

**POLLUTION CONTROL FINANCING AUTHORITY
OF WARREN COUNTY**

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**Pollution Control Finance Authority of Warren County
Request for Proposals
Professional Engineering Services
Construction Phase Services for the Landfill Leachate
Pretreatment Plant**

The Pollution Control Finance Authority of Warren County (Authority) would like to invite Licensed New Jersey Professional Engineering Firms to submit a "Professional Engineering Services Proposal" to provide construction phase engineering services for the Authority's Landfill Leachate Pretreatment Plant (Plant). The Authority advertised for the construction portion on April 13, 2008.

Project Description

The pretreatment of the landfill leachate emanating from the Warren County landfill site will be accomplished using the membrane bioreactor (MBR) process. The treatment process in essence involves a modification of the conventional activated sludge process, which fosters nutrient removal, primarily from the standpoint of denitrification. The biological activated sludge process will be supplemented by chemical addition as necessary to ensure adequate concentrations of nutrients and the proper pH required for nitrification of the ammonia laden raw leachate. Liquid/solids separation will be through the use of ultra filtration membranes. Treated effluent (membrane permeate) will be collected in a sump at the effluent end of the treatment plant and will be pumped to the PRMUA Oxford Plant for final treatment, disinfection, and ultimate disposal. Waste sludge generated from the landfill pretreatment process will be periodically removed from the Plant on an as-required basis in order to maintain the activated sludge process at the desired mixed liquor concentrations. Sludge will be removed from the activated sludge process by drawing mixed liquor from the bioreactor tanks. Facilities will be installed to allow for either the trucking of waste sludge to an approved offsite ultimate disposal site or pumping of the waste sludge to the PRMUA Oxford plant through the same force main as will be used discharging the pretreated leachate.

The leachate pretreatment plant will be sized for a 50,000 gallon per day average daily flow with a peak treatment capacity of 75,000 gallons per day. Dual treatment units (with the exception of the Anoxic Tank used for denitrification) will be provided. Equipment sizing and selection is based upon meeting the average daily design flow with the largest piece of equipment out of service.

All proposed pretreatment tankage will be installed within a building constructed on the landfill site adjacent to the existing leachate Equalization Tank.

The process tankage and associated treatment equipment will be constructed indoors in order to allow for complete nitrification of the high concentrations of ammonia present in the raw leachate during cold weather conditions. The leachate pretreatment building will measure 68 feet wide by 100 feet long and be constructed on a reinforced concrete foundation. The process tankage will be housed in a 4 ½ foot deep sump within the building measuring 40 feet wide by 100 feet long. The sump volume is adequate to place the building footings below the frost level and also provide a volume sufficient to contain the contents of the largest process tank should a hypothetical tank failure occur. The treatment process equipment including pumping equipment, air blowers, membrane filtration, and chemical handling and storage areas will also be installed within the pretreatment building on the 28 foot wide by 100 foot long slab-on-grade area. A mechanical room housing the blowers and electrical equipment, measuring approximately 15 feet by 27 feet, and a small laboratory/office room, measuring approximately 12 feet by 16 feet, will also be provided in the pretreatment building. A roll-up overhead door measuring 14 feet wide by 13 feet 4-inches high will allow for access to the process equipment area. The rollup door will facilitate routine delivery of chemicals required for the treatment process as well as adequate room for removing process equipment during infrequent repair events and for removal and replacement of the 20-foot long membrane tubes.

A waste sludge tank truck loading station will be provided on the westerly side of the proposed pretreatment building. A quick connect mounted over a precast concrete sump will be provided on the face of the building exterior to allow for the ready connection of flexible hoses for loading the sludge hauling truck. As noted in the above, the capability to pump waste sludge through the same force main as will be used for disposing of treated leachate will also be provided as an alternative to trucking.

Estimated Construction Cost

The preliminary construction cost estimate for the Plant is \$3,500,000.

Project Schedule

Project award to a construction contractor is anticipated to be made in May, 2008. The duration of the construction period is estimated to be twelve (12) months from date of award.

Scope of Construction Phase Engineering Services

1. Attend and chair preconstruction meeting. Issue meeting minutes to attendees.
2. Conduct a detailed review of shop drawing submittals, schedules and Contractor submitted alternatives.
3. Provide full-time and part-time resident construction observation. Maintain Daily Construction Reports to document significant activities of the Contractor. Provide observation of construction for conformance with the Contract Drawings and Specifications and approved shop drawings and report any deviations to the Authority and the Contractor.
4. Prepare monthly payment estimates for submittal to the Authority.
5. Attend monthly job meetings as necessary and prepare and distribute minutes thereof.
6. Maintain pertinent job records including Contract Drawings, Addenda, Change Orders and payment estimates.
7. Maintain project records (inspection reports, payment estimate files, record plans and specifications, correspondence files, field order files, etc.).

8. Evaluate claims for extra work by Contractor.
9. Prepare a punch list of remaining activities near completion of project.
10. Witness the required performance testing.
11. Prepare final estimate and closeout project as per Contract Specifications.

Qualifications

The Engineer shall submit suitable documentation to demonstrate experience in the area of providing construction phase engineering services for membrane treatment plants. Project “briefs” and client references shall be provided.

Fees for Proposed Services

It is requested that the fees for the proposed services be on a reimbursable, not to exceed basis. This request is being made as the extent of services required is directly related to the Contractor’s experience and performance, progress and quality of work. Labor and expenses are to be billed in accordance with your Project Rate Schedule assuming the work is completed during 2009. As noted under the discussion on Project Schedule, it has been assumed for the purposes of preparing a construction period services budget, that the actual field construction of the Plant will be completed in twelve (12) months. The Engineer shall advise the Authority when 80 percent of the budget has been expended and will advise the Authority as to whether or not additional funds for Construction Period Services will be required.

The Engineer shall examine the Project Plans and Specifications, which are available at the Authority’s administrative office by appointment only. Examination of these documents by the Engineer is mandatory.

The Engineer shall provide a man-hour labor breakdown indicating the estimated man-hours for administrative time, office engineering and field observation/representation. With regards to field observation/representation, estimated full-time and part-time man-hours shall be provided.

The Engineer shall include an Allowance of \$8,000 in his fee for invoiced costs of testing laboratories and other outside testing services. No markup for overhead or profit by the Engineer will be allowed. The Engineer’s Fee Proposal shall clearly identify the allowance amount.

The Authority shall be billed monthly. Invoices shall be paid within 30-days of presentation.

Proposal Requirements

Proposals are to be complete but brief. Proposals are to include:

- Project Manager’s name and qualifications
- Site observer’s name and qualifications
- Project Organization Chart
- Resumes of key staff who are anticipated to be involved with project
- Project references
- Fee proposal

Questions regarding this proposal shall be submitted in writing by 11:00 am on April 25, 2008.

Questions may be submitted by facsimile or mail. No questions shall be submitted by e-mail or telephone.

Proposals are to be delivered in a sealed envelope bearing the name:

**Request for Proposals
Professional Engineering Services
Construction Phase Services for the Landfill Leachate
Pretreatment Plant**

There should be one (1) original and seven (7) copies of the proposal submitted.

Proposals shall be delivered to the administrative office of the Authority, located at 500 Mt. Pisgah Avenue, P.O. Box 587, Oxford, NJ 07863 by 11:00 am on May 7, 2008. Only hard copies will be acceptable. Faxed, e-mailed or electronic copies will not be accepted. The Authority is not responsible for lost or undelivered proposals due to the US Postal Service, Courier Services or others.