must be taken into account in the design of this project. The design team may need to research District records for specific information relating to this topic.

If the Consultant does not believe the above noted Dynamic Pile Testing Summary report that was prepared under the J007GX020 project provides adequate documentation to support the loads proposed under this project, than the Consultant's proposal must include adequate effort and expenses to address a new pile testing program. Such program will be conducted so as not to impact meeting project milestones or interrupt the use of existing facilities. The Proposal must include adequate information to describe such program.

The inadvertent shutdown of an operating turbine at Jones Island may result in Veolia incurring WE Energies demand charges. Design activities must take into account the sensitivity of the existing turbines in the design of new improvements. The proximity of the new building expansion to the existing turbines will require design consideration of special construction techniques. It is the consultant's responsibility to review geotechnical data that is available from other JI projects and develop a construction plan that will protect the turbines. At a minimum, the design will consider use of pre-drilling/auguring, etc. techniques for pile installation. The design team may need to research District records for additional information.

The new turbine systems will need to be connected to the existing waste heat duct in such a manner so as not to disrupt the existing waste heat connections. The new improvements will also have to provide capability to exhaust turbines directly to the outside in a manner similar to the existing systems. The new improvements shall address issues that have occurred with existing exhaust dampers related to damper distortion and stack brittleness due to high heat conditions.

The Consultant shall review design characteristics of the existing waste heat duct with existing turbine air flows and compare those with the conditions that will exist after installation of the new turbines. The Consultant shall ensure that the completed installation meets design standards for its intended use. The design will also need to consider interim conditions with a combination of existing and new turbines.

The proposed improvements will change existing conditions within the Milorganite drying operation. Existing operations since start-up have encountered several serious system upsets that have resulted in personal injury and/or equipment damage. The consultant will meet with District and Veolia staff to discuss the detailed design parameters of the new turbine systems as they relate to the drying operations (such as waste heat temperature, CFM, pressure, waste heat only for drying versus waste heat plus augmented dryer heat) and existing drying system operations/parameters. The design shall review the existing drying system design and operational parameters and identify specific changes that will be encountered. System design features such as ID fans, air flow, temperature, pressure etc. will be reviewed in detail and proposed changes/impacts identified. The design shall develop a proposed set of changes to existing operations for discussion and review with District and Veolia staff. The Consultant shall also use the services of a safety consultant with experience in facilities such as those at the Jones Island WRF in reviewing historical issues, old and new system parameters, etc. The consultant shall provide documentation of the safety consultant's review and comment on the issues and changes that will be encountered. The consultant shall also include significant effort under the design phase to address the issues noted herein and to prepare a Technical Memorandum (see **Appendix C**) summarizing impacts, proposed changes to

existing procedures and a proposed plan to make adjustments under a startup phase. The design team will also need to consider the interim conditions of new turbines as the turbines will come on line in stages. The design team must consider the impacts at each stage. The effort noted herein is under the design phase and is not part of any Allowance figure.

The design activities shall take into account the noise level of gas compressors and their impact on general work environment. Mitigative measures that must be considered at a minimum include acoustical control.

At the time this RFP was being written there had been no decision made on the route that will be used to bring a landfill gas pipeline into the Jones Island WRF site. The proposed pipeline project will bring a pipeline onto the plant site to provide a direct source of landfill gas to the Milorganite® dryers located in the Dewatering and Drying Facility and will provide a valved stub connection for this project in which to connect. This project will design the necessary improvements to bring the landfill gas from the stubbed connection to the Power House for connection to the new turbines. The new line will be designed in accordance with building codes, professional standards (such as NFPA) and the consultant's own professional design standards, which ever is more stringent. For proposal purposes, the consultant shall assume that the stubbed connection will be located on the top of the West Plant Galleries building (west end) immediately north of the Dewatering and Drying Facility.

The design shall include "black start" system capability to start one (1) turbine in the event of a major loss of electrical feed to the plant.

The design shall include gas mixing/dilution capability for turbine systems.

The design shall develop design criteria for new gas compressors. The design team shall work with the turbine manufacturer(s) to determine if the compressors are supplied by the turbine manufacturer, a general contractor or included in a prepurchase contract because of long lead times to manufacture. The Consultant shall provide a summary of options and a recommended approach.

The design shall review potential "final filter" systems that the District might consider for installation under this project or at a future date. The design shall prepare sketches, costs (capital, O&M and present worth) and narrative descriptions. The review will need to address the issue of space needs and whether or not additional building expansion area is required. The Consultant shall submit a summary of these efforts and recommendation to the District for consideration. If the District decides to pursue such system the additional design costs will be addressed as an extra under the General design contingency.

Excavation work associated with this project may encounter soils that have been exposed to oil contamination along the groundwater surface. Oil contaminated

soil (often referred to as “dirty dirt” on past projects) has been reused as backfill material on the same project it was derived from. The design team will need to research District records on past projects that have addressed this issue in construction documents.

Control of the new turbine equipment, which is typically referred to as original equipment manufacturer (OEM) work, would not be performed by the Consultant. However, the Consultant should specify the manner in which the OEM applications engineering (AE) gets accomplished. This should include:

- Turbine control should be accomplished using Allen Bradley PLC for each turbine, which is the DISTRICT’s current standard. A proprietary control system by the OEM will not be permitted. The control logic and programming done by the OEM shall be available to the DISTRICT and its representatives with safeguards to assure the information remains confidential, if requested by the manufacturer.
- The OEM turbine control should reside on its own network and adhere to the District’s network standards.
- The new turbines’ operator interface terminals (OIT’s) shall be Rockwell Panel View Plus.
- The Consultant shall specify testing and verification of the OEM AE work for each turbine.
- The Consultant shall specify all OEM AE documentation and training required by the contractor and/or OEM for the new turbines. This would include AE training for operators and maintenance personnel.
- The responsibility for interfacing the new turbines with the plant’s electric grid should be the contractor’s, not the Consultant’s and is not part of the AE scope as described in Section F of this attachment. However, the Consultant does need to carefully and thoroughly specify as part of the design the requirements to interface the turbines with the plant’s electric grid.

2. Preliminary Engineering (PE) Phase

Prior to starting final design phase activities the Consultant shall develop PE design information for District review and comment. This information will provide sufficient engineering detail to illustrate the specific design parameters and layouts that are proposed for this project. This information will be developed and presented through a series of meetings with the Owner and Veolia staff as described hereinbefore with particular elements developed in accordance with project milestones. The Consultant will be responsible for ensuring that the structure of these meetings and their associated schedule will provide the design team with timely input for meeting sub-element milestones.

The PE phase will develop the following minimum design parameters: 1) Equipment descriptions/quantities, capacities, general materials of construction,

control concepts, etc., 2) Equipment layouts and piping/electrical connections, cross sections showing access provisions for O&M, manufacturer recommendations for future laydown requirements when conducting major maintenance activities, 3) I&C concepts, 4) New electrical room needs with preliminary panel layouts, including space for future Electrical Modifications associated with Turbine systems 4 and 5; 4) facility expansion provisions, 5) discussion on how construction and start-up of proposed improvements will be handled while allowing existing facilities to remain in operation; this discussion will also identify potential issues that may exist between construction/start-up of new facilities with old, 6) updated construction cost estimates by element, 7) HVAC and other facility system information specifications, 8) other summaries as appropriate for the DISTRICT to understand the proposed overall improvements.

The Consultant shall notify the District when its efforts under the PE phase have proceeded to a point that sufficient detail has been developed concerning turbine system design parameters that it is requesting to proceed with Final Design efforts for the Owner furnished equipment document. That request must document the applicable meeting summaries and other information developed to date and that District and Veolia comments had been addressed. Upon District authorization to proceed with Final Design efforts on that element it shall be expressly understood that it is the Consultant's responsibility to coordinate any changes in subsequent PE that affect a particular element's design and that any changes associated with rework are the responsibility of the Consultant unless such change was requested by the District. This same approach can be considered on other elements of the design, such as building expansion, foundation, etc.,

2.1. Draft Design Report

2.1.1.1. Meeting minutes, memos, drawing layouts/sketches, etc. that are developed through the PE phase which were used to proceed into Final Design will be referenced and used to develop Technical Memorandum(s) (See **Appendix C**) and subsequently incorporated into the Draft Design Report (See **Appendix D**) that will be submitted to the District for review and comment within 3 weeks of the completion milestone for this phase. Information as required in Appendices C and D should be included in its respective documents as necessary. The draft report will be continually updated as the project moves through the various design and construction phases and be submitted for review and comment accordingly at those stages.

3. Final Design

3.1. General Design – the Consultant shall prepare Preliminary Review, Essentially Complete Review and Camera Ready documents for each of the

following four project elements: 1) Construction of Turbine Replacement Phase 1, 2) Construction of Turbine Replacement Phase 2, 3) Prepurchase of New Turbines and 4) Electrical Modifications. The Preliminary Review documents described herein are more advanced/detailed design products than those described under Task 2 above.

- 3.1.1. Conduct additional site visits to gather and verify design information. Field verify the existing site conditions to include items such as documents or drawings used as references or information for the purpose of developing, preparing, and submitting project related plans, specifications, and design reports associated with items such as: 1) area dimensions and height constraints, 2) capacity, location, and orientation of major electrical systems, and 3) major mechanical systems.
- 3.1.2. Coordinate, prepare for, and attend a final design meeting for each project element with District and Veolia staff to discuss the Final Design phase. The Consultant shall present the basis of the Final Design as defined by the Preliminary Engineering Phase. The Consultant shall discuss exhibits, PE phase sketches, drawings, specifications, design calculations, etc. as they exist at the time of the meeting for a particular element. The Consultant should anticipate at a minimum that it must request permission to begin Final Design of the Owner Furnished Turbine System documents prior to overall completion of the PE phase in order to meet project milestone(s). The Consultant shall develop a summary of specific topics that it would like to discuss and receive feedback on. The summary shall be provided to the District at least fourteen days prior to the meeting(s). Comments provided shall be incorporated into the Final Design process, as applicable.
- 3.1.3. Identify any facilities and utilities requiring field survey and mapping to complete the design of the proposed facilities.
- 3.1.4. The Consultant shall provide support to the District for obtaining necessary construction permit(s) (i.e. air permits), if necessary.
- 3.1.5. Select and edit appropriate Sections of the current District Master Specifications for facilities identified in the design report. The Consultant shall note that the proposed revisions to specification Division "0" and parts of Division "1" require reasons for changes to the text and written approval from the District Legal Services Department. Prepare additional project specific sections of the specifications that are required, but not contained in the existing District Master Specifications in the District's CSI format. The initial edit by the Consultant shall indicate, on the Master Specification, which text has been deleted (by strikeout), which text has been added (by underline), and other new text proposed for District consideration. "PC Dates" (project change dates) shall be noted

in the edited text in accord with Article 1, Format of the District Standard Instruction to Bidder. Prior to the submittal for this initial District review, perform internal Quality Control (QC) review of preliminary specifications, and incorporate review comments.

- 3.1.6. As part of the District's Final Instrumentation & Control (I&C) Upgrade project, design and application engineering standards and guidelines have been developed and compact discs are available for review. Among other things, the standards establish conventions for preparing I&C plans and specifications, identify instrumentation manufacturers that must be used and system architecture that must be adhered to. The Consultant selected for this project will be required to follow these I&C standards and guidelines. The staff of Veolia will be available during design and application engineering on a reasonable basis to answer questions the Consultant may have about existing I&C standards and guidelines.
- 3.1.7. Prepare a preliminary construction schedule. The purpose of the preliminary schedule is to establish construction sequences, and constraints for implementing and coordinating the construction activities to minimize the disruption of the operation of the water reclamation facility. The water reclamation facility capacity and the Wisconsin Pollutant Discharge Elimination System (WPDES) permit compliance must be maintained during the construction of the project. The Consultant shall perform constructability analysis on all components of the project and establish all key construction activities and milestones. Estimate the durations of all activities in order to establish overall duration of the construction. The Consultant shall identify amounts and durations of impacts to the capacity of the water reclamation facility for various activities required for construction. Provide a Gantt chart schedule identifying various key construction activities and milestones, sequences and interdependency of work activities for the duration of construction and insert the schedule in the construction bidding documents. Prepare for and attend an initial workshop with the District and Veolia staff to discuss construction sequences, constraints, and capacity impacts of this project on the water reclamation facility. Summarize the investigation, evaluation, conclusions and recommendations in a Technical Memorandum (TM) (see **Appendix C**) and submit the TM to the District for review and comment. Prepare for and attend additional meetings with the District and Veolia staff to refine TM contents as the design progresses. The TM must be finalized prior to completing the Essentially-Complete project documents (See 3.1.18). The final Gantt chart will be incorporated into the construction documents.
- 3.1.8. In parallel to developing a preliminary construction schedule, the Consultant will further develop the impacts and issues relating to plant operations and capacity (Critical Construction Related Operations) The

Consultant shall provide a Construction Strategy for each of the Critical Construction Related Operations. The purpose of the Construction Strategy is to demonstrate and outline, at a conceptual level (not means and methods) to a construction Contractor how a particular critical operation could be undertaken, so as to minimize risks. Examples of a Construction Strategy include sequencing of operations, equipment pre-purchase, temporary equipment, lockouts, bypass pumping. Each construction strategy shall be incorporated into the construction documents. The construction documents shall require that the construction Contractor develop and submit a detailed work plan for each Critical Construction Related Operation that remained on the final list. The contractor's work plans will be developed with the input from the District, Veolia and the Consultant. A sample detailed work plan shall be included in the construction documents. Each work plan will require a meeting to be held during construction to review the work plan as submitted by the construction Contractor.

- 3.1.9. Prepare Preliminary Review documents for each project element, for the facilities as identified in the PE phase, and coordinated with the Consultant-edited specifications, utilizing District standard details where appropriate. The Consultant should note that District standard details are provided in hardcopy format. It shall be the responsibility of the Consultant to convert the details used to electronic format. The Consultant shall notify the District when it is recommended that non-standard details be used. The Consultant shall be responsible for updating District "standard details" as required to meet current codes, product availability, etc. Prior to the submittal for the Preliminary Review, the Consultant shall perform its internal design QC review of the Preliminary Review documents and incorporate such review comments into the documents.
 - 3.1.9.1. Determine, design, specify, and prepare plan sheets and contract documents as necessary, which identify recommended construction sequences that will maintain capacity of the water reclamation facility and WPDES permit compliance. Determine, document, and resolve design, constructability, and schedule issues. Determine and design temporary facilities as needed.
 - 3.1.9.2. Prepare removal plans and specifications, such that existing systems (e.g., piping, electrical conduit and wires, equipment, tanks, and supports) can be removed to the fullest extent possible and practical.
 - 3.1.9.3. Start with the list of sustainable practices identified in the Draft Design Report. Collaborate with the District to refine and expand the existing list as well as any additional sustainable practices that can possibly add value. Include possible impact on sustainability score,

and costs or savings. If a list has not been developed and a “sustainable score” does not exist, score the alternative, using the District-developed scoresheet. Work with the District PM to “short list” the sustainable practices to be considered for implementation. Finalize the list and scores for the sustainable practices.

- 3.1.10. Submit Consultant QA/QC sign-off forms at major project deliverable stages including (1) preliminary plans and specifications, and associated design reports, calculations, design budget and schedule status, and opinions of probable construction costs and schedule, (2) essentially-complete plans and specifications, and associated design reports, calculations, design budget and schedule status, and opinions of probable construction costs and schedule, (3) camera-ready plans and specifications, and associated design reports, calculations, design budget and schedule status, and opinions of probable construction costs and schedule, (4) draft Final and Final Design Report, (5) memorandum to the RE, and (6) record drawings. (See **Appendix A**)
- 3.1.11. The Consultant shall perform a bidding method and strategy analysis and recommend a method to be used for soliciting bids.
- 3.1.12. Submit to the District ten sets of the Preliminary Review documents at least twenty-one days prior to a workshop to discuss the documents. (See Appendix A) The submittal package shall include:
 - 3.1.12.1. Preliminary plans and specifications. It is critical the Consultant research the District’s vault for existing facility information and coordinate with the District’s drafting department early in the development of the preliminary plans and specifications. At a minimum, the preliminary plans and specification should include the following elements:
 - 3.1.12.1.1. Specification index derived from the District’s list of Master Specifications and identifying any project-specific sections to be developed by the Consultant.
 - 3.1.12.1.2. Though the design may not be at a point that equipment/specialty specifications can be written, general Master Specifications should be edited.
 - 3.1.12.1.3. Determination as to whether the contract will require erosion control measures and that the determination is reflected in the preliminary specifications as edited.
 - 3.1.12.1.4. A Plan Index that provides an estimate of the number of sheets by discipline and building and structure, and the total number of sheets. The index should include draft plan sheet titles, not just the number of plan sheets.
 - 3.1.12.1.5. Location map and general legend drawings for each discipline

- 3.1.12.1.6. Schematic drawings (preliminary P&IDs and one-line diagrams).
 - 3.1.12.1.7. Preliminary site and building layout drawings identifying affected facilities and structures and demonstrating use of Key Plans and Matchlines.
 - 3.1.12.1.8. The drawings should illustrate the presentation of “new work” on existing base drawings and samples of title block format and sheet title conventions.
 - 3.1.12.1.9. Sample demolition/removal plans showing how the Consultant intends to address this work, if applicable.
 - 3.1.12.1.10. Examples showing how digital photography will be utilized, if applicable.
- 3.1.12.2. Updated and more detailed probable costs.
- 3.1.12.3. The strategy analysis and a recommendation of a method to be used for soliciting bids.
- 3.1.12.4. Identify any sole-sourcing of equipment, supplies, and services or other non-conventional bidding requirements. Provide a clear rationale for any exceptions to the conventional competitive bidding process.
- 3.1.12.5. Updates and changes from the draft Design Report to be included in the draft final Design Report.
- 3.1.12.6. Topics that the Consultant would like feedback on as part of the review of the preliminary review package.
- 3.1.12.7. Preliminary Review documents submitted without all of the required elements completed to the level of detail described above may be rejected without review by the District for resubmittal by the Consultant.
- 3.1.13. Coordinate, prepare for and attend a workshop with District and Veolia staff to present and discuss the Preliminary Review documents and associated review comments.
- 3.1.14. Respond to District review comments for the Preliminary Review documents and incorporate items as mutually agreed upon between the District and the Consultant into the Essentially-Complete (construction) drawings and specifications. Submit an “exceptions” report indicating which District or Veolia comments were not incorporated including justifications.
- 3.1.15. Prepare detailed Essentially-Complete project documents for each project element, with plans and specifications properly coordinated. Incorporate

District comments received on the Preliminary Review documents and if applicable in prior workshops. Essentially-Complete drawings shall include construction access locations and work limits for the proposed construction. Perform internal Design QC review of Essentially-Complete construction drawings and specifications, in accordance with the Consultant's review procedure. Incorporate internal QC review comments before submittal for DNR review and approval and for Final stage District review.

- 3.1.16. Summarize all design efforts in a draft Final Design Report in accordance with the format shown in **Appendix D**. Expand the Report outline as appropriate. Perform an internal QC review of the draft Final Design Report and incorporate QC review comments.
- 3.1.17. As part of the design development, prepare Design Calculations containing the items outlined in **Appendix D**. Perform an internal QC of the Design Calculations and incorporate Consultant's QC review comments. Include this document in the Design Report.
- 3.1.18. Submit to the District fifteen (15) sets of each Essentially Complete Final Construction bidding document (Plans and Specifications) for DNR review and approval and for District's scheduled Final Review. Submit documents at least fourteen days prior to a workshop to discuss the documents. Two electronic copies on CD-R media are required with the final submittal. (**See Appendix A**) The submittal package shall include:
 - 3.1.18.1. Essentially-Complete Construction Bidding Documents shall meet the following standard: Essentially Complete construction documents shall contain all proposed specification sections in their final format, final Bid section and a final drawing list. The document ideally should include all final drawings though it is recognized that there may be some drawings requiring additional editing.
 - 3.1.18.2. Updated and more detailed probable costs.
 - 3.1.18.3. Topics of which that the Consultant would like feedback.
- 3.1.19. Coordinate, prepare for and attend a workshop with the District and Veolia staff to discuss the review comments on the Essentially-Complete plans and specifications and draft Final Design Report.
- 3.1.20. Incorporate mutually agreed upon District consolidated comments for the Essentially-Complete Final Review into the Consultant-prepared Plans and Specifications for the District-scheduled Camera-Ready review. Submit an "exceptions" report as part of the Essentially-Complete review set, indicating which District or Veolia comments were not incorporated including justifications.

- 3.1.21. Prepare and submit Camera-Ready sealed plans and specifications to the District for printing and bidding purposes. (See **Appendix A**) The mylars and CD-R shall be complete in all respects as representative of the project being bid. Assist the District in finalizing the Camera-Ready Contract Bidding Document. If necessary, prepare for and attend a meeting with District to discuss the review comments on the camera-ready review.
- 3.1.22. Prepare and submit ten copies of the Final Design Report in accordance with Appendix A & C, incorporating any updates or changes from the draft Final Design Report and including updated final probable cost (Consultant's estimate). Submit an "exceptions" report as part of the Essentially-Complete review set, indicating which District or Veolia comments were not incorporated, including justifications.
- 3.2. Construction Plans Requirements - The District requires that all project designs for improvements at its Conveyance, Watercourse, Jones Island and South Shore Water Reclamation Facilities utilize existing District plans as base drawing information, where available, and that upon completion of project improvements, a final Record Drawing deliverable be prepared and submitted to the District to be made available as facility base drawings on future projects. The use of District Drafting Standards for all project drawings and plans, as described below is mandatory.
- 3.2.1. The Consultant is required to prepare all project drawings using Bentley's MicroStation V8 CAD software incorporating the District Drafting Standards. The Drafting Standards are designed to be compatible with MMSD *MicroStation CAD Standards* and the older MMSD Graphic Standards, as presented on previous construction plans. The Consultant is required to deliver all electronic CAD files in native MicroStation .dgn file format, one drawing per file; registered to the Wisconsin State Plane Coordinate System, South Zone Grid, North American Horizontal Datum of 1927 (NAD27) and the District Vertical Datum. The Consultant is required to provide all electronic CAD files in conformance to the District Drafting Standards. The Consultant is required to provide all CAD files in conformance to District CAD Level Standards, and to correct all CAD level deviations at no additional cost to the District. The Consultant is required to provide all CAD files to open, as submitted to the District, in MicroStation V8 and printout from standard plotters/printers, without additional user configuration required. The District uses a 256 color printing method incorporating CAD grayscale linecolor assignment to produce the existing facility base (or background) information and a CAD blackline linecolor assignment for all new project work. The District utilizes a modified MicroStation V8 printdriver file to control drawing lineweight / print output by CAD

lineweight assignment or as modified by *CAD lineweight symbology* (no external pen table allowed). CAD file printing configurations are the responsibility of the Consultant and the Consultant shall correct all file printing errors at no additional cost to the District. All plan file numbers and CAD filenames are required to meet the District Filename convention, as provided by the District. All design resource files, CAD reference files, and / or CAD libraries (cell, font, linestyle or others), etc. either used or referenced in each dgn file must be included with the electronic format submittal. The District will not accept CAD file translations from other CAD software to MicroStation.dgn format.

- 3.2.2. The Consultant shall request, attend, and participate in a Drafting Standards 'kick-off' meeting held at DISTRICT Headquarters with the District to clarify drafting and CAD requirements, determine special cases or exceptions to be considered, and to determine available existing plans and CAD files for use on the project.
- 3.2.3. The Consultant shall visit the District Plan Vault to select pertinent existing 'design reference' plans. Selected plans are provided in either hardcopy or digital formats as made available from the District. The Consultant shall utilize existing District plans as design reference and / or for facility base drawings. Unless otherwise authorized, design drawing layout shall match existing District plans on file. Design drawings that do not match the existing facility layout or orientation require prior District approval or the design drawing shall be re-drawn by the Consultant at no additional cost to the District.
- 3.2.4. The Consultant shall prepare detailed construction drawings of the proposed facilities complete in all respects incorporating District Drafting Standards and utilizing digital scans of existing facility plans (or creating facility master base files (CAD vector) with prior District approval) in conjunction with the existing plant layout and drawing orientation. Consultant shall prepare all Project Details and / or use available District Standard Details where appropriate. Drawing Key Plans and Matchlines are required when building floor plan drawings are divided into partial floor plans; however, the building floor plan drawing layout shall match the existing building plans on file in the District Plan Vault. The use of partial floor plans showing only a portion of the building area is not allowed without prior District approval. Drawings not utilizing or matching existing facility floor plan layout or drawing orientation, unless previously approved by the District, shall be re-drawn by the Consultant at no additional cost to the District.
- 3.2.5. In the event that MicroStation vector dgn files are not available for use as the facility base, the District will provide scans of existing drawings in MicroStation .cit format. The Consultant may elect to convert the District

record drawings for the current project from CIT scan images into MicroStation dgn files. The Consultant shall work with the District to confirm all drawing disciplines comply with District expectations (currently undocumented). The Consultant will perform QA/QC checks on floor plan scaling and measurement representation of distances between column lines as well as font conversion to confirm the design drawings meet current District Drafting Standards. The Consultant will provide all vectorized levels per the District CAD Layer Standard. The Consultant will use the best available drawing for vector conversion. The Consultant will consolidate all provided record drawings into a facility base dgn file, for use on all future projects. The Consultant design team will coordinate with the District at the beginning of drawing development so that changes or clarifications are made early in the process to minimize rework at a later date. The vectorized drawings will be saved after conversion in a separate MicroStation resource folder and made available to the District separate from the plan sheet files for project development. A master facility base dgn file will be prepared by the Consultant and the file name reviewed and approved by the District.

- 3.2.6. The Consultant shall prepare Instrumentation and Control / Process and Instrumentation Diagrams (I&C / P&ID) utilizing the District Master I&C / P&ID CAD dgn files as provided by the District. The Consultant shall visit the District Plan Vault to select pertinent existing master P&ID CAD drawings, as made available from the District. Unless otherwise authorized, drawing layout shall match existing District plans on file. Drawings not matching the existing facility layout or orientation require prior District approval or shall be re-drawn at no additional cost to the District. The I&C / P&ID Standards establish conventions for preparing I&C / P&ID plans and specifications, identify instrumentation manufacturers that must be used and system architecture that must be adhered to.
- 3.2.7. The Consultant shall prepare complete Electrical One-Line Diagrams, Panel Elevation, Panel Wiring and Loop Diagrams, Electrical Facility Power Plans and Electrical Process Power Plans utilizing existing District record drawings available from the District Plan Vault. New or partial electrical drawings will not be allowed without prior District approval.
- 3.2.8. The Consultant shall prepare real estate site drawings, as appropriate, using MicroStation V8 CAD software and District Drafting Standards. The drawings shall define permanent and temporary easement requirements and the drawings shall be provided to the District. The District is responsible for right-of-way and easement acquisition for District projects.

- 3.2.9. The Consultant shall prepare traffic control; site access, work limit and restoration drawings using MicroStation V8 CAD software and District Drafting Standards, to include traffic control, construction access locations, construction work limits, and restoration plans for areas disturbed within those work limits, and the drawings shall be provided to the District.
- 3.2.10. The Consultant shall prepare site drawings and cross-section drawings using MicroStation V8 CAD software and District Drafting Standards. Sewer plan and profile drawings shall be prepared at an agreed to horizontal scale.
- 3.2.11. The Consultant may utilize digital photography as supplemental information to the drawing set. Digital photography may not be used in place of conventional drawings. Digital photos shall be provided in black and white format using industry standard formats that are readable by MicroStation V8 software. The digital photos are to be incorporated into the drawings as a "Photo Detail" showing "where shown" on the facility floor plan and the cross-reference "where taken" on the photo detail sheet. The Record Drawing at project completion shall be updated for construction information on the digital photo details and associated floor plan drawings. The Consultant shall add drawings at no additional cost to the District at the Record Drawing stage if additional information is required.
- 3.2.12. The Consultant shall provide required design drawings review sets to the District, permitting agencies (WDNR, USACE) and other affected agencies and utilities for their review and comment. (See **Appendix A.**)
- 3.2.13. The Consultant shall respond to District drawing review comments and incorporate items, as required or as mutually agreed upon between the Consultant and the District, into the construction drawings and specifications. (See **Appendix A.**)
- 3.2.14. Camera-Ready Drawing deliverable requirements are as follow: One set of original, P.E. wet sealed construction drawings on 22" x 34" 4 mil., double matte, front printed mylars, two sets of electronic CAD files on CD-R media and one set of 11"x17" paper printouts submitted flat. Camera-Ready specification deliverable requirements include one set of final, original, sealed specifications on white bond with single sided printing. Specification pages on 11"x17" paper shall be submitted flat. (See **Appendix A.**)
- 3.2.15. Record Drawing deliverable requirements are as follow: One set of revised as-built construction drawings on 22" x 34" 4 mil., double matte, front printed mylars, two sets of electronic CAD files on CD-R media and

three sets of 11"x17" paper printouts (two sets bound, one set unbound/no holes). (See **Appendix A**).

C. BID AND AWARD ACTIVITIES TASKS

The Consultant shall add a total allowance of \$ 40,000 to the compensation proposal (See "Compensation Requirements – 15 points") for the purpose of executing bid and award task for all project element bid documents, as described below.

Provide the following associated with each project element bid document:

1. Conduct pre-bid preparation activities, prepare for, and attend the pre-bid meeting and project site tours.
2. Prepare and submit addenda as needed. (See **Appendix A**)
3. Respond to bid questions during bidding period.
4. Attend the bid opening.
5. Evaluate bids received; prepare and submit a memorandum to the District on its review, analysis, conclusions, and recommendation associated with the bids received. The memorandum shall also describe, explain, and summarize any variances between the Consultant's estimate and apparent low bidder's bid breakdown.
6. Coordinate, prepare for, and attend one joint meeting with the District and the apparent low bidder.

D. ENGINEERING SERVICES DURING CONSTRUCTION TASKS

The Consultant shall add a total allowance of \$1,200,000 to the compensation proposal (See "Compensation Requirements – 15 points") for the purpose of executing the engineering services during construction tasks for each project element bid document, as described below.

Provide the following associated with each project element bid document:

1. Manage and coordinate Design Team engineering support during construction.
2. Coordinate, prepare for, and attend one pre-construction and monthly construction progress meetings. The Consultant shall provide appropriate staff for topics being discussed.
3. Attend project issues meetings as requested by the District.

4. Prepare and submit to the District a resolution plan for each issue submitted to the Consultant which is outside the Consultant's contract scope and the construction contractor's contract scope. **(See Appendix A)**.
5. Manage, review, approve (or reject as necessary), document, and log the construction Contractor technical submittals and shop drawings for compliance with the contract documents. Consultant shall anticipate two review cycles for all submittals.
6. Interpret the technical content of the drawings and specifications with respect to requests for clarification and deviation from them. Review, document, recommend specific actions, and respond to all requests for clarifications.
7. Review and prepare documentation in response to construction Contractor claims of differing site conditions as requested by the District. Prepare probable costs and assist in negotiations as requested.
8. Prepare drawings and sketches, specifications and probable costs for contract modifications as requested by the District.
9. Attend up to eight (8) substantial completion field inspections of the work and one (1) final inspection of the work. All inspections shall be considered separate and individual field trips.
10. Prepare and submit to the District a Consultant's Certificate of Installation for each project element, which documents that the work, equipment, and installation meet the intent of the contract documents. **(See Appendix A)**.
11. Prepare and submit the following CWFP related documents and forms **(See Appendix A)** to the District's PM to assure approval of a CWFP loan. Coordinate with the District's loan administrator and PM during the execution of the CWFP process.
 - 11.1. WDNR Form 8700-280, Environmental Improvement Fund Project Acceptance Certification (7/00)
 - 11.2. WDNR Form 3400-143 (if applicable), Wastewater Collection System Operation and Maintenance Manual Certification Checklist (1-92)
 - 11.3. WDNR Form 3400-144 (if applicable), Wastewater Treatment Facility Operation and Maintenance Manual Certification Checklist (1-92)
12. Update the Final Design Report (post-construction) by incorporating any updates or changes not included in the draft Final Design Report submitted prior to construction and addressing all issues identified during the construction.

The Consultant shall prepare a TM for each project element documenting all construction issues, the scope of the issues and their associated resolutions, and or issues requiring follow-ups (**See Appendix A**). Submit ten copies of the Post-Construction Design Report and TM in accordance with Appendices A & C.

E. TRAINING, O & M MANUALS, START-UP, AND RECORD DRAWING TASKS

The Consultant shall add a total allowance of \$305,000 to the compensation proposal (See "Compensation Requirements-15 points") for the purpose of executing Training, O & M Manual, Start-up, and Record Drawing Tasks, as described below.

Provide the following:

1. The Consultant shall prepare a new Operation and Maintenance Manual in accordance with the requirements of State of Wisconsin NR 162.12(1)(k)(1) Wisconsin Administrative Code. The District and Veolia will meet with the Consultant at the Consultant's request to develop the specific format requirements of this new manual
2. The Consultant shall conduct operator-training courses to Veolia staff for all work related to this project. The Training effort shall include preparation of all necessary materials, provide for multiple trainings to accommodate operating shifts and multiple training segments to accommodate phased start-ups in order that training occurs immediately prior to the start-up of individual process components and I & C training. The Consultant shall provide trainer(s) that have familiarized themselves with the designed operations of the water reclamation facility and how the control system executes the operation. Training personnel shall be fully knowledgeable of the system and shall be capable of transferring the knowledge in an orderly fashion to maintenance personnel in a classroom environment. As a minimum, the Consultant operator-training course shall cover the following topics: 1) Overview of systems functional capabilities, 2) Equipment overview including system component functions, operating principals, 3) Process operation and relation to other processes, 4) Normal flow, high flow and emergency operation, 5) Overview of programs and control schemes, 6) Use of system control and monitoring displays, 7) Alarm management and use of commands, and 8) High level system troubleshooting.
3. The Consultant shall conduct maintenance training courses to Veolia staff for all work related to this project. The Training effort shall include preparation of all necessary materials, provide for multiple trainings to accommodate operating shifts and multiple training segments to accommodate phased start-ups in order that training occurs immediately prior to the start-up of individual process components and I & C training. Training personnel shall be familiar with the Control System equipment, its manipulation, and configuration. Training

personnel shall be fully knowledgeable of the system and shall be capable of transferring the knowledge in an orderly fashion to maintenance personnel in a classroom environment.

4. Provide post start-up assistance to District and Veolia staff in the troubleshooting, fine tuning, optimization and resolution of process equipment and system issues.
5. Develop detailed start-up plans for all improvements that incorporates District, Veolia, and construction Contractor comments. The start-up plans shall include, at a minimum, the following:
 - 5.1. Project background and purpose
 - 5.2. Identification of startup personnel required
 - 5.3. Communication chain and contacts
 - 5.4. Training and pre-startup testing requirements and schedule
 - 5.5. Pre-startup checklists
 - 5.6. Prerequisites for testing activities
 - 5.7. Applications Engineering requirements
 - 5.8. Equipment and process functional and performance testing
 - 5.8.1. Equipment and process description
 - 5.8.2. Ancillary facility requirements
 - 5.8.3. Manufacturer's certificate requirements
 - 5.8.4. Instrument calibration sheets, as applicable
 - 5.8.5. Process loop status
 - 5.8.6. Functional test procedures
 - 5.8.7. Performance test procedures
 - 5.9. Startup activities summary and schedule
6. Review and clarify Owner's and Construction Contractor's "red-line" markups of original contract drawings, and incorporate contract addenda, field orders, and contract modifications, ensuring the completeness and accuracy of the drawings. Conduct field visit of completed facility and discuss with RE and Construction Contractor, or operating personnel as necessary. Prepare draft record drawings that account for Owner's and Construction Contractor's "red-line" markups. Submit draft record drawing information in electronic and hard copy formats for District review. **(See Appendix A)** Submit a final draft set of electronic and hard copy formats that incorporate all District comments from previous draft reviews. **(See Appendix A)** Upon District acceptance of the final draft set, submit one set of mylars (22" x 34", 4 mil double mat), two CD sets (650 mb or 700 mb high speed disks) with project labels on disk and case, and three sets of prints (11"x17" laser print on 20 lb high quality paper).

F. APPLICATIONS ENGINEERING TASKS

The Consultant shall add a total allowance of \$400,000 to the compensation proposal (See "Compensation Requirements-15 points") for the purpose of executing AE services, as described below:

The Consultant shall provide Applications Engineering (AE) Services for all systems included as part of the Jones Island Gas Turbine Replacement Project. The Consultant will be required to have members of their design team, who have expertise in programming Allen Bradley ControlLogix and Compact Logix PLCs and working with Factory Talk View HMI, RS Historian, Factory Talk Historian and PI Historian software, Citrix Metaframe XP, Windows 2000 including terminal services, and Cisco Works for Switch and Router Configuration and other software packages established in the AE Standards and Guidelines. Development software for PLC programming and HMI and Historian development will be available from the DISTRICT. Design and applications engineering standards and guidelines are available for review. AE services shall, at a minimum, include:

1. Interface with water reclamation facility process network. This would include interfacing with the powerhouse portion of the process network as well as interfacing with the operations center portion of the process network. Construction Bid Documents shall require that the installing construction Contractor provide base level of configuration, setup, testing, and training to prove out specified system. The Consultant shall configure, setup and test all communications components including routers, switches, modems, and general communications hardware and software for the installed system specifically for the applications environment designed by the Consultant. Existing hardware, such as PLCs, may be used, but may require additional configuration to account for the addition of Input Output cards.
2. Configure workstations, clients and servers (Process Control System (PCS)). Construction Bid Documents shall require that the installing construction Contractor provide a base level of system software and hardware configuration, setup, testing and training to prove out specified system. Consultant shall develop required application software configuration for the PCS including tag database, Input/Output configuration and driver configuration, reports, screen development, testing, implementation, and training. The existing HMI system has been developed and graphic templates will be made available. The Consultant shall use the HMI development and tag naming standards to update the HMI database. The Consultant shall also decommission any tag names and screen graphics from existing HMI and Historian as a result of any process abandonment under this project.
3. Develop and implement programming for Allen Bradley PLCs based on control loop descriptions. Working with Veolia, the Consultant shall develop the control

loop descriptions for new controls or update control descriptions for modified controls. The Consultant shall also decommission any PLC programming from existing PLCs as a result of any process abandonment under this project. Construction Bid Documents shall require that the installing construction Contractor provide base level I/O configuration and testing of system communications, connection of PLC to PCS, network infrastructure, redundancy fail over, and field wiring. The Consultant shall provide AE services to include system control logic and strategies. The control strategies developed by the Consultant shall conform to protocols used in developing existing control strategies used in operating at the water reclamation facility.

4. Identify and install any software drivers required for successful communication with process equipment.
5. Establish schedules for system testing and acceptance. Typical testing and startup protocols are available at the District upon request. In general, protocol developments include Factory Testing, Operational Readiness Testing and System Acceptance Testing. The Consultant shall perform operational readiness testing of their PLC programming off line and participate in system acceptance testing performed by the construction contractor. The Consultant shall make programming adjustments as needed to achieve the desired level of control as described in the loop description.
6. The Consultant shall provide documentation on all configuration settings, database listing, security assignments, PLC programming logic, device drivers written for this project, historical data collection assignments, graphic displays and other AE related tasks for which it would be appropriate to provide documentation. The Consultant shall coordinate and interface data management and documentation with the District's data management and documentation management systems, which are currently under development.
7. As part of interfacing the new turbines network with the existing plant process network, the Consultant shall be responsible for AE work to optimize utilization of the new turbines based on fuel availability, demand and consumption energy costs, and plant operational priorities.

RESPONSIBILITIES OF DISTRICT

In order that the work contained in this Scope of Services may be completed in an efficient and expeditious manner, the District shall provide the following items or services to the Consultant in accordance with the design schedule at no cost for use in performance of this contract.

1. Provide a Project Manager to coordinate District support and all engineering activities. Provide Resident Engineering (RE) and Resident Inspector (RI) Services.
2. Maintain contact through the Project Manager with the Project Team.
3. Provide Consultant with selected sections from the current District master specifications and hardcopy of standard details and drafting standards.
4. Provide a list of District personnel who will provide District review.
5. Provide District review comments on preliminary and essentially-complete plans and specifications, and draft, draft final, and final design reports.
6. Attend joint meetings with the Consultant, the District, and regulatory review agencies as needed.
7. Provide comments from review agencies on Draft and Final plans, specifications, and reports as necessary.
8. Provide access to District records as required.
9. Provide coordination with Veolia..
10. Review and approve Consultant's monthly payment requests.
11. Provide economic criteria (i.e. interest rate) for present worth analysis.
12. Negotiate scope and schedule changes and issue Contract Amendments in a timely fashion.

APPENDIX A

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT

CONTRACT No. J06037D01

DELIVERABLES FROM THE CONSULTANT TO THE DISTRICT

<u>Description</u>	<u>No. of Copies</u>
Design Schedule (hard copy)	5
Monthly Design Progress Status Report Including Design Schedule Updates(hard copy)	5
Plan of Operation (electronic / hard copy)	1 / 5
* Materials to be presented at all Workshops (hard copy)	10
* Workshop/Meeting Notes draft, and final (electronic / hard copy, each workshop)	1 / 10
* Draft and final Technical Memoranda/Memoranda (electronic / hard copy, each memorandum)	1 / 10
* Draft, draft final and final Design Reports (electronic / hard copy)	1 / 10
* Initial and final list of critical operations and respective construction strategies(hard copy)	5
QA/QC sign-off forms (for each major project deliverable stage and project element) (hard copy)	1
* Preliminary Construction Bidding Documents per project element (electronic (CD-R) / hard copy (drawings 11"x17" laser prints))	1 / 10
* Essentially-Complete Construction Bidding Document incorporating the CONSULTANT's Internal Quality Control per project element (electronic (CD-R) / hard copy)	1 / 15
Responses to Review Comments from the District ("exceptions" report) (hard copy)	1
Design calculations (to be included in the Final Design Report) (hard copy)	1
* Camera-Ready Sealed Reproducible Final Construction Bidding Documents per project element. (electronic (CD-R) / hardcopy (drawings Mylars – 22"x 34") / hardcopy (drawings 11"x17" Laser Prints)	2 / 1 / 1
Opinion of Probable Construction Costs per project element (budget cycle, preliminary complete, essentially complete, and bid opening stages (hard copy)	1
* Draft and Final Memorandum to the Resident Engineer per project element (electronic / hard copy)	2 / 5

APPENDIX A

<u>Description</u>	<u>No. of Copies</u>
* Construction Bidding Documents Addenda (as required during Bidding) (hard copy)	1
Memorandum Summarizing the Review of the Bids per project element (hard copy)	5
Resolution Plan for issues outside contract scope (hard copy)	5
* Updates to existing O&M Manuals (electronic (CD-R) / hard copy)	4/ 8
* New O & M Manuals (electronic (CD-R)/ hard copy)	4/ 8
Operating training materials per project element (hard copy)	10
Maintenance training materials per project element (hard copy)	10
* Start-up plans per project element (hard copy)	10
* Application Engineering testing schedules per project element as applicable (hard copy)	10
Application Engineering documentation per project element as applicable (hard copy)	10
* Draft Record Drawing per project element (electronic (CD-R) / hardcopy (11"-17" Laser Prints))	1 / 3
* Final Record Drawing per project element (electronic (CD-R) / hardcopy (Mylars – 22"x 34") / hardcopy (11"x17" Laser Prints))	2/1/3
Post-Construction Design Report (electronic (CD-R) / hard copy)	1 / 10
Consultant's Certificate(s) of Installation per project element (hard copy)	1
CWFP related documents and forms (hard copy)	1

NOTE: All Deliverables are to be provided in accordance with the Design Schedule noted.

*Deliverables which require review from District and Veolia staff.

APPENDIX B

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT

CONTRACT No. J06037D01

DELIVERABLES FROM THE DISTRICT TO THE CONSULTANT

<u>Description</u>	<u>No. of Copies</u>
Resolution of Design Questions	1 Each
District Review Comments on Technical Memorandums/Meeting Notes/Memoranda	1 Each
Selected Sections of Current District Master Specifications	1 Each
District Review Comments on Preliminary Design Drawings and Specifications per project element	1 Each
District Staff Essentially-Complete Review Comments per project element	1 Each
District Staff Camera-Ready Review Comments per project element	1 Each
Regulatory Agencies' Review Comments per project element	1 Each
List of District Review Personnel	1 Each
Electronic Media Containing MMSD Title Blocks, Title Sheet, Index Sheet, Legends, and Font Library	As Required
District Coordination	As Required

APPENDIX C

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT

CONTRACT No. J06037D01

TECHNICAL MEMORANDUM REQUIRED FORMAT AND CONTENT

Executive Summary – This section shall summarize all of the other sections of the TM. It shall address all areas of the project including purpose and goals of the project, potential alternatives to the selected alternative, brief scope of work, budget and schedule.

Reference Documents – This section shall list all reference documents used during the development of the TM. These documents include, but are not limited to meeting notes, operating data, correspondence, O & M manual(s), previous technical memoranda, equipment information, vendor's quotes, design reports, construction drawings, vendors drawings etc. All the listed documents must be included in the final submittal to the District.

Project Background – This section shall include all pertinent background information for the project. This includes information such as:

1. Statement of problem(s)/issue(s)
2. Description of current facilities (capacities, reliability, condition, etc.)
3. Basis or reasons for project (regulatory requirement, increase in capacity, increase in reliability, etc)
4. Summary of previous efforts or investigations to address the proposed project problem(s)/issue(s). Document the results of the data collection, personnel interviews, and technical investigations. The listed documents must be included in the final submittal to the District.
5. How the project will resolve the existing problem(s)/issue(s)
6. District facilities affected by the project
7. Specific long- or short-term consequences of taking no action
8. Effect of the project on increase in capacity or reliability of District facilities

Existing Equipment, Systems, Process, and/or Facility Descriptions – This section shall provide detailed descriptions, documentation, and discussion of the existing equipment, existing system(s) and/or existing facilities affected by the issues, or problem areas as described in the **Project Background** section above. The descriptions shall include equipment manufacturer, model, type, name plate information, rating, performance evaluation, remaining service life (cite references/rational used for determining remaining useful life), parts availability, applicable code requirements; components and function of each system(s); components and function of each process(s); components and function of the facility. This section may be combined with

the **Project Background** section above if only one system is in question, or it is more appropriate to discuss the system together with **Project Background**.

Purpose and Goals of the Project - This section shall clearly present the purpose and goals of the project. The Consultant shall consider the following:

1. Increased reliability of facilities
2. Increased efficiency of operations/maintenance
3. Reduction in operating costs
4. Impact on system capacity
5. Extend the useful life of existing facilities/equipment
6. Replacement of facilities / equipment which are past their useful life
7. Requirement to meet Permit requirements
8. Meeting new regulatory requirements
9. Safety or code requirements

The presentation of these issues shall discuss specific issues related to the project and not be general in nature.

Design Requirements – This section shall identify and summarize design and/or improvement objectives, design criteria, design guidelines and applicable code requirements for the project.

Alternatives – This section shall summarize all previous and current investigations into the definition of the problem being addressed as well as the alternative solutions that have been or are being evaluated. Identify, and develop a minimum of three (3) feasible alternatives for preliminary investigation/evaluation and costing. Evaluate the alternatives for implementation. Investigations into potential alternatives shall include an analysis of the impacts or results of the following:

1. Project objectives
2. advantages/disadvantages
3. System service life
4. Life-cycle cost evaluations
5. Cost (capital and O&M) include replacement cost, salvage value and O&M present worth costs
6. Sustainability
7. New technology
8. Constructability including basis equipment layouts
9. Impact on facility operations during construction
10. Requirements and sources for required utility, energy and Instrumentation and Control
11. Reliability/history of previous success of the alternative
12. Relationship to other projects in terms of costs and schedule impacts

Summary of Other Issues – This section shall present any additional issues that are critical to the project. This includes:

1. Preliminary construction sequences and constraints that will minimize risk to total plant peak capacity and will not interfere with other future or ongoing projects.

2. Difficulties in construction
3. Significant affects on capacity during construction
4. Sole source vendor requirements
5. Affect on or disruption in the community
6. Community acceptance issues
7. Land acquisition
8. Permitting
9. Additional special studies required to complete the evaluation

Sustainability – This section shall identify appropriate sustainability criteria and complete the Sustainability Worksheet in **Appendix F** for each feasible alternative. Include as attachments to the draft TM. The worksheet evaluates the sustainability impacts of each alternative using the following criteria: energy, water, waste, financial, and social. The following steps shall be followed:

1. Develop each alternative as typically is performed as described in the **Alternatives** section above.
2. For each feasible alternative, score the alternative, using District developed Sustainability Worksheet.
3. For each alternative, develop a list of “sustainable practices”, along with estimated costs or savings for each of these practices, and impact that each practice will have on the sustainable score. These practices include any item that is to be implemented during any phase of the project.
4. Work with District PM to “short list” those practices to be considered for implementation
5. Recommend final alternative for each project, along with list of sustainable practices

Project costs - This section of the report shall present a preliminary budget for the proposed project. The budget accuracy shall be ± 35 percent. If a multi-year project, the budget amount shall be listed by year. It shall show costs (unit costs and quantities) for major project components such as structures, equipment, and large diameter piping. The source of costs for items shall be documented (i.e. similar recent project bids, vendor quotes, Means Catalog, etc). Other assumptions for estimating purposes such as costs for installation shall be described. When applicable, include 40 percent contingency for undesigned details, 25 percent for Contractor Overhead & Profit, and 15 percent for Engineering and Administration. Consultant must complete Life-cycle cost analysis for each recommended alternative.

Project Schedule – This section shall have a discussion of the project schedule and present the project schedule in Gantt chart format showing all major phases of the project. Any specific needs to expedite delivery of the project shall be clearly explained. If the project could have potential regulatory schedule requirements, these shall be explained fully. Long lead items that could potentially impact the project scheduled shall be highlighted. The schedule shall also show if major facilities or equipment will be taken out of service and how this could potentially affect treatment/transport capacity.

Summary & Conclusions - This section shall present the recommended alternative(s) and a preliminary scope of work. There shall be a discussion of how the proposed project will achieve the stated purpose and goals. The scope shall have enough detail such that the District could use this as a basis for procuring the next phase of services (i.e. a basis for writing a technical specification).

APPENDIX D

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT

CONTRACT No. J06037D01

DESIGN REPORT FORMAT AND CONTENT

Design reports shall include at a minimum, the information outlined below. The design report shall provide all necessary information required for the District to obtain regulatory approval for construction and/or obtaining permits as required to facilitate construction.

I Executive Summary

- 1 Purpose and Scope
- 2 Project Background
- 3 Engineering Evaluations and Recommendations

II Basis of Design

- 1 Technical Memorandum(s) (quantity as necessary)

III Design Calculations (design calculations shall be prepared for this project and organized under the following topics, as appropriate.)

- 1 Structural
- 2 Process
- 3 Mechanical
- 4 Electrical
- 5 Life cycle cost comparisons, including annual operation and maintenance costs
- 6 Other

IV Sustainability (list of implemented sustainable practices from the final design)

V Opinion of Probable Construction Costs (include materials, labor, equipment, overhead, profit, bonds, insurance, contingencies, inspection and engineering, testing, permits, and all other construction related costs)

VI Sequence of Construction

- 1 TM

VII Conclusions

VIII Appendices

- 1 TM (Drafting and CAD Standards)
- 2 TM (Construction Related Issues)
- 3 Consultant QC Review & Sign-Off Forms

APPENDIX E

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT

CONTRACT No. J06037D01

MONTHLY PROGRESS REPORT

Consultant & Report No. _____

Period from _____ to _____

- I. Work Effort this Period**
 - A. Tasks Started
 - B. Tasks Completed
 - C. Tasks Under Development
 - D. Meetings Held
- II. Work Effort Between _____ and _____ next period**
 - A. Tasks to Be Started
 - B. Tasks to Be Completed
 - C. Tasks to Be Worked on
 - D. Meetings Scheduled
- III. Issues for District Information and/or Resolution**
 - A. Potential impacts on Budget
 - B. Potential Contract Amendments
 - C. Potential impacts on Schedule
 - D. Potential Time Extensions
 - E. Other
- IV. Schedule Issues**
 - A. Original Schedule (Figure 1)
 - B. Actual Delays
 - 1. Cause
 - 2. Corrective Action
 - 3. Impacts on Other Tasks
 - C. Current Schedule (Figure 2)
- V. Budget Issues**
 - A. Original Budget
 - B. Approved Amendments
 - C. Current Budget (Table 1)
 - D. Earned Value Projection (Figure 3)
- VI. Status of Deliverables**

APPENDIX E
SUSTAINABILITY WORKSHEET

Project Name

Alternative Description

Evaluated by

Project Number

Date

Criteria Group	Energy				Water		Waste	Financial			Social			Total	
Group Weight	36				13		13	20			18			100	
Individual Criteria ⁽¹⁾	Reduce system and process energy use	Increase renewable energy use	Increase energy source flexibility	Reduce building energy use	Reduce potable water consumption	Improve stormwater management	Reduce solid waste	Reduce operating costs	Reduce risk of environmental litigation	Extend life of equipment and assets	Increase employee productivity	Increased efficiency of materials selected	Reduce greenhouse gas emissions	Maximum Total	Available Points (project specific)
Criteria Weight	18	9	5	4	3	10	13	10	6	4	3	6	9	100	100
Score ⁽²⁾	0	0	0	0	0	0	0	0	0	0	0	0	0	Score (max 300)	Normalized Score (out of 100)
Weighted Points	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Score a project or project alternative for each criteria from +3 to -3 using information and guidance below. Delete criteria weight for any criteria that do not apply to a particular project to obtain normalized total.															
(1) Criteria (see next page for a list of suggested additional practices for each criteria, other practices that the consultant is aware of are encouraged for consideration)															
Energy															
Reduce system and process energy use - Reducing energy used during bench scale testing, material manufacturing, construction, transportation, normal and wet weather operations and decommissioning															
Increase renewable energy use - Increasing the amount of energy that comes from solar, geothermal, wind, water, or other renewable sources of energy															
Increase energy source flexibility - Increasing the ability of a system, unit, or asset to utilize and switch between multiple energy sources (not secondary supply from same energy source)															
Reduce building energy use - Reducing the use of energy in building systems (lighting, heating, ventilation, plumbing, etc.)															
Water															
Reduce potable water consumption - Reducing potable water consumption during construction and operation															
Improve stormwater management - Reducing site runoff quantity, using stormwater for landscaping, improving runoff quality															
Waste															
Reduce solid waste - Reusing demolition materials, reducing construction waste, reducing operating, maintenance, and rehabilitation wastes															
Financial															
Reduce operating costs - Reducing operating costs through combinations of energy reduction, manpower reduction, material reduction and product efficiencies															
Reduce risk of environmental litigation - Reducing the DISTRICT's potential liability from lawsuits due to overflows, diversions, and releases of persistent toxins															
Extend life of equipment and assets - Increasing the use of durable materials and using assets that can be maintained by switching out worn parts and sections															
Social															
Increase employee productivity - Increasing the safety, productivity, motivation, and satisfaction of employees working on the design, construction and operation of the project															
Increase efficiency of materials selected - Increasing the use of materials that minimize the environmental impact of their production and transportation (i.e. locally available, recycled, recyclable, minimal release of greenhouse gases, chemicals and toxins)															
Reduce Greenhouse Gas emissions - Using or increasing the use of fuels and engine systems that reduce the amount of greenhouse gases emitted during construction and operations															
(2) Score															
Description	Value	Guidance													
High Positive	+3	Reduce energy use by 75% from existing, use 75% of energy from renewable sources, utilizes multiple renewable energy sources, reduce potable water use by 75% from existing, recycles/re-uses 50% of demolition waste, employs design techniques across entire process to minimize solid wastes, reduces operating costs by 75%, essentially eliminates potential liability, reduces greenhouse gas emissions by 75%													
Medium Positive	+2	Reduce energy use by 50% from existing, use 50% of energy from renewable sources, utilizes multiple energy sources, reduce potable water use by 50% from existing, recycles/re-uses 30% of demolition waste, employs design techniques across some processes to minimize solid wastes, reduces operating costs by 50%, significantly reduces potential liability, reduces greenhouse gas emissions by 50%													
Low Positive	+1	Reduce energy use by 25% from existing, use 25% of energy from renewable sources, utilize a second energy source, reduce potable water use by 25% from existing, recycles/re-uses 10% of demolition waste, employs design techniques for one process to minimize solid wastes, reduces operating costs by 25%, reduces potential liability, reduces greenhouse gas emissions by 25%													
Neutral	0	No noticeable changes/impacts													
Low Negative	-1	Increase energy use by 25% over existing, reduces use of energy from renewable sources by 25%, removes an additional energy source, increases potable water use by 25% over existing, increases solid waste sent to landfill, increases operating costs by 25%, increases potential liability, increases greenhouse gas emissions by 25%													
Medium Negative	-2	Increase energy use by 50% over existing, reduces use of energy from renewable sources by 50%, removes multiple or renewable energy sources, increases potable water use by 50% over existing, increases solid waste sent to landfill, increases operating costs by 50%, significantly increases potential liability, increases greenhouse gas emissions by 50%													
High Negative	-3	Increase energy use by 75% over existing, reduces use of energy from renewable sources by 75%, removes all additional energy sources, increases potable water use by 75% over existing, increases solid waste sent to landfill, increases operating costs by 75%, creates cause for lawsuits against DISTRICT, increases greenhouse gas emissions by 75%													

A. ENERGY

1. Identify and consider practices that reduce system and process energy use

Alternatives or practices, as proposed, using equipment, practices or other methodologies, that reduce the District's energy use.

Objectives:

- Reduce total energy use
- Increase the efficiency of materials and methods

Typical energy sources:

- Electricity
- Natural Gas
- Gasoline/Diesel Fuel
- Propane
- Fuel Oil

Project/alternative considerations:

- Bench/Pilot Scale Testing (energy use to construct and operate a bench scale model)
- Use of recycled materials or virgin material/recycled material mixes that lower the energy requirements for production
- Energy use of a particular construction method, i.e. tunneling, open cut, lining
- Dewatering or bypass pumping requirements during construction
- Energy used to transport machines, materials, and workers to the construction site
- Energy used during daily and wet weather operations
- Energy used during inspection, maintenance, calibration, condition assessment, etc.
- Energy use in removing/recycling/disposing of the asset and restoring site
- High efficiency equipment
- Low-friction materials
- Others as appropriate to the project

2. Consider alternatives and practices that will increase the portion of energy use that is supplied from renewable sources of energy

The project or alternative, as proposed, will increase the District's use of energy from renewable energy sources or increase the efficiency of existing renewable sources (e.g. use of digester gas).

Objectives:

- Have the ability to consistently supply usable energy from renewable sources to meet the needs of the project

- Potential for providing additional energy to supplement energy requirements for other assets

Typical renewable energy sources

- Biomass
- Solar
- Geothermal
- Wind
- Water

Project/alternative considerations:

- Installation of solar panels
- Passive heating and ventilation
- Use of falling water, water pressure energy
- Digester gas as energy source

3. Consider practices that will increase the District's ability to change energy sources

Project, as proposed, will provide for or increase the District's flexibility regarding energy as the cost of energy from various sources rises and falls.

Objectives:

- Ability to utilize more than one energy source
- Ability to change easily between energy sources

4. Consider alternatives and practices that will reduce the energy used by building systems

Objectives:

- Reduction of energy requirements for building operations and maintenance
- Increase the energy efficiency of building systems
- Increase the use of energy from renewable sources in building systems

Project/alternative phase considerations:

- LEED requirements for new or existing buildings

B. WATER

1. Consider alternatives and practices that reduce potable water consumption

Objectives:

- Minimize potable water use and consumption
- Increase re-use of potable water

- Minimize water discharged to sanitary sewer system

Project/alternative considerations:

- Rain barrels for storage of site stormwater
- Re-use of stormwater for lawn watering, maintenance

2 Consider alternatives/practices that improve management of on-site stormwater

Objectives:

- Reduce the peak rate and volume of stormwater runoff from the site
- Improve the quality of the stormwater runoff from the site

Project/alternative considerations:

- Pervious pavement
- Green Roof
- Rain Barrels
- Bioretention
- Stormwater diversion (of “first flush”)
- Re-use of site water/storm water for maintenance activities

C. WASTE

1. Consider alternatives and practices that reduce the amount of solid waste sent to landfill for disposal

Objectives:

- Waste reuse
- Waste recycling
- Waste minimization

Project/alternative considerations

- Reuse or recycling of concrete, asphalt, soil, metals
- Use of standard sizes and pre-cast structures
- Use of construction techniques that minimize waste
- Timing construction projects and project phases
- Minimizing use of lubricating, cleaning, and power delivery fluids
- Reclaiming or recycling fluids
- Provide for replacement of parts and sections versus the entire asset
- Reuse or recycling of the asset at the end of its useful life

D. FINANCIAL

1. Consider alternatives and practices that reduce operating costs

Objectives:

- Combinations of flexibility of energy sources (based on energy prices), energy reduction practices, and energy efficiency that result in reduced costs to the District
- Reduce human resource requirements for operations
- Reduce the necessity for supplies and materials
- Increase product efficiency (e.g. smoother pipes having higher capacities for equivalent sizes may result in smaller pipe size selection or may result in decreased pumping costs because of less friction)

2. Consider alternatives and practices that reduce the DISTRICT's risk of environmental litigation

Objectives:

- Increase the District's Level of Protection against overflows and diversions
- Reduce the presence or release of persistent toxins (e.g. release of dioxins, PCBs, lead, mercury, chromium, cadmium, etc.)
- Increase the District's ability to meet and/or perform better than permit requirements (WPDES, Air, Ch 30)

Project/alternative considerations:

- Conveyance and treatment capacity that is above the 5-year Level of Protection
- Potential toxicity of material used in pipe, gaskets, lubricants, solvents, chemicals, etc.
- Potential toxicity of fuels, fluids, and materials used during construction
- Considerations that increase the District's potential for achieving quality better than permit requirements

3. Consider alternatives and practices that extend the life of equipment and assets

Objective:

- Increase the cost-effective useful life of equipment and assets

Project/alternative phase considerations:

- Rehabilitate existing versus replace with new
- Use of durable materials
- Replacement of parts
- Repair of isolated sections

E. SOCIAL

1. Materials Selection

Objective:

- Use locally available, recycled, recyclable, environmentally friendly materials

2. Reduce greenhouse gas emissions (carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, perfluorocarbons)

Objective:

- Reduce the quantity of greenhouse gases emitted due to District operations
- Project/alternative considerations:
- Use of fuels and engine systems for daily operations that reduce the amount of greenhouse gases emitted.
- Use of materials and chemicals that do not emit greenhouse gases
- Use of fuels and engine systems that reduce the amount of greenhouse gases emitted during construction
- Vehicle idling limits

3. Increase employee productivity

Objectives:

- Increase ability of employees to safely and efficiently complete daily tasks and special projects.
- Project/alternative considerations
- Development of alternatives is innovative, thereby increasing desire to work on the project and also increasing productivity
- Implementation of project results in efficiencies and increased productivities to operate

ATTACHMENT B

**JONES ISLAND GAS TURBINE REPLACEMENT PROJECT
CONTRACT NO. J06037D01**

CERTIFICATION OF NON-DISCRIMINATION

The Proposer hereby certifies not to discriminate and to comply with the District's Non-Discrimination provision of this Request for Proposal. The District's Commission Policy on Non-Discrimination requires compliance with applicable Federal and Wisconsin state laws, regulations and orders relating to equal employment opportunity and non-discrimination.

Proposer

Signature

Title

Date

ATTACHMENT C

**JONES ISLAND GAS TURBINE REPLACEMENT PROJECT
CONTRACT NO. J06037D01**

EQUAL EMPLOYMENT OPPORTUNITY DATA

Below please provide the District with the total number of females and minorities employed by your firm. In addition, we require you to state the percent of minorities and females that are available in the labor market from which you draw your workforce. These figures may be obtained from your local Job Service, State Labor Department or the U.S. Census Bureau.

Any questions you have may be addressed to Jose Galvan, S/W/MBE Coordinator, at 414-225-2238 or jgalvan@mmsd.com

DATA

A.	Total number of Employees	_____	_____
B.	Total Number of Minorities	_____ \ _____	
	Hispanic	_____ \ _____	%
	African American	_____ \ _____	%
	Native American	_____ \ _____	%
	Asian	_____ \ _____	%
C.	Total Number of Females	_____ \ _____	
	Hispanic	_____ \ _____	%
	African American	_____ \ _____	%
	Native American	_____ \ _____	%
	Asian	_____ \ _____	%

Please use the total number of employees as base when calculating percentage for each group.

D.	Local Market	Minorities	_____ %	Females	_____ %
	Availability:	_____		_____	

FIRM NAME: _____

ADDRESS: _____

CITY/STATE: _____

CONTACT PERSON: _____

TELEPHONE NO.: _____

NOTE: The 2008 Milwaukee Metropolitan Statistical Area labor market availability figures are: Minorities 19%, Females 48%.

ATTACHMENT D

DISTRICT CONSULTANT MENTOR / PROTÉGÉ TEMPLATE

This document may be used by consultants wishing to create a legitimate mentor-protégé relationship between an established firm and a S/W/MBE firm located within the Sanitary Sewer Service Area that will be recognized by the District under its Mentor – Protégé Policy. Parties to this agreement may alter the language of this Template to suit their individual needs. The District may interview each Party to determine whether the terms of the Agreement are being honored for the purpose of evaluating RFPs.

This Mentor/Protégé Agreement (“Agreement”), by and between _____ (“Mentor”) and _____ (“Protégé”), is effective as of the last date signed below. Mentor and Protégé may be jointly referred to herein as the “Parties”, or individually as a “Party”.

I. OBJECTIVE

Mentor and Protégé desire to form this Agreement to (1) build a strong business relationship; (2) promote successful business opportunities for the Parties; and (3) strengthen the Protégé firm, improving its long-term viability and capacity.

II. TERM

This Agreement will expire _____ years from the date on which it is executed by the signature of an authorized officer of both Parties. The Agreement may be extended for an additional year upon written consent of the Parties. An extension of the Agreement shall have all the provisions of this original Agreement. Either party may opt out of this Agreement upon sixty days written notice.

III. RELATIONSHIP

Each Party will maintain its independence during the duration of this Agreement.

This Agreement does not preclude Mentor or Protégé from continuing to pursue prime or subcontract opportunities on any public or private projects – separately or jointly.

Protégé and Mentor are individually financially responsible for their respective costs incurred when responding to Requests for Proposals.

Mentor and Protégé agree to be reasonably accessible to one another, and specifically agree to meetings among their principals at least once per month.

The Parties shall evaluate their relationship, in writing, at least once per quarter, and shall periodically cooperate in reporting activities to the District.

IV. GOAL DEVELOPMENT

The Parties shall jointly determine which aspects of Protégé's business to develop. Goals for each area will be established and monitored throughout the life of the Agreement. Mentor assistance and training will focus on meeting the established goals. Aspects to develop may include:

- A. Estimating. Training from Mentor on cost accounting and estimating, as well as development of an effective accounting/estimating system for Protégé, including assistance with cost analysis and direction regarding formulas and software for estimating.
- B. Tracking. Training from Mentor regarding tracking of job costs.
- C. Productivity and Staff Evaluation. Guidance, training and other means to increase employee productivity. Mentor may also assist Protégé with evaluating employees and their capabilities, as well as the development of effective training processes.
- D. Scheduling. Guidance and training from Mentor, as well as assistance with developing an effective system for scheduling manpower, and provision of scheduling and estimating software.
- E. Revenue. Mentor may help determine and review Protégé's profit and losses on a monthly basis and assist Protégé in increasing profits and minimizing losses.
- F. Marketing / Business Development. Developing a marketing scheme and increasing base of public and private sector clients.
- G. Capacity Building. Mentor may help Protégé determine its current capacity and means to increase number and size of concurrent projects.
- H. Business Plan Development. Guidance with respect to development of a formal business and/or strategic plan.
- I. Technical Proficiency. Mentor may help Protégé evaluate current level of staff proficiency and provide guidance regarding increasing same, and/or staffing determinations.
- J. Project Management. Mentor may evaluate and improve Protégé's project management proficiency.
- K. Business Management. Mentor may evaluate and improve Protégé's business management proficiency.

- L. Long Term Viability. Mentor and Protégé may determine the prospects of Protégé's long-term viability and chart a course for improving same.
- M. Quality Assurance / Quality Control. Mentor may share methods for improving QA / QC.

V. EMPLOYEE PROTECTION

During the term of this Agreement:

- A. Mentor and Protégé may employ staff members from each firm at cost or "cost plus a mark up" for predefined and written training purposes on a project by project basis; and
- B. Mentor and Protégé shall make no attempts at soliciting the other's employees for the purpose of hiring them away from the other entity. In fact, such employment shall be discouraged. Nonetheless, employees who resign their positions or are terminated by their employer may work for the other firm after sixty (60) days have elapsed following their termination, unless otherwise agreed to in writing by both Parties to this Agreement on an employee by employee basis.

VI. PROTÉGÉ QUALIFICATIONS

Protégés shall seek, and maintain in good standing, such certifications with entities such as the District (SBE), the State of Wisconsin Departments of Commerce and Department of Transportation (MBE, WBE and DBE), and City of Milwaukee (EBE). Protégé shall also have an office located within the District's Sanitary Sewer Service Area.

VII. CONFIDENTIALITY

Protégé and Mentor agree to treat all information obtained from one another in strict confidence and shall not disclose any such information except as required to carry out the terms of this Agreement or to validate this agreement to the District.

VIII. LIMITED AGREEMENT / INDEMNIFICATION

- A. Nothing in this Agreement shall be construed to indicate that Mentor and Protégé are a single corporate entity and/or have entered into a Joint Venture Agreement. Should the Parties choose to enter into a Joint Venture arrangement under a separate agreement, that venture shall be governed solely by that separate agreement, and not by this Mentor / Protégé Agreement.
- B. Except as indicated in Section V (A) above, the Parties' employees shall always be agents of their employer, and not the other Party. Should either

Party be deemed liable for any acts of its employees, the other Party shall not be jointly or severally liable. Should either Party be held liable for the acts of the employees of the other Party, the employing Party shall indemnify and hold harmless the non-employing Party for such liability.

- C. Protégé and Mentor acknowledge that each business is a separate entity controlled by individuals responsible for operating each entity. Neither Protégé nor Mentor shall hold the other responsible for any damage to their businesses due to the actions or inactions of the other party, or because one party followed the advice of the other.

IX. EXECUTION

This Agreement may be executed in subparts and/or via facsimile.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives on the date written below. (This Agreement may be executed in subparts and shall become effective on the last date on which either Party signs the Agreement.)

“Protégé”

“Mentor”

Name: _____

Name: _____

Title: _____

Title: _____

Signature: _____

Signature: _____

Date: _____

Date: _____

ATTACHMENT E

JONES ISLAND GAS TURBINE REPLACEMENT PROJECT CONTRACT NO. J06037D01

ADDITIONAL REFERENCE MATERIAL

1. 2020 Facilities Plan - Addendum No. 3
2. Construction drawings for Contract J007GX020 – Jones Island Wastewater Treatment Plant Turbine Modifications Phase II B October 1995
3. Construction drawings for Contract 848 from the original Powerhouse construction contracts. The original facility drawings provide, in part, information on pile plans and wall/footings. There may be some later building modifications that may not be included. If those changes are important the District will attempt to locate those drawings.
4. A copy of the Dynamic Pile Testing Summary report that was prepared under the J007GX020 project. This report includes the results of the dynamic pile testing and analyses performed relating to pile bearing capacity of selected piles. The report also includes Soil Boring Logs and Pile Driving Records. The Facility Planning team reviewed this data and believed that the information provided appeared to support the concept that the piles had adequate capacity to support the new loads.
5. Project Schedule
6. Planning level conceptual layout information