



## TATA & HOWARD

November 2, 2017

Ms. Kathleen Ramsey, Town Manager  
Town of Middlebury  
77 S. Main Street  
Middlebury, VT 05753

Subject: Letter of Interest – Wastewater Treatment Plant Evaluation

Dear Ms. Ramsey:

Tata & Howard (T&H) is pleased to submit this letter of interest and our Statement of Qualifications for Engineering Services for completing a Wastewater Treatment Plant Evaluation for the Town of Middlebury. As the Town's wastewater treatment plant approaches 20 years old, it is important to assess the current facilities and the treatment processes involved. This evaluation is an opportunity to address current deficiencies and inefficiencies at the plant and develop a plan for improvements to cover the next 20 years.

The importance of this project demands that the chosen consulting team has a strong technical background and experience in wastewater treatment process design, facility assessments, and master and capital planning, as well as superior project leadership. Our team excels in all of these areas. Whether improvements may be required to continue to meet discharge permits under future flows or load conditions, provide long-term redundancy for the continued production of Class A biosolids, reduce plant energy use, or simply plan for the replacement of aging equipment and infrastructure, Tata & Howard has the background and experience to develop a plan that documents the need, identifies cost-effective solutions, and develops and prioritizes capital planning budgets. In addition to our strengths in engineering and capital planning, our team offers the following:

- **Recent and Relevant Experience** – We are currently completing a facilities assessment and 20-year planning report for a similar wastewater treatment facility in Manchester-by-the-Sea, recently finished design of a new SBR plant in Saxton's River, VT, began construction of new sludge dewatering facilities in Milford, MA, and designed and started-up new 250HP aeration blowers to reduce energy consumption at the Rio Water Reclamation plant in Flagstaff, AZ. We have recently completed the design and construction of a large new SBR facility with filtration for Troy-Jay, Vermont to achieve a 0.20 mg/L phosphorus limit for the Lake Champlain TDML. The facility has been consistently meeting permit since 2013. Our project team is ready to apply our recent wastewater treatment facility experience at the Middlebury plant.
- **A Team of Experts** – We have assembled a team of wastewater treatment experts and subconsultants to cover all facets of the plants' facilities including architecture, structural, mechanical, HVAC, plumbing, and electrical systems. Our senior design engineers have extensive experience in various treatment process designs including SBRs, UV disinfection, and sludge treatment and dewatering including Class A biosolids processes.

**Tata & Howard**  
67 Forest Street | Marlborough, MA 01752  
T: 508-303-9400 | F: 508-449-9400  
[www.tataandhoward.com](http://www.tataandhoward.com)

**Other Offices**  
MA | NH | CT | ME | VT | AZ | TX

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- **Funding** – T&H professional engineers have over 25 years' experience working with our clients to obtain available Federal and State funding for a variety of water and wastewater infrastructure projects.

Our Statement of Qualifications outlines the experience and qualifications of our team and staff members, our related prior experience, and project references. We trust that the enclosed qualifications sufficiently detail the extensive experience of successful wastewater treatment plant projects encompassed by our project team. We are looking forward to demonstrating to you that Tata & Howard will provide the experience, commitment, and communication skills necessary to make our work together a success.

Sincerely,  
TATA & HOWARD, INC.



Karen L. Gracey, P.E.  
Co-President

Enclosures



Unsurpassed Solutions  
in the Water Environment

## SECTION 1: Qualifications of the Firm

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Tata & Howard, Inc. is a specialized consulting firm founded by Donald J. Tata, P.E. and Paul B. Howard, P.E. in October 1992. Tata & Howard is an Employee Stock Ownership Plan (ESOP) with 100% employee ownership, and we currently have a staff over 65 professionals. Our local office is in St. Johnsbury, Vermont, our corporate office is located in Marlborough, Massachusetts, and we have other offices in Massachusetts, Connecticut, Maine, New Hampshire, Texas, Arizona, and Ontario, Canada. We are a New England based firm with over 90 percent of our work in the public sector. Tata & Howard is a niche company with specialized experience in the water and wastewater industries with specific strengths in wastewater system evaluation and design, which would benefit the Town of Middlebury.

Because Tata & Howard specializes in water, wastewater, stormwater, and environmental consulting services, our clients benefit from our focus, strong technical knowledge, and dedicated service.

## Reputation

Our most important attribute is our level of service and attentiveness. This can be demonstrated by our work with other communities and our level of repeat business with many clients. With nearly 90 percent of our work as repeat business, it is clear that our clients have received a high level of service and attentiveness to cost effectiveness. Our firm is of the size that our principals work on projects, and our attention to detail is paramount to our success and that of our clients.

In addition to our experienced project team, all of our projects undergo independent technical reviews by senior staff not directly associated with the project. Internally, our success is driven by a team atmosphere that provides technical and administrative support to all levels. We will maintain the team presented in Section 3 throughout all phases of the project. This benefits our clients, providing continuity of service and in-depth knowledge of client needs and requirements.

## 1.2 Subconsultants

Tata & Howard has developed and maintained strong subconsultant relationships with specific firms specializing in the wastewater industry. By outsourcing work to known professionals, we maintain lower overheads while providing high quality services. This competitive edge is recognized by our clients in the form of reduced engineering fees and efficient designs. Our professional relationships have proven track records. The firms listed below have worked with Tata & Howard senior engineers on several projects over the years. Their firm profiles and resumes of their key personnel are included in Section 5.

DISCIPLINE	FIRM	CONTACT	ADDRESS
Architect	Colin P. Lindberg, Architect	Colin P. Lindberg	208 Flynn Avenue Suite 2B Burlington, VT 05401
Structural Engineering	Civil Engineering Associates	David Marshall, P.E.	10 Mansfield View Lane South Burlington, VT 05403
Electrical Engineering	Swiftcurrent Engineering Services, Inc.	Tim Matthews, P.E.	10 Forest Falls Drive Unit 8B Yarmouth, ME 04096
HVAC/Plumbing/Fire Protection/Electrical	L.N. Consulting	Wayne Nelson, P.E. and Paul Lekstutis, P.E.	69 Union Street Winooski, VT 05404

We are a small firm that has large firm experience and expertise. Our clients benefit by receiving both attentive service and technically superior solutions.

Our proposed subconsultants Colin P. Lindberg, Civil Engineering Associates, Swiftcurrent Engineering Services, Inc., and L.N. Consulting all have experience in design components of wastewater treatment facilities. All four firms have been involved with all types of building projects and wastewater facilities. We have a proven track record as a team of completing projects on time and within budget.

**Architect Design, Colin P. Lindberg, Architect - Burlington, Vermont**

Tata & Howard will engage the services of Colin P. Lindberg, Architect to evaluate the roofing, building finishes, and lighting needs for components for retrofit and modifications.

**Structural Engineering, Civil Engineering Associates**

Tata & Howard will engage the services of Civil Engineering Associates to assess structural modifications of existing facilities and proposed improvements in modifications to the existing structures.

**Electrical Design, Swiftcurrent Engineering Services, Inc. - Yarmouth, Maine**

Tata & Howard will engage the services of Swiftcurrent Engineering Services, Inc. to complete the electrical evaluation of existing electrical components.

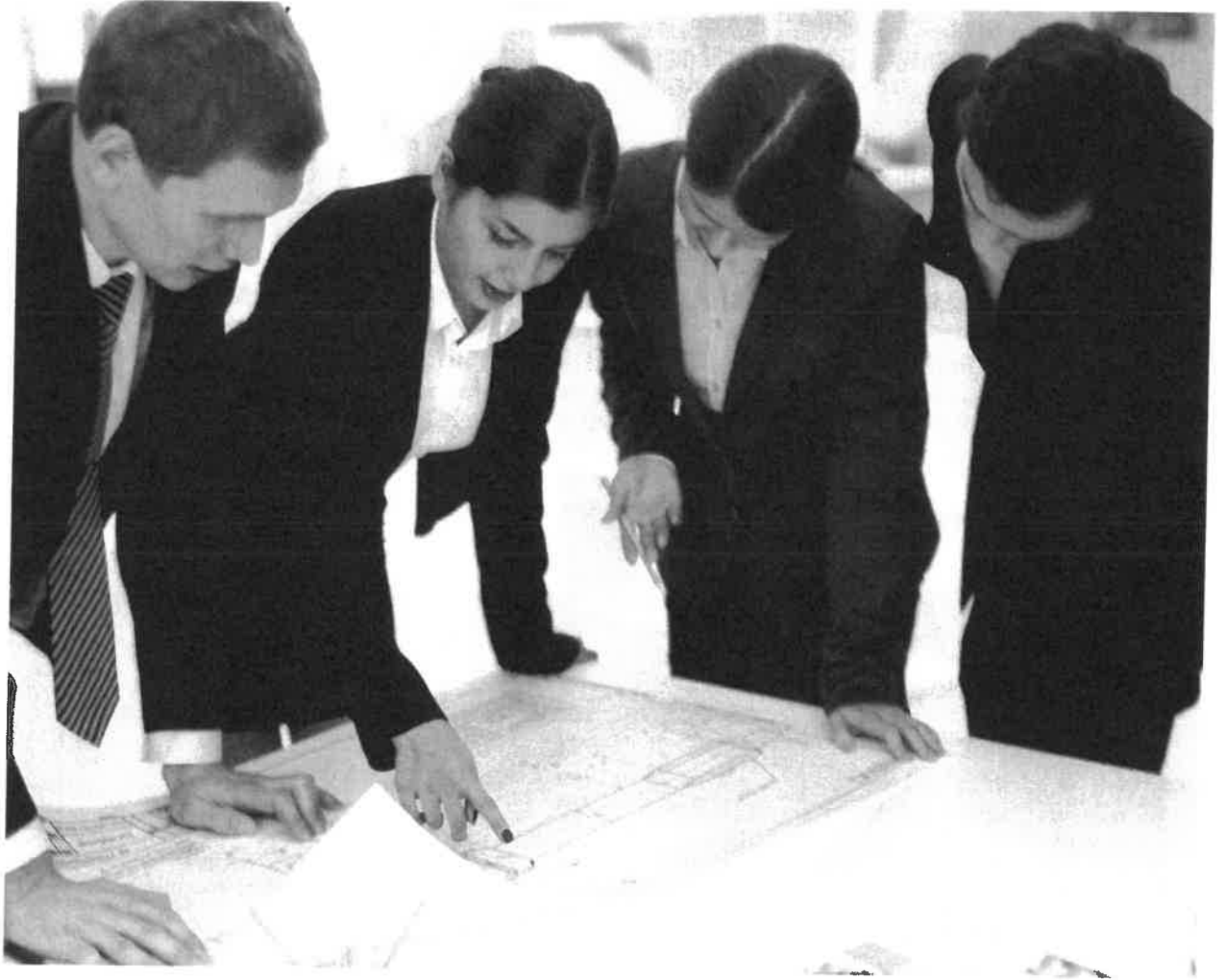
**HVAC/Plumbing/Fire Protection/Electrical, L.N. Consulting - Winooski, Vermont**

Tata & Howard will engage the services of L.N. Consulting to assist with the evaluation of HVAC, electrical, and fire protection components.



SECTION 2:  
**Project Understanding**

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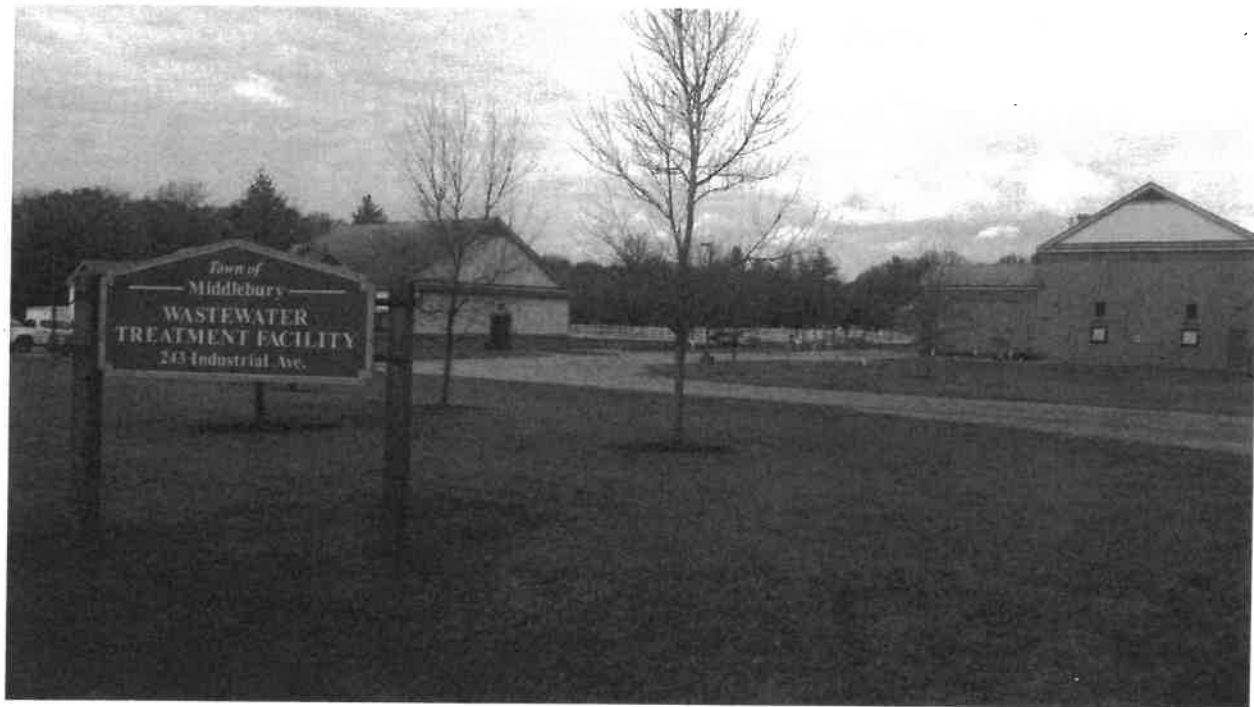
The Town of Middlebury, Vermont is requesting Statement of Qualifications from qualified engineering firms to conduct an evaluation of the Town's wastewater treatment plant. The purpose of the evaluation is to assess the current condition of the physical plant and the treatment processes involved and provide recommendations for improvements for the next twenty year planning period.

The Middlebury WWTF is designed to treat up to 2.7 mgd of flow using a Sequential Batch Reactors (SBRs) process. The WWTF treatment process consists of a grit chamber, the SBRs, and UV disinfection before discharge into the Otter River. The plant currently treats approximately 1 mgd of wastewater flow and includes a fairly significant industrial loading including waste from Cabot Creamery and local breweries. Flow is received at the plant from the Town's Main Pump Station where screening and grit removal facilities are located. Assessment of the facilities at the Main Pump Station are not expected to be included in the project evaluation. The plant also receives septic waste at the plant which is typically directed to the plant's sludge storage tanks for processing in conjunction with the plant's waste sludge.

The plant's waste sludge is transformed into Class A biosolids which is stored on-site for removal land application by a local farmer. Waste sludge from the SBRs is reduced by aeration in sludge storage tanks prior to dewatering in two belt filter presses. The dewatered sludge is then lime stabilized in RDP thermal blenders.

T&H has visited the plant and discussed the operation of the plant with the plant superintendent. Based on those discussions and observations, we have identified some of the more pertinent issues facing the plant over the next twenty-year planning period that will need to be evaluated as part of this upcoming project.

**Plant Loading and Discharge Permit:** Due to the heavy industrial loading, the plant is beginning to approach the design loads upon which the process treatment process was based. Future flow and load increases at the plant may require treatment process modifications to maintain current treatment performance. Future discharge permit modifications may also require improvement to the plant's treatment processes.



**Class A Biosolids:** The plant produces Class A Biosolids for land application. The solids handling process is lacking some redundancy that could impact its ability to maintain its ability to process waste sludge at the plant. While the belt filter presses can effectively dewater the plant's sludge with one press off line, there is a single conveyor belt that transports dewatered sludge to the RDP thermal treatment process and there is no backup or bypass for that process. Loss of the ability to produce a Class A biosolids, even for a short duration, could significantly impact plant operations.

**General Age of the plant:** The plant was constructed in 2000 and many of the plant's equipment are approaching their design life. Plans for maintaining, repair, or replacement of major equipment are necessary. Buildings, structures, and other facilities are also aging and need to be evaluated to assess potential improvements for the next twenty-year life of the plant.

**Operation and Maintenance:** There are numerous issues that could help improve overall plant operation and maintenance at the plant. Some of these include:

- Improved grit removal of septage,
- Replacement of fixed SBR aeration diffusers with retractable diffuser header,
- Relocation of SBR effluent valves to outside of the tank,
- Improve chemical feed vaults, and
- Need plant water to replace cost of using Town water.

**Evaluation of treatment plant facilities are anticipated to cover:**

- Buildings and structures,
- Mechanical, Plumbing, Fire Protection, and Electrical Systems,
- Treatment plant processes and controls,
- Energy Efficiency and opportunities for renewal energy generation, and
- Grounds, fences, underground structures, and pavement.

Based on the evaluations of the plant, recommendations are to be made that include a cost-benefit analysis of all proposed process changes and improvements at the plant including the development of a phasing plan for those improvements.

**TATA & HOWARD**  
**VALUES**  
POSITIVE ATTITUDE  
**TH INTEGRITY**  
TEAMWORK   
EFFICIENT SOLUTIONS  
CLIENT SATISFACTION