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Evaluation of the Feasibility of Erecting a Regional Wind Energy System within the East Bay of Rhode Island

Weston&Sampson Environmental Infrastructure Consultants

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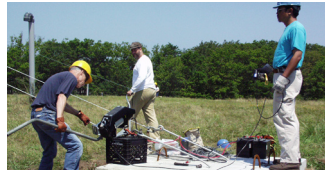
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proposal



East Bay Energy Consortium

Evaluation of the Feasibility of Erecting a Regional Wind Energy System within the East Bay of R.I.

August 2009

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UNDER SEPARATE COVER *Cost Proposal*

August 31, 2009

Ms. Diane M. Williamson
Director of Community Development
Bristol Town Hall
10 Court Street
Bristol, Rhode Island 02809

Re: ***Request for Proposals –
East Bay Energy Consortium for Evaluation of the
Feasibility of Erecting a Regional Wind Energy System within the East Bay of R.I.***

Dear Ms. Williamson:

Weston & Sampson is pleased to present our proposal to provide a feasibility study to the East Bay Energy Consortium (EBEC) for the evaluation of a regional wind energy system within the East Bay of Rhode Island. For more than 100 years, our firm has provided engineering and consulting services to public agencies and municipalities throughout New England. Our renewable energy practice continues this legacy by combining our diverse technical skills and our extensive local relationship network to help advance renewable energy projects throughout the region.

We offer the following information in regards to the EBEC's Evaluation Criteria, as outlined on page 7 of the RFP:

- 1. Professional Background of Team Members:*** Our project team will be led by ***Mr. Hank Ouimet, P.E., LEED® AP***, as principal-in-charge, and ***Mr. Stephen Wiehe, P.G.***, as project manager, both of whom are currently managing numerous renewable energy initiatives throughout the region. In addition to these individuals and other team members identified in Section 1, *Firm Description and Key Personnel*, Weston & Sampson maintains a staff of nearly 300 engineering and environmental professionals whom we can draw upon to support work for your project, as needed.
- 2. Capacity and Capability to Perform the Work:*** In business for 110 years, Weston & Sampson has a dedicated staff of professional engineers, scientists, and construction professionals that provides consulting and engineering services to support renewable energy projects, offering a broad range of technical skills, including environmental permitting, geotechnical engineering, site engineering, structural engineering, civil engineering, renewable energy resource evaluation, cost estimating, construction management, and public outreach.
- 3. Past Record of Performance on Similar Projects:*** Weston & Sampson is currently providing a broad range of consulting and engineering services to support renewable energy projects (mostly wind) throughout New England, and we are in discussions with a number of Rhode Island communities regarding proposed renewable energy projects.

These projects include:

- Wind Turbine Feasibility Studies for the towns of *Chatham, Harwich, Mashpee, and Orleans*
- Wind Turbine Feasibility Study for the *Upper Cape Cod Regional Technical School*
- Wind Turbine Feasibility Study for the *College of the Holy Cross*
- Town-wide Screening Study to Evaluate Renewable Energy Opportunities for the *Town of Stoughton, Massachusetts and Stoughton Public Schools*
- Renewable Energy Alternatives Analysis (Solar Photovoltaic, Geothermal, and Wind Turbine Systems) at *Nashoba Valley Technical High School*
- Study and Design Services for Renewable Energy projects throughout the Commonwealth of Massachusetts for the Division of Capital Asset Management (DCAM)

Our track record of success in this area and our commitment to supporting renewable energy speak directly to our qualifications to perform the work requested by the EBEC. We invite you to contact any of our client references provided in Section 2.

- 4. Proposed Scope of Work:** We offer a comprehensive approach to your scope of services and are prepared to complete this project in a timely and cost-effective manner. With over 90% of our work in the public sector, we have a demonstrated record of committing all the resources necessary to meet important deadlines. We have a firm understanding of the services required, the budget, how the project will be structured, and how the work will be performed, as demonstrated in Section 3, *Proposed Scope of Work and Schedule*.

Weston & Sampson will ensure successful, timely, and cost-effective services for the EBEC's wind power feasibility project. We appreciate the opportunity to submit this proposal and would be happy to meet with you in person to discuss your project and how we can best meet your needs. Please contact me by phone at (800) 726-7766 or via e-mail at ouimeth@wseinc.com if you have questions concerning our submittal.

Very truly yours,
WESTON & SAMPSON

A handwritten signature in black ink, appearing to read 'Hank Ouimet', with a long, sweeping horizontal line extending to the right.

Hank Ouimet, P.E., LEED® AP
Program Manager

SECTION 1

Firm Description and Key Personnel

FIRM DESCRIPTION AND KEY PERSONNEL

East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.

1. DESCRIPTION OF THE COMPANY

For more than 110 years, Weston & Sampson has been providing municipalities, public agencies, and private sector clients with cost-effective and innovative solutions to their infrastructure and environmental challenges.



Weston & Sampson offers capabilities ranging from project development and planning through design, construction, and long-term operation and maintenance. Throughout our history, Weston & Sampson has been recognized for exceeding our clients' expectations by providing attentive personal service, superior technical quality, and adherence to cost and schedule requirements.

To meet the diverse needs of our clients, Weston & Sampson offers full-service capabilities to address the complex challenges of today's projects. Our areas of expertise include:

- ✓ Renewable Energy
- ✓ Drinking Water
- ✓ Wastewater
- ✓ Hazardous Waste
- ✓ Transportation
- ✓ Landscape Architecture
- ✓ Bridges & Culverts
- ✓ Stormwater
- ✓ Survey
- ✓ Solid Waste
- ✓ Geotechnical & Structural
- ✓ Surface & Groundwater
- ✓ Site/Civil Development
- ✓ Facility Design
- ✓ GIS & Mapping
- ✓ Construction Services
- ✓ Operations & Maintenance Services

Weston & Sampson maintains a *staff of nearly 300 engineering and environmental professionals* in offices throughout the Northeast and in Florida. Headquartered in Peabody, Massachusetts, our offices locations are denoted in the table below.

Rhode Island

277B Tiogue Avenue
Coventry, RI 02816

Connecticut

273 Dividend Road
Rocky Hill, CT 06067

Vermont

98 South Main Street, Suite 2
Waterbury, VT 05676

Massachusetts

Five Centennial Drive (HQ)
Peabody, MA 01960

New Hampshire

100 International Drive, Suite 152
Portsmouth, NH 03801

New York

301 Manchester Road, Suite 201A
Poughkeepsie, NY 12603

100 Foxborough Blvd.
Suite 250
Foxborough, MA 02035

Maine

PO Box 189
York, ME 03909

Florida

1990 Main Street, Suite 750
Sarasota, FL 34236

FIRM DESCRIPTION AND KEY PERSONNEL

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
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2. NAMES AND RESUMES OF EMPLOYEES AND QUALIFICATIONS

Weston & Sampson has a dedicated staff of professional engineers, geologists, and scientists that provides consulting and engineering services to support renewable energy projects, offering a broad range of technical skills including environmental permitting, geotechnical engineering, site engineering, structural engineering, civil engineering, renewable energy resource evaluation, cost estimating, and public outreach.

Our proposed team of professionals has the qualifications and experience needed to conduct a feasibility study and, if feasible, provide design and construction administration services for a wind energy project for the East Bay Energy Consortium. Our team members have successfully worked together on a number of similar projects and are immediately available to begin work upon notification to proceed.

Below we summarize the experience of each team member, followed by the availability of the proposed staff and an organizational chart illustrating the specific project responsibility of staff members. Resumes demonstrating the capability, academic background, training, certifications, and experience of the proposed personnel are provided at the end of this section.

Project Management

Our project team will be led by ***Mr. Hank Ouimet, P.E., LEED® AP***, principal-in-charge, and ***Mr. Stephen Wiehe, P.G.***, project manager, both of whom are currently managing numerous renewable energy initiatives throughout New England. Mr. Ouimet provides expertise in the management of design, permitting, and construction for a broad range of engineering projects, including a number of wind energy projects. ***Mr. Ouimet leads our Renewable Energy practice***, overseeing all project activities, including resource assessment; state and federal permitting; siting and construction; construction cost estimating; and economic analysis. Recent work includes principal-in-charge responsibilities for ***wind energy feasibility studies*** at the College of the Holy Cross in Worcester, Massachusetts; Nashoba Valley Technical High School in Westford, Massachusetts; and the Upper Cape Cod Regional Technical School in Bourne, Massachusetts.

Mr. Wiehe is a Professional Geologist with more than 17 years of managerial, technical, and operational experience in the engineering consulting industry, and is well versed in the planning, design, preparation of contract documents, bidding, award and construction of municipal capital improvement projects. Mr. Wiehe understands the range of renewable resource technologies available, and is experienced in conducting feasibility and cost-effectiveness analyses, and providing pragmatic recommendations to our clients regarding energy options. He also assists clients with grant applications and has completed, to date, approximately one dozen funding assistance submittals for Weston & Sampson clients. In addition, Mr. Wiehe has provided project management and engineering services for wind feasibility projects for the Upper Cape Technical School in the Town of Bourne and the College of the Holy Cross in Worcester.

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Feasibility/Planning

Ms. Johanna D. Nagle, E.I.T., is experienced in the design and evaluation of renewable energy technologies for municipal and private entities. She has performed a number of feasibility studies providing data on site evaluation, technical analysis, economic analyses, and construction cost estimating, and has also coordinated geotechnical explorations and permitting for renewable energy projects. Her recent work includes a town-wide screening level study evaluating renewable energy opportunities for the Town of Stoughton, Massachusetts.

Mr. Eric T. McLean, E.I.T., has six years of professional experience, including environmental, civil, and sanitary engineering, as well as construction administration and oversight. Mr. McLean is currently providing construction phase engineering services for the construction of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts. He also recently supported a wind energy feasibility study at Staples, Inc. headquarters in Framingham, Massachusetts. Mr. McLean's other work includes projects involving soil and groundwater remediation, landfill capping, water distribution and wastewater collection system replacement, site engineering, and stormwater modeling.

Electrical

Mr. David Colombo, P.E., of ***Power Engineers, LLC***, will provide electrical interconnection specifications, construction evaluation, cost estimating, and field reconnaissance. Mr. Colombo has over 16 years of electrical engineering experience. He has worked closely with Weston & Sampson for a number of years and is personally involved with every joint project between Weston & Sampson and Power Engineers, including current wind turbine projects for the Town of Falmouth, Massachusetts; the Upper Cape Cod Regional Technical School; and the College of the Holy Cross.

Structural / Geotechnical

Mr. Richard A. Campbell, P.E., senior project manager, has over 25 years of experience in the ***structural engineering*** field. Mr. Campbell has been involved in the preparation of several building designs for both new and renovation projects throughout New England including private developments, colleges and universities, public schools and libraries, and hospitals. His responsibilities on various projects range from the preliminary design and study phase through to the construction phase.

Mr. Mark P. Mitsch, P.E., is the manager of ***geotechnical engineering*** services for Weston & Sampson. Mr. Mitsch has over 19 years of engineering and project management experience with an emphasis in geotechnical engineering, including the areas of site investigation, slope stability and seepage analyses, soil behavior, and design and construction of major civil engineering facilities. His extensive experience includes design for dams, landfills, structural and environmental slurry walls, buildings, and transportation projects.

FIRM DESCRIPTION AND KEY PERSONNEL

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Construction Administration

Mr. John A. Hume, P.E., will provide ***construction administration*** services for this project. Mr. Hume has more than 35 years of experience specializing in the design and construction administration of public works improvements projects. Mr. Hume leads our Construction Services Department and is responsible for the construction administration and resident representative services that Weston & Sampson provides. As construction manager, he will conduct quality control, biddability, and constructability review to ensure that our recommendations for future construction are practical and cost-efficient. Mr. Hume provides effective cost control for all of our projects through his experience reviewing construction documents before public bidding. He also utilizes his previous experience as a general contractor in reviewing projects for potential costly change orders.

Ms. Sally Smith will serve as the ***construction management coordinator*** for your project. As Construction Services Coordinator at Weston & Sampson, Ms. Smith provides technical and administrative support to approximately 25 full-time resident representatives working at multiple remote job sites. She is responsible for advertising construction projects in the Central Register, Dodge Bulletin, and local newspapers. She also administers the program to ensure compliance with statutory bid requirements.

Wind Energy Specialist

Mr. Olle Duijvesteijn is a technician with more than three years of experience in database development, mapping for Geographic Information Systems (GIS), and modeling for a variety of infrastructure projects. He is experienced at energy production modeling and environmental impact analyses utilizing WindPRO software for renewable energy projects. He has also provides photo simulation services and assisted with setup of meteorological masts, program data loggers, data analysis, and general software support for recent wind feasibility studies for Boston, Bourne, Falmouth, Framingham, Gardner, and Harwich

Mr. William A. Vachon, P.E., of ***W.A. Vachon & Associates, Inc.***, will serve as the team's wind resource specialist. Mr. Vachon has provided services in the field of wind energy since 1978. In 1984, he formed W.A. Vachon & Associates to provide a spectrum of wind energy services, including wind resource evaluations, project feasibility studies, engineering systems analysis and design, research, technical due diligence studies of wind turbines and projects, technical document reviews, and financial analysis. Mr. Vachon is currently working with Weston & Sampson on the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts.

FIRM DESCRIPTION AND KEY PERSONNEL

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3. AVAILABILITY OF PROPOSED STAFF

Our project team is ready and committed to perform work on your project upon authorization to proceed. We do not foresee at this time any major project commitments or schedule conflicts that would adversely impact our ability to provide quality and timely services for this project. The table below outlines current availability and project assignments for our key team members.

Team Member Project Role	Experience	Availability	Current Projects
Hank Ouimet, P.E., LEED® AP Principal-in-Charge	18 years	10%	<ul style="list-style-type: none"> ▪ Principal-in-Charge for the Massachusetts DCAM Renewable Energy Task Order contract ▪ Principal-in-Charge for Master Services Agreement, private landowner, Southeastern Massachusetts ▪ Principal-in-Charge for solid waste concern, miscellaneous consulting services
Stephen Wiehe, P.G. Project Manager	17 years	20%	<ul style="list-style-type: none"> ▪ Project Manager for the Massachusetts DCAM Renewable Energy Task Order contract ▪ Project Manager for the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts ▪ Project Manager for wind feasibility studies for the Upper Cape Cod Regional Technical School and the College of the Holy Cross
Johanna D. Nagle, E.I.T. Feasibility/Planning	5 years	30%	<ul style="list-style-type: none"> ▪ Project Engineer for wind feasibility studies for the Town of Mashpee, Massachusetts; St. Joseph's Abbey in Spencer, Massachusetts; and Moon Island in Boston, Massachusetts ▪ Project Engineer for the Boston Water and Sewer Commission's Hydrant Survey project
Eric T. McLean, P.E. Feasibility/Planning	6 years	30%	<ul style="list-style-type: none"> ▪ Project Engineer for the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts ▪ Project Engineer for Master Services Agreement, private landowner, Southeastern Massachusetts ▪ Project Engineer for solid waste concern, miscellaneous consulting services
David Colombo, P.E. Electrical	16 years	10%	<ul style="list-style-type: none"> ▪ Electrical Engineer for the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts ▪ Electrical Engineer for wind feasibility studies for the Upper Cape Cod Regional Technical School and the College of the Holy Cross

FIRM DESCRIPTION AND KEY PERSONNEL

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Team Member Project Role	Experience	Availability	Current Projects
Richard A. Campbell, P.E. Structural	25 years	10%	<ul style="list-style-type: none"> ▪ Structural Engineer for the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts ▪ Structural Engineer for wind feasibility studies for the Upper Cape Cod Regional Technical School and the Town of Ipswich, Massachusetts
Mark P. Mitsch, P.E. Geotechnical	27 years	20%	<ul style="list-style-type: none"> ▪ Providing a range of dam evaluation and design improvement services for dams throughout the Commonwealth of Massachusetts
Olle Duijvesteijn Wind Energy Specialist	3 years	30%	<ul style="list-style-type: none"> ▪ Assisting with modeling for the design and construction of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts ▪ Assisting with wind feasibility studies for the Upper Cape Cod Regional Technical School and the College of the Holy Cross
William A. Vachon Wind Energy Specialist	30 years	10%	<ul style="list-style-type: none"> ▪ Providing consulting services for the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts ▪ Providing consulting services for a wind turbine feasibility study for the Town of Ipswich, Massachusetts ▪ Providing consulting services for a wind turbine feasibility study for Mark Richey Woodworking
John A. Hume, P.E. Construction Administration	35 years	as needed	<ul style="list-style-type: none"> ▪ As manager of Weston & Sampson's Construction Services Department, Mr. Hume conducts quality control, biddability, and constructability review for various projects to ensure that our recommendations for future construction are practical and cost-efficient.

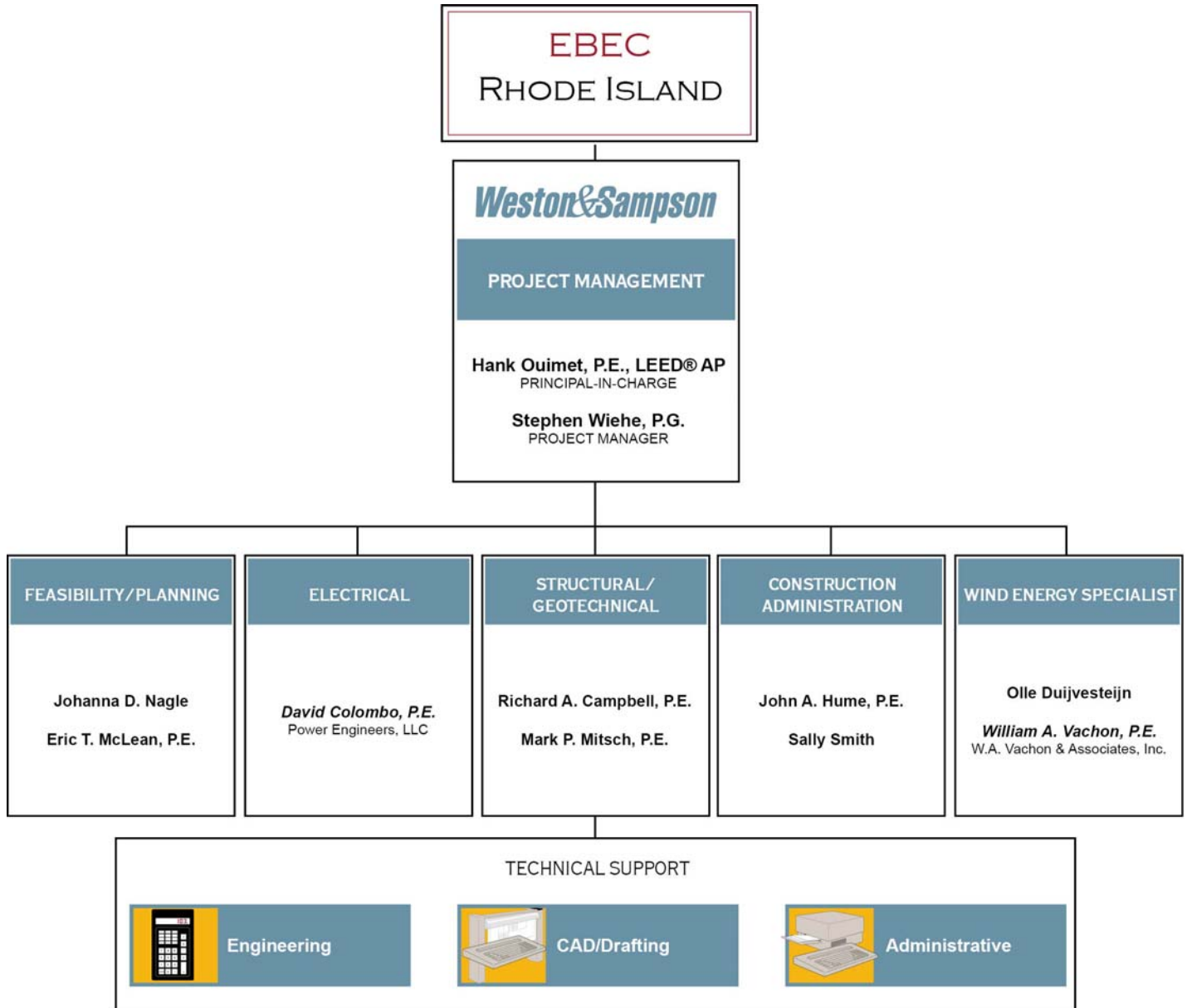
We are fully committed to this project and, as principal-in-charge, Mr. Ouimet will ensure that we provide the resources necessary to complete this project responsibly and efficiently.

In addition to the key personnel identified in this qualifications statement, Weston & Sampson maintains a staff of nearly 300 engineering and environmental professionals whom we can draw upon to support work for your project. Our in-house resources also include qualified Computer Aided Design Drafting (CADD), Geographic Information System (GIS), construction, and technical support groups.

FIRM DESCRIPTION AND KEY PERSONNEL

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4. IDENTIFICATION OF STAFF MEMBER'S PROJECT RESPONSIBILITY



FIRM DESCRIPTION AND KEY PERSONNEL

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Evaluation of the Feasibility of Erecting a
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5. *INTEREST IN FUTURE CONSTRUCTION*

For municipal wind energy projects, Weston & Sampson typically serves as a project development advisor to the municipality and performs a variety of pre-development services including planning, design, and permitting. Our construction division constructs and maintains a variety of infrastructure projects, and renewable energy facility construction is a component of our market strategy.

Based upon the project delivery method and the preference of the client, Weston & Sampson is interested, prepared, and willing to be part of the construction or project development team.

Background

2007-Present
Program Manager
Weston & Sampson

2005-2007
Senior Project Manager
Weston & Sampson

2001-2005
Vice President
ES Consultants, Inc.

1998-2001
Regional Design/Build Manager
Brown and Caldwell

1994-1998
Vice President
WEI Environmental Services

Education

Master of Science Courses in
Environmental Engineering
Florida International University

1988
Bachelor of Nuclear Engineering
Georgia Institute of Technology

Professional Registration

Professional Engineer - Florida

LEED Accredited Professional

EXPERIENCE

Mr. Ouimet provides expertise in the management of design, permitting, and construction for a broad range of engineering projects. He has successfully completed a number of challenging projects, including commercial, industrial, and residential land development; commercial and utility scale renewable energy projects; civil and environmental infrastructure; stormwater and surface water management; environmental permitting; solid waste; and environmental assessment and remediation. Mr. Ouimet has extensive experience in all phases of project delivery, including design/build and general contracting. His project assignments have included design principal, design/build director, program manager, construction manager/owner's representative, construction project manager, and consulting engineer.

Mr. Ouimet currently manages Weston & Sampson's renewable energy practice. His project experience in this area ranges from screening assessments, to feasibility and planning studies, to design, permitting, and construction management of renewable energy projects at various public and commercial facilities.

SPECIFIC PROJECT EXPERIENCE

Principal-in-Charge for a multi-year, \$500,000 contract to provide a broad range of consulting and engineering services to support renewable energy project development (wind, photovoltaic, woody biomass) at state-owned facilities throughout the Commonwealth of Massachusetts. Completed assignments under this contract include the development of preliminary design and procurement documents for photovoltaic installations at 10 separate facilities throughout the state, ranging in size from 50kW to 150 kW in both roof mounted and ground mounted installations. Additionally, completed a feasibility study and preliminary engineering for a utility scale wind project at a state-owned correctional facility.

Principal-in-Charge for numerous wind energy feasibility studies at municipal, institutional and private facilities. Most projects have included securing Massachusetts Technology Collaborative (MTC) grant funding. Studies include a comprehensive technical and economic evaluation of the feasibility of installing large commercial or utility scale turbines at the project site. Studies have been performed for:

- Town of Harwich, MA
- Town of Mashpee, MA
- City of Boston, MA
- Town of Chatham, MA
- Massachusetts Division of Capital Asset Management (DCAM)
- Upper Cape Regional Technical School
- St. Joseph's Abbey, Spencer, MA
- Staples, Inc.
- College of the Holy Cross

Principal-in-Charge for the Town of Stoughton and Stoughton Public Schools, Massachusetts, Renewable Energy Feasibility Study. Performed town-wide screening study to evaluate renewable energy opportunities, including wind, solar, and geothermal systems as a means to reduce energy consumption.

Principal-in-Charge for the renewable energy alternatives analysis and solar photovoltaic (PV) procurement support at the 205,000-square-foot vocational Nashoba Valley Technical High School in Westford, Massachusetts. Assessment included technical and economic evaluation of solar PV, solar thermal, geothermal, and wind power.

Principal-in-Charge for the design and permitting for 1.5 MW wind turbine at a wastewater treatment facility for the Town of Falmouth, Massachusetts. Currently providing construction administration services.

Principal-in-Charge for the Rockingham Planning Commission and Town of Hampton, NH Renewable Energy Screening Study at the town's landfill and public works facility. Performed screening study to evaluate renewable energy opportunities, including wind, solar, geothermal, and hydropower systems as a means to reduce on-site energy consumption.

Project Manager for various consulting services in support of "River Run" a new 1,000 unit mixed use development project in Plymouth, MA. The proposed development incorporates a wide range of sustainable and environmentally sound design practices including extensive preservation of green space, ecological habitat, and existing agricultural operations; low impact development (LID), nutrient management, transfer of development rights (TODR), renewable energy development, pedestrian friendly site design; and numerous other progressive development approaches. Consulting services have included development permitting assistance, infrastructure planning and design, renewable energy development support, water resources management, and turnkey wastewater treatment services.

Project Manager for land development planning and permitting services for a large landowner in southeastern Massachusetts. Consulting services have included development permitting assistance, infrastructure planning, renewable energy development planning, water resources management, and solid waste management.

Project Manager for several commercial and residential development projects in Massachusetts and Florida. Projects have included luxury residential single family and multi-family; office parks; retail and mixed-use plazas; and single use facilities. Services typically included site civil engineering (utilities, earthwork, paving, drainage, etc) and permitting support. Services often included landscape architecture and environmental consulting.

Design Principal for "The Plantation," a new residential development for a private client, in Miami-Dade County, Florida. Directed the design, permitting, and construction oversight of site/civil engineering for a five-acre, 20-unit luxury townhome development. Services included project planning and assistance with re-zoning efforts; preliminary engineering, including traffic concurrency review, right of way improvements, and utility coordination; and the preparation of construction documents for site improvements, including paving, grading and drainage; water distribution and sewer collection; fire protection; roadway and right-of-way improvements; and miscellaneous project components. A new 100-gallon per minute (gpm) regional lift station was also designed, along with approximately 800 feet of force main, to provide sewer service to the proposed development and to existing homeowners.

Background

2007-Present
Project Manager
Weston & Sampson

2004-2007
Branch Manager
Bureau Veritas North America
Fort Meyers, Florida

1993-2004
Environmental Division Manager
American Testing Engineering
Company/ATL
Miami, Florida

1991-1993
Project Manager
Seyfried & Associates, Inc.
Fort Lauderdale, Florida

1990-1991
Geologist
Metcalf & Eddy
Miami, Florida

Education

1990
Bachelor of Science
Geology with Specialty in
Engineering Geosciences
Radford University

Professional Registration

Professional Geologist, Florida

OSHA 40-Hour Hazardous Waste Site
Operations Training

Certified Environmental Assessor, NREP

Registered Environmental
Property Assessor, NREP

Asbestos Building Inspector Certification

Phase I Environmental Site Assessment
Process Certification

EXPERIENCE

Mr. Wiehe has more than 18 years of diverse experience in the environmental and engineering geoscience fields with expertise in a wide area of environmental, consulting, and construction services. His background includes general construction, earth moving and site development projects, land reclamation, solid waste and landfill projects, Phase I and Phase II environmental site assessments, contamination assessments, design of remedial action plans, implementation of corrective action plans, construction of remediation systems, large scale dewatering projects, and petroleum tank removal and replacement. Mr. Wiehe has detailed knowledge of environmental field services, drilling, sampling, general construction practices, construction materials testing, environmental consulting, hydrogeology, landfills and the solid waste industry, asbestos, lead paint, and radon. He has also served as the Owner's representative on many large projects.

SPECIFIC PROJECT EXPERIENCE

Project Manager for a multi-year, \$500,000 contract to provide a broad range of consulting and engineering services to support renewable energy projects (wind, photovoltaic, woody biomass) at state-owned facilities throughout the Commonwealth of Massachusetts. Completed assignments under this contract include the development of preliminary design and procurement documents for photovoltaic installations at 10 separate facilities throughout the state, ranging in size from 50kW to 150 kW in both roof mounted and ground mounted installations. Additionally, completed a feasibility study and preliminary engineering for a utility scale wind project at a state-owned correctional facility.

Project Manager for numerous wind energy feasibility studies at municipal, institutional and private facilities. Most projects have included securing MTC grant funding. Studies include a comprehensive technical and economic evaluation of the feasibility of installing large commercial or utility scale turbines at the project site. Studies have been performed for:

- Town of Harwich, MA Upper Cape Regional Technical School
- Town of Mashpee, MA St. Joseph's Abbey, Spencer, MA
- City of Boston, MA Staples, Inc.
- Town of Chatham, MA College of the Holy Cross
- Massachusetts Division of Capital Asset Management (DCAM)

Project Manager for the Rockingham Planning Commission and Town of Hampton, NH Renewable Energy Screening Study at the town's landfill and public works facility. Performed screening study to evaluate renewable energy opportunities, including wind, solar, geothermal, and hydropower systems as a means to reduce on-site energy consumption.

Project Manager for the Town of Stoughton and Stoughton Public Schools, Massachusetts, Renewable Energy Feasibility Study. Performed town-wide screening study to evaluate renewable energy opportunities, including wind, solar, and geothermal systems as a means to reduce energy consumption.

STEPHEN WIEHE, P.G.

Project Manager

Project Manager for the renewable energy alternatives analysis and solar PV procurement support at 205,000 square foot vocational Nashoba Valley Technical High School in Westford, Massachusetts. Assessment included technical and economic evaluation of solar PV, solar thermal, geothermal, and wind power.

Project Manager for the design and permitting for 1.5 MW wind turbine at wastewater treatment facility for the Town of Falmouth, Massachusetts. Currently providing construction administration services.

Project Manager for the Rockingham Planning Commission and Town of Hampton, NH Renewable Energy Screening Study at the Town's landfill and public works facility. Performed screening study to evaluate renewable energy opportunities, including wind, solar, geothermal and hydropower systems as a means to reduce on-site energy consumption.

Project Manager of Sanitary Sewer Collection and Pumping Station Design-Build Project for Miami Dade County Department of Parks and Recreation in Miami, Florida. \$2.8M competitively bid Design-Build construction projects at Haulover Beach Park and Greynolds Park included the design and installation of six duplex pump stations, over 10,000 feet of gravity sewer and 5,000 feet of sewer force mains. The systems included 43 manholes and required various degrees of shoring and dewatering to complete the work safely. Project included use of directional drilling of force mains under roadways, wetlands, and golf course. Directional drilling also included gravity sewer lines using 8-inch DIP. Responsible for overseeing all phases of design, permitting, and in-house construction services over an 18-month period, including invoicing and administration of project.

Construction Manager responsible for \$2.9 million design, permitting, construction, operation and maintenance of a landfill gas extraction and leachate pre-treatment system at the North Dade Landfill facility in Miami, Florida. The landfill gas extraction system included the installation of 59 new landfill gas collection wells and the installation of over 55,000 linear feet of above and below ground piping connected to a 1,000 SCFM enclosed ground flare. The project included design and construction of 100,000 gallons-per-day industrial pre-treatment system with PH adjustment, air stripping and neutralization. System components included 30,000-gallon equalization tank and 6,000-gallon chemical storage tank containment area. Project included evaluation of leachate flow using electronic flow sensors installed in collection piping, controlling, monitoring and tuning of landfill gases, preparation and submittal of Title V Air Permits, air stack sampling from exhaust of ground flare, testing of effluent waste streams for permit compliance and reporting.

Construction and environmental manager responsible for providing permitting, pre-construction contamination assessment, compliance monitoring, testing reporting, and dewatering operation and maintenance services during construction of auger cast piling building foundation system. Dewatering operations consisted of well point systems with flow rates of up to 3.0 MGD. Portions of the three year, \$1.2M project required treatment of contaminated effluent discharges to meet surface water discharge criteria.

Background

2005-Present
Engineer
Weston & Sampson
Peabody, Massachusetts

2004
Engineering Assistant
United States Army Corps of Engineers
Concord, Massachusetts

2001-2003
Engineering Assistant
Massachusetts Institute of Technology
Lincoln Laboratory
Lexington, Massachusetts

Education

2004
Bachelor of Science
Civil Engineering
Minor Environmental Engineering
Northeastern University

Professional Registration

Certified Engineer in Training (E.I.T.)
OSHA 10-Hour Construction Safety and
Health Training

Professional Societies

American Water Works
Association

EXPERIENCE

Ms. Nagle is experienced in the design and evaluation of renewable energy technologies for municipal and private entities. She has performed a number of feasibility studies providing data on site evaluation, technical analysis, economic analyses, and construction cost estimating, and has also coordinated geotechnical explorations and permitting for renewable energy projects.

SPECIFIC PROJECT EXPERIENCE

Prepared a screening level study which evaluated the potential for renewable energy projects at Nashoba Valley Technical High School in Westford, Massachusetts. The study included an inspection of the 205,000 square foot building, evaluating energy use, heating and cooling systems, and site potential. The study also included an economic analysis of the benefits of a wind turbine, solar photovoltaic, and geothermal systems at the school.

Completed a town-wide screening level study which evaluated renewable energy opportunities for the Town of Stoughton, Massachusetts. The study examined 14 town-owned facilities including public school buildings. The feasibility of applying wind, solar, and geothermal heating and cooling systems as a means to reduce energy consumption for the town was determined. Technical and economic factors were evaluated.

Prepared a Wind Turbine Feasibility Study for the North Central Correctional Institute in Gardner, Massachusetts. The study included technical and economic analysis; geotechnical exploration; coordination with FAA requirements; permitting; wind turbine output modeling; and construction cost estimates.

Prepared an economic analysis and wind data report for development of a large scale wind turbine at the College of the Holy Cross in Worcester, Massachusetts. Pre-feasibility study included electrical load analysis. Wind data was remotely monitored on a daily basis from a MET tower set up on site.

Completed and submitted five successful feasibility study grant applications under the Massachusetts Technology Collaborative Large On-site Renewables Initiative (LORI) grant program. All five applications were awarded with a grant to be used for a wind turbine feasibility study.

Evaluated the financial feasibility of installing a wind turbine for the Town of Orleans, Massachusetts. The study included an estimate of wind energy production levels, an estimate of the value of wind generated electricity, development of a business model, an estimate of expected Renewable Energy Credit (REC) production, and project cost estimates.

Prepared a Wind Turbine Feasibility Study for the Town of Harwich, Massachusetts. The study included technical and economic analysis; geotechnical exploration; coordination with FAA requirements; permitting; wind turbine output modeling; and construction cost estimates.

Background

2003-Present
Engineer
Weston & Sampson

1997-Present
Corporal, United States Marine Corp
Served on Active Duty for One Year

Education

2003
Bachelor of Science
Civil and Environmental Engineering
University of Massachusetts at Lowell

1999 and 2001
Candidate
Officer Candidate School
United States Marine Corp

Professional Training

40-Hour OSHA HAZWOP Certified

10-Hour OSHA Construction Safety
Training

Certified Engineer-in-Training (E.I.T.)

Professional Registration

Professional Engineer - New Hampshire

EXPERIENCE

Mr. McLean is an engineer with Weston & Sampson's Environmental Science and Site Engineering (ESSE) group. Mr. McLean's professional experience is well-rounded and includes civil, environmental, and sanitary engineering, as well as construction administration and oversight. Mr. McLean has worked on projects involving renewable energy, soil and groundwater remediation, landfill capping, water distribution and wastewater collection system replacement, site engineering, and stormwater modeling.

SPECIFIC PROJECT EXPERIENCE

Providing engineering services on the Wind Energy Feasibility Study being conducted at Staples, Inc. headquarters in Framingham, Massachusetts. Project activities include wind resource assessment, siting, and construction; state and federal permitting; construction costs estimating; and economic analysis.

Project Engineer for the design and bidding of a 1.5 megawatt wind turbine for the Town of Falmouth, Massachusetts.

Assisted in operations/maintenance activities associated with the Massachusetts Bay Transportation Authority's Lynn Bus Garage soil and groundwater remediation project.

Performed construction quality assurance oversight for a landfill liner in Putnam, Connecticut, and a landfill cap in Worcester, Massachusetts.

Served as a resident engineer for a major water and sewer replacement project in Chelmsford, Massachusetts.

Assisted in the design and permitting of a seven-acre expansion at a municipal solid waste landfill in Middleborough, Massachusetts.

Performed topographical surveys and developed site plans for waste management facilities throughout Massachusetts.

Conducted stormwater modeling for several waste management facilities throughout Massachusetts.

David J. Colombo, P.E.

Education:

Rensselaer Polytechnic Institute:
Worcester Polytechnic Institute:

M.Eng. in Electric Power Engineering
B.S. in Electrical Engineering

Professional Affiliations:

Licensed Professional Engineer:
(Electrical)

Massachusetts (#40426)
Vermont (#7508), Rhode Island (#8527)
New Hampshire (#11697), Maine (#9684)
Maryland (#30068), Connecticut
NCEES #24303 (National PE Registration)

IEEE Power Engineering Society, Eta Kappa Nu Engineering Honor Society

Experience:

Mr. Colombo is the owner of Power Engineers LLC, an electrical engineering, design and consulting firm. As a principal engineer, Mr. Colombo provides power system design, lighting design, technical studies and consulting to clients such as utilities, municipalities, colleges, industrial / commercial facilities, other consultants and the insurance industry. Mr. Colombo has experience in forensic assessment of electrical equipment at both low and high voltages and safety training in the proper use of personal protective equipment to avoid electrical injuries. Several of Mr. Colombo's recent projects have involved cogeneration, renewable energy and wind power feasibility.

Prior to forming Power Engineers LLC, Mr. Colombo was a partner in a New England based electrical consulting firm. He also served as Engineering & Operations Superintendent for an electric utility in Massachusetts.

Substation Design & Planning



Mr. Colombo has been involved in numerous planning studies for substation expansions in New England. His work has focused on developing conceptual plans through detailed design, procurement and construction supervision for substation projects up to 115kV. This work has included transformer retrofit and upgrade, addition of oil-containment systems, medium-voltage switchgear replacement, control & relay modifications and the installation of SCADA systems in existing substations.

Forensic Investigations



Mr. Colombo has experience in forensic assessment of electrical equipment at both low and high voltages, including the preparation of repair/replacement estimates and making recommendations to clients to minimize costs and down-time. Mr. Colombo frequently reviews electrical test data to help his clients determine equipment condition and proper maintenance intervals, and has provided expert opinions in a number of insurance cases involving both equipment failure and electrical injuries.

EXPERIENCE (Continued)

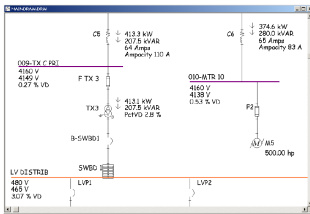
Distribution Systems



Mr. Colombo has completed electric distribution projects for utilities, colleges and large industrial facilities. This work has included the detailed design of new conduit and cable systems, along with transformer, recloser, switch and regulator installations. Mr. Colombo has prepared equipment and installation specifications for work in the public and private sectors, and has completed projects ranging from residential URD, college underground networks, and up to utility substation feeder expansions (through 35kV).

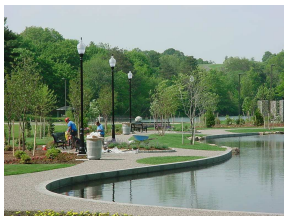
Mr. Colombo has been heavily involved with the planning of power systems projects through the use of computer modeling. These projects have included low voltage industrial applications, utility distribution and medium-voltage substations.

Technical Studies



Mr. Colombo has completed more than one hundred technical studies and computerized analyses for clients to review existing power systems and plan future improvements. These studies include short circuit, protective coordination, power factor correction, voltage drop, and many others. Mr. Colombo has also provided arc flash evaluations and accompanying safety training to facilities and their electrical staff with respect to proper protective equipment necessary to work around electrical equipment.

Outdoor Lighting



Mr. Colombo has been involved in numerous design and construction projects for new outdoor municipal roadway, ornamental, and sports lighting. Typical lighting designs include developing construction plans, lighting details, photometrics and installation specifications, along with providing recommendations for lighting fixtures, poles, and controllers.

Generation / Renewable Energy



Mr. Colombo has been part of several project teams associated with the design, installation, and interconnection of new generation and co-generation projects. These projects have included emergency generator installations as small as 5kW up to combined cycle plant and transmission line interconnection projects as large as 250MW. He has also prepared feasibility studies and conceptual designs for wind power projects.

Background

2009-Present
Senior Project Manager
Weston & Sampson

2008-2009
Associate
Stantec

2000-2008
Senior Project Manager
Maguire Group, Inc.

1997-1999
Project Manager
Beta Group, Inc.

1994-1997
Project Engineer
Beta Group, Inc.

1989-1994
Project Engineer
Odeh Engineers, Inc.

1988-1989
Senior Project Engineer
Pare Engineering Corporation

1985-1988
Structural Engineer
DeStefano Associates

1984-1985
Structural Engineer
Flaherty Giavara Associates

1992-1996
Special Program Faculty
University of Rhode Island
College of Continuing Education

Education

1984
Master of Science
Civil Engineering
University of Rhode Island

1982
Bachelor of Science
Civil/Environmental Engineering
University of Rhode Island

Professional Registration

Massachusetts
Connecticut
Rhode Island

Professional Societies

American Society of Civil Engineers

EXPERIENCE

Mr. Campbell has over 25 years of experience in the structural engineering field and is well-versed in the State Building Codes for the Commonwealth of Massachusetts, States of Rhode Island and Connecticut, and the National BOCA. Mr. Campbell has been involved in the preparation of several building designs for both new and renovation projects throughout New England including private developments, colleges and universities, public schools and libraries, and hospitals. His responsibilities on various projects range from the preliminary design and study phase through to the construction phase.

SPECIFIC PROJECT EXPERIENCE

Rhode Island Reource Recovery Corporation, Johnston, Rhode Island
Designed a deep cast-in-place concrete pump station. Design issues included an accelerated design schedule to meet contractor's requirement, rock ledge, and high ground water.

Booster Pump Station at the Philip J. Holton Water Purification Plant, Scituate, Rhode Island
Project Manager responsible for boiler room and heat distribution renovation at the Raw Water Booster Pump Station. Hot water tank re-design.

Electrical and HVAC Upgrades at Philip J. Holton Water Purification Plant
Project Manager responsible for electrical and HVAC upgrades for the plant.

Neutaconkanut Reservoir, Johnston, Rhode Island
Provided structural consulting services.

Jamestown-Verrazzano Bridge, Jamestown, Rhode Island
Project Manager - As part of a contract with Parsons Brinckerhoff, managed the bridge inspection/evaluation of the 29 span trestle structure (2,486 feet) of the recently constructed Jamestown Bridge. Work included the supervision of a 4-person inspection team, development of inspection forms and the utilization of a database and CAD drawings to document deficiencies.

Route 5 over Interstate Route 95, Warwick, Rhode Island
Project Engineer - Provided the field inspection and evaluation of the 4-span prestressed composite concrete beam structure. Prepared the final, comprehensive Bridge Inspection/Evaluation Report presenting deficiencies and recommendations for improvements.

Route 5 over the Pawtuxet River, Warwick, Rhode Island
Project Engineer - Provided the field inspection and evaluation of the 2 span composite steel structure. Prepared the final, comprehensive bridge inspection/evaluation report presenting deficiencies and recommendations for improvements.
Auburn Street Bridge, Bridgewater, Massachusetts

Project Manager - As part of MassHighway's Footprint Program (Round 3), performed inspection, evaluation, load rating and design for the replacement bridge structure consisting of prestressed box sections with integral abutments.

RICHARD A. CAMPBELL, P.E.

Structural Engineering

Ipswich Pedestrian Bridge and Riverwalk, Ipswich, Massachusetts

Project Manager - The Ipswich Historic Riverwalk and Pedestrian Bridge is the result of years of planning by the town. It was designed to heighten awareness of the town's natural resources, particularly the river, and to provide a recreational destination for residents and tourists. The new 120 foot pedestrian bridge replaces a foot bridge that had spanned the river for many years. It connects the town's historic heritage on both sides of the river with its commercial center. The design and construction was overseen by MHD as part of their Enhancement projects program.

Gainer Dam Gatehouse, Hope, Rhode Island

Assisted with the electrical drawings and technical specifications required for the replacement of pumps and actuator valves.

Gainer Dam Spillway

Performed a concrete inspection and supervised a testing program necessary to gather information to identify causes of concrete deterioration on upstream face of the spillway. Submitted report summarizing findings.

Public Safety Building, Somerville, Massachusetts

Project Manager for a structural evaluation of the City's Public Safety Building that houses the Police and Fire Departments. Project included a visual inspection of the entire structure and making recommendations for long-term and short-term repairs of all structural defects along with the associated construction budget.

Westborough Fire Station, Westborough, Massachusetts

Provided structural and architectural review, inspection, and repairs of an existing brick masonry building. Delivered report that recommended brick repair/restoration options and associated cost estimates. Subsequently designed the recommended repairs. Responsibilities included design and construction administration services for the brick repair/ restoration as well as miscellaneous metal replacement.

Weaver Memorial Library, East Providence, Rhode Island

Project Engineer for the library addition. Prepared structural drawings and provided on-site inspections during construction.

The Original Bradford Soap Works Facility, West Warwick, Rhode Island

Project Manager for structural upgrading of a 5-story mill building. Provided all required construction administration and site inspections.

Providence College, Providence, Rhode Island

Provided project management services to the Office of Facilities Planning and Physical Plant from 2000 to 2008. Services included numerous HVAC, plumbing, fire protection, and site utility improvements throughout the campus.

Barrington Schools, Barrington, Rhode Island

Project Manager for the additions to three Barrington elementary and middle schools and the design of new masonry bearing wall additions to the existing school buildings using conventional footings. Prepared all contract drawings, coordinated all aspects with the architect, and provided all required site investigations and construction inspections.

Background

2000-Present
Associate
Manager of Geotechnical
Engineering Services
Weston & Sampson

1993-2000
Principal
Sr. Geotechnical/
Environmental Engineer
Camp Dresser & McKee, Inc.

1982-1993
Sr. Geotechnical Engineer/
Project Manager
Haley & Aldrich, Inc.

Education

1981
Master of Science
Civil/Geotechnical Engineering
Syracuse University, L.C. Smith
College of Engineering

1979
Bachelor of Science
Forest Engineering
SUNY College of Environmental
Science and Forestry

Professional Registration

Florida
Massachusetts
Connecticut
New Hampshire
New York

Professional Societies

Boston Society of Civil
Engineers Section, ASCE
American Society of Civil Engineers
Association of Dam Safety Officials

Papers & Publications

October 1998
"Case History of a Successful
'Brownfields' Site in Wichita, Kansas,
Part 1: Innovative Approaches to
Remediation, and Part 2: Innovative
Approaches to Funding and Liability,"
Proceedings of the American Society
of Civil Engineers Convention,
Boston, Massachusetts

1988
"Underpinning of an 11-Story
Building in Boston—A Case Study,"
Second International Conference
on Case Histories in Geotechnical
Engineering, St. Louis, Missouri

EXPERIENCE

Mr. Mitsch is the manager of geotechnical engineering services for Weston & Sampson. He has over 25 years of geotechnical design and construction experience, including dam design, inspection, and rehabilitation, landfill design and construction, building foundations, tunneling, trenchless technologies, and both structural and environmental slurry walls.

SPECIFIC PROJECT EXPERIENCE

Geotechnical Engineer for the design and construction of a 200-foot retaining wall for the Separatist Road Bikeway in Meriden, Connecticut.

Project manager for subsurface investigations, designs, and construction of foundations for three school additions in Beverly, Massachusetts; two school additions in Salem, Massachusetts; a new town hall in Boxford, Massachusetts; and new public libraries for the towns of Boxborough and Lunenburg, Massachusetts.

Project manager for the Town of Arlington's Mill Brook Bank Stabilization project. Weston & Sampson designed a bioengineering solution for stabilizing an approximately 10 foot high scarp face along an approximately 150 foot length of stream bank along a bend of the Mill Brook. The bank stabilization solution required a combination of a live timber crib wall, live log revetment, traditional heavy riprap slope stabilization, and vegetated slope reinforced with geotextile materials.

For the Bridge Creek Salt Marsh Restoration Project in Barnstable, Massachusetts, Mr. Mitsch provided design services related to a geotechnical exploration program. This project involved replacing a drainage pipe with a box culvert through a railroad embankment at the Bridge Creek salt marsh. Mr. Mitsch evaluated culvert support requirements and determined that the culvert represents a net unloading of the foundation soils. He recommended supporting the new culvert on a layer of crushed stone that is encased in a geotextile filter fabric layer to separate the stone from the surrounding compressible foundation soils.

Project manager responsible for geotechnical design and construction services for the developer of the South Bay Shopping Center in Boston, Massachusetts. The project involved design of pile foundations for support of 450,000 square feet of retail buildings, with consideration for the downdrag loads on the piles due to adhesion of up to 70 feet of compressible organic soil underlying the 38-acre site.

Supervised the design of a helical pile foundation improvement system for multiple two-story buildings at a community housing facility in Lynn, Massachusetts.

Project manager for a variety of site development projects involving geotechnical investigation and design services for buildings on shallow foundations.

Project manager responsible for foundation design and construction of a 10-story hospital building with three below-grade levels in the Longwood Medical Area of Boston. The foundation system consists of a combination of rock-socketed caissons, soil bearing caissons, and a reinforced concrete mat foundation. Construction involved underpinning two three-story buildings abutting the site on one side, a tied-back soldier pile and lagging earth support wall, construction dewatering, treatment and disposal of contaminated soil and groundwater removed from the site.

Papers & Publications

October 1985
"Uplift of Helical Anchors in Sand,"
with S.P. Clemence, Uplift Behavior of
Anchor Foundations in Soil, published
as Proceedings of the American
Society of Civil Engineers Convention,
Detroit, Michigan

1981
"The Uplift Capacity of Multi-helix
Anchors in Sand," M.S.C.E. Thesis,
Syracuse University

Project manager responsible for geotechnical design services to the Section Design Consultant during design of cut-and-cover tunnels up to 80 feet deep in downtown Boston, with connecting ramps to the Callahan and Sumner Tunnels for the Central Artery/Tunnel project. Design issues included underpinning the existing Central Artery elevated highway, reinforced concrete diaphragm wall design, staged construction design, groundwater control, and geotechnical instrumentation.

Project engineer during foundation design and construction for the 500 Boylston Street Building complex in Boston's Back Bay. The development consists of a 26-story tower on one-half of the site connected to a three-story building and courtyard on the other half with three below-grade levels under the entire site. The foundation system consisted of a 6-foot thick reinforced concrete mat foundation on compressible clay soils below the tower and a structural mat with hold-down piling below the low-rise portion of the development. Construction involved a 35-foot deep excavation supported by tied-back and internally-braced steel sheet pile and reinforced concrete diaphragm earth support walls with extensive geotechnical instrumentation. Foundation design required consideration of loading the compressible clay soils, effects on the area groundwater table, and performance of the earth support system relative to protection of the adjacent historic Trinity Church and other structures.

Project engineer during design and construction of the 150 Federal Street Building in downtown Boston. This building has 28 stories above ground and three below-grade levels. The foundation system is a combination of a mat foundation and spread footings. Construction involved underpinning an adjacent 11-story building, groundwater control, and a soldier pile and lagging excavation side support system anchored by pressure grouted soil tendons and internal bracing for the 30 ft. deep excavation in a crowded urban environment.

Managed geotechnical investigations, design, preparation of contract documents, and construction supervision for a soil-bentonite cutoff wall at the OK Tool Source area for the Savage Well Superfund site in Milford, New Hampshire. The total length of the wall was approximately 1,400 linear feet with an average depth of 80 feet and with some areas exceeding 100 feet. Design issues included slurry trench stability, soil-bentonite mix design, permeability and chemical compatibility testing of the wall backfill, and details for utility crossings and traffic crossings for the wall.

Project engineer involved in all phases of geologic explorations and geotechnical design of a 22-mile system of rock tunnels and shafts in Rochester, New York. Responsibilities included conducting subsurface investigations, compiling, analyzing and interpreting geologic data for tunnel and shaft design. Engineering interpretations included determining rock mass properties, evaluating overall rock mass stability and conducting design analyses for both initial and permanent support for both mined tunnels and open cut shafts.

Planned and managed pre- and post-construction inspections of the physical condition of a 13-foot wide by 9-foot high brick lined, arched sewer tunnel. The inspections were to document the effect of installing pressure-injected footing (PIF) foundations for an addition to a utility company facility in South Boston, Massachusetts. The tunnel inspections were planned and conducted in accordance OSHA Confined Space Entry regulations. Vibration monitoring during PIF installation was also conducted for documentation purposes.

Background

1999-Present
Associate
Weston & Sampson

1990-Present
Manager, Construction Services
Weston & Sampson

1985-1990
Senior Project Engineer
Weston & Sampson

1982-1985
Project Engineer
Weston & Sampson

1977-1982
Resident Engineer
Weston & Sampson

1975-1977
Construction Superintendent
Lawler Construction Company,

1971-1975
Engineer/Superintendent
Roy M. Wright, Inc.

1970-1971
Commissioned Officer, US Army

Education

1970
Bachelor of Science
Civil Engineering
Northeastern University, Boston

Professional Registration

Massachusetts
10-hour OSHA Construction
Safety & Health

Professional Societies

Construction Management
Association of America (CMMA)
Water Environment Federation
American Water Works Association
New England Water Works Association
New England Water Environment
Association
Utility Contractor's Association
of New England

EXPERIENCE

Mr. Hume has over 35 years of experience specializing in design and construction including, supervising field construction and designing major water and wastewater projects. He is currently manager of the Construction Services Department and is responsible for all construction administration and resident representative services.

Mr. Hume supervises a staff of up to 20 resident representatives who provide general oversight, construction administration, quality assurance and control, and contract document interpretations and modifications. Mr. Hume also assists owners with claims and dispute resolution.

SPECIFIC PROJECT EXPERIENCE

Construction Manager for the Gaspee Plateau Phase III sewer project, the Lower Tuscatucket sewer project, and the Main Avenue, Strawberry Field Road sewer projects for the Warwick Sewer Authority in Warwick, Rhode Island. Combined, these projects encompass approximately 26 miles of sewers and five pumping stations.

Construction Manager for a sewer project in Coventry, Rhode Island. This fast-track project includes over four miles of sewers, improvements to 1.4 miles of existing sewers, a siphon crossing underneath a river, and a wastewater pump station.

Construction Manager for the Town of Hanover, Massachusetts 1.4 MGD greensand water filtration plant and renovations to the existing Broadway and Hanover Street wells. The project includes an 8,000 sf steel frame masonry treatment building, aerations systems, pressure filters, process chemical feed systems, SCADA, new turbine pumps at well miscellaneous site improvements and wetland replications.

Construction Manager for the Town of Southbridge, Massachusetts Wastewater Treatment Facility Upgrade project. This project includes upgrades to the town's existing 3.77-mgd average/13.8-mgd peak advanced treatment facility. Modifications included new secondary clarifier, new septage receiving station, lime system, SCADA system, odor control system, new sludge handling system, and miscellaneous structural modifications.

Construction Manager for the Boston Water and Sewer Commission (BWSC) Drainage Works Improvements, Water Works Improvements Contract No. 90-64SD for Installation of New Drain Pipe in Washington Street Phase 1A, Jamaica Plain.

Construction Administration Manager for the MWRA's Spot Pond Pipeline Improvements and the Southern High Pipeline Rehabilitation projects.

Senior Project Engineer responsible for the design and construction management of four miles of 8- to 12-inch water mains and a 1.0 mgd potable water treatment plant in Stoughton, Massachusetts.

Senior Project Engineer responsible for the upgrade to an existing 6.0-mgd water treatment plant for Reading, Massachusetts. Modifications included a new aeration system, lime feed system and a filter air scouring system. The plant, the town's sole source of supply, remained in service throughout the modifications.

JOHN A. HUME, P.E.

Construction Administration

Construction Manager for the Town of Southbridge, Massachusetts Water Treatment Facility. The project includes a masonry structure, 4-mgd Micofloc package type treatment process, chemical processing and pumping equipment, plus laboratory and office. The project included renovations to the town's booster pumping station and SCADA for 11 remote sites via radio modem.

Resident Engineer for water distribution system improvements in Manchester, Connecticut. These improvements included cleaning and cement lining 11 miles of mains; installing 20 miles of 12-24 inch mains and appurtenances; modifying pumping station; and constructing a 2.0-mgd prestressed concrete storage facility.

Construction Manager for multiple construction contracts for sewers, interceptors, and custom and packaged pump stations in Chelmsford, Massachusetts with total construction costs in excess of \$109 million.

Construction Manager for the Merrimac Street and Causeway Street Sewage Works Improvements project for the Boston Water and Sewer Commission.

Supervised resident representatives during the construction of water main projects in Belmont, Beverly, Chelsea, Dedham, Fitchburg, North Andover, Quincy, and Westborough, Massachusetts. These projects include installation and rehabilitation of water mains.

Project Superintendent for construction of two miles of 72-inch and 66-inch sewer in Springfield, Massachusetts. Project included an 84-inch pipe tunnel across I-91 at York Street jail and approximately 2,000 feet of 36-foot deep braced earth support system adjacent to Watershops pond for 72-inch diameter gravity sewers.

Construction Manager for a \$1 million construction project involving renovations to six existing wastewater pump stations in Weymouth, Massachusetts.

Construction Manager for a variety of wastewater collection and treatment projects for the Newburyport Sewer Department.

Construction Manager for the 4.0-mgd North Lexington Main Wastewater Pumping Station in Lexington, Massachusetts. This replacement station, at the intersection of Routes 4 and 95, was constructed within two feet of an old station that had to remain in service throughout construction. The new station's 40-foot deep excavation required under pinning of the more shallow 24-foot deep adjacent pumping station. Once the new station was operational, the old station could be demolished. The project scope included asbestos abatement within the old station before demolition in addition to cleanup and disposal of approximately 35 tons of pesticide contaminated soils.

Construction Manager for Peabody's Coolidge Avenue Water Treatment Facility. The 6.0-million gallon per day (mgd) filtration facility includes extensive modifications to a pump station constructed at the turn of the century with a minor structural addition. The facility is located in a residential area. One of the owner's objectives was to maintain the historic appearance of the existing structure. The project poses considerable challenges because the existing pumping and chemical treatment facilities at the site had to remain in operation throughout the construction period.

Background

1995-Present
Construction Services Coordinator
Weston & Sampson
Peabody, Massachusetts

1991-1995
District Secretary/Accounting Clerk
Laidlaw Transit, Inc.
Salem, New Hampshire

1987-1991
School Bus Driver
Laidlaw/McGregor Transit
Merrimac, Massachusetts

1980-1987
Benchhand
AT&T Network
North Andover, Massachusetts

Education

Northern Essex Community College
Computer Learning Center

EXPERIENCE

As Construction Services Coordinator at Weston & Sampson, Ms. Smith provides technical and administrative support to approximately 25 full-time resident representatives working at multiple remote job sites. She is responsible for advertising construction projects in the Central Register, Dodge Bulletin, and local newspapers. She also administers the program to ensure compliance with statutory bid requirements.

Ms. Smith's other responsibilities include:

- Issuing plans, specifications, and addenda for projects being bid
- Investigating contractors' references prior to recommendation for award, including D&B Financial Status Report
- Reviewing and mathematically checking bids received and preparing bid tabulation sheets
- Preparing construction contracts for execution and distribution, including evaluation of Certificates of Insurance and bonds for compliance with contract requirements
- Processing all incoming and outgoing construction services department correspondence and shop drawings
- Updating reports for construction schedules and project summaries

Background

2005-Present
GIS Technician
Weston and Sampson

2005
Self-Employment
The Flying Dutchman Computer Services

2000-2005
CTI Assistant
Digital Geography Lab Assistant
Research Assistant
Summer Program Technology Coordinator
IT Help Desk Service Specialist
Interdisciplinary Studies Lab Supervisor and
Technician
Salem State College
Salem, Massachusetts

Education

2007
Bachelor of Science
Cartography/Geographic
Information Systems
Salem State College
Salem, Massachusetts

Papers & Presentations

November 15, 2003
"From Saudi Arabia to Cape
Cod: Assessing the Environmental
Impact of Oil Spills Using Remote
Sensing"
Bridgewater State College
Bridgewater, Massachusetts

April 14, 2003
"Environmental Impact Assessment of
Oil Residuals"
Salem State College Earth Day 2003
Conference
Salem, Massachusetts

May 16, 2002
"Drought in New England: A
Geographic Look at New England's
Drought"
NEGIS 2002 Conference
Boxborough, Massachusetts

OLLE DUIJVESTEIJN

Wind Energy Specialist

EXPERIENCE

Mr. Duijvesteijn is a technician with more than three years of experience in database development and mapping for Geographic Information Systems (GIS) for a variety of infrastructure projects.

SPECIFIC PROJECT EXPERIENCE

For renewable energy projects, provided energy production modeling, photo simulations of prospective sites, and environmental impact analysis using WindPRO software. Assisted with setup of meteorological masts, program data loggers, data analysis, and general software support. Projects include:

- Wind Feasibility Study; Upper Cape Cod Regional Technical School, Bourne, MA
- Wind Feasibility Study; Staples, Inc. headquarters, Framingham, MA
- Wind Feasibility Study; North Central Correctional Institute, Gardner, MA
- Wind Feasibility Study; The College of the Holy Cross, Worcester, MA
- Wind Feasibility Study; Town of Harwich, MA
- Wind Feasibility Study; Town of Falmouth, MA
- Wind Feasibility Study; City of Boston, MA - Moon Island

Boston Water and Sewer Commission (BWSC): Worked with engineers in the mapping of suspect and non-suspect buildings in the Dorchester High Level Infiltration and Inflow Project Study area. Worked with multiple database software programs for PocketPC and desktops to enable engineers to collect data on-site and link collected data to the existing GIS. Maps were created using the data collected in the field for verification and analysis purposes.

City of Chelsea, Massachusetts: Worked with engineers to update city's water system GIS, and create an updated hard copy map atlas. Also worked to integrate CAD-based sewer information into existing water and sewer system GIS and plot out specific areas.

City of Newton, Massachusetts: Created a numbering system for the city's stormwater GIS. The project involved querying, investigating, and mapping of all stormwater related features. Worked with engineers to complete QA/QC afterwards to ensure a quality product delivered to the city of Newton.

City of North Andover, Massachusetts: Worked with engineers to add stormwater pipes, manholes and other features to existing GIS, also updated the sewer data. Some QA/QC assistance provided to engineers, as well as detailed mapping of requested areas.

City of Pembroke, Massachusetts: Created and updated map of Pembroke's Water Distribution System using data exported from H2ONet CAD modeling software.

City of Woburn, Massachusetts: Integrated sewer inspection database into sewer system GIS for project area. This project involved database querying, file conversion, GIS maintenance and finally mapping of project area.

City of Worcester, Massachusetts: Involved in maintaining and updating Worcester's sewer and stormwater system GIS. Has worked with engineers on many ongoing projects, performing querying functions, integrating various data, and mapping for both internal use and reports.

WIND ENERGY QUALIFICATIONS AND EXPERIENCE

W. A. Vachon & Associates, Inc.
25 Tappan Street
P. O. Box 149
Manchester, MA 01944 USA

Tel: (978) 526-4315 -- FAX: (978) 526-8180 – wavachon@aol.com

COMPANY OVERVIEW

Summary. William Vachon is the president of W. A. Vachon and Associates, Inc. (WAVA). He has been active as a consultant in the field of wind energy since 1978. He formed WAVA in 1984 after working as a consultant at Arthur D. Little, Inc. (ADL) for nearly seven years. While at ADL, Mr. Vachon conducted due diligence assessments on commercial projects for banks, investors and lenders and evaluated wind energy systems for the Electric Power Research Institute (EPRI). WAVA continues this type of work along with a wide variety of other wind energy assignments.

WAVA is an engineering consulting company that specializes in all types of wind energy project and wind turbine assessments. Since the company was formed in 1984, it has provided services such as wind resource evaluations, project feasibility studies, engineering systems analysis and design, research, technical due diligence studies of wind turbines and projects, technical document reviews and financial analysis. The company focuses on understanding and assessing all technical aspects of projects that affect the pro forma - including wind turbine and project design features, energy production, equipment reliability/availability, warranty, the project maintenance plan and long-term O&M costs, siting issues and project economic feasibility. In addition, the company evaluates and solves problems when projects encounter reliability problems and/or are performing at lower economic levels than expected.

WAVA has worked for a wide variety of institutional lenders, electric utilities, developers, investors (owners), legal firms and government programs involved in wind energy. One company role for utilities, lenders and owners has often been that of Independent Engineer (or Owners Engineer). For electric utilities, Mr. Vachon has assisted in the creation of Request for Proposals (RFPs) for wind projects and in the evaluation of RFP responses. As required, WAVA creates a team to address specific project needs by drawing on various experienced subcontractors while carrying out due diligence assessments related to project technical, operation and maintenance cost, and wind risks. William Vachon has been retained as an expert witness in several cases that involve wind energy.

Background. Between 1977 and 1984 William Vachon was employed as a wind energy consultant at ADL. ADL was an international technical and management consulting company, but it no longer exists. At ADL, Mr. Vachon headed the Systems Dynamic Unit. For 14 years prior to that Mr. Vachon was employed by the C. S. Draper Laboratory (an MIT-affiliated, teaching laboratory) as a design and research engineer - designing and testing instruments for measurement as well as for vehicle guidance and control in the aerospace and ocean environments.

Company Profile. WAVA currently consists of one full-time employee. Mr. Vachon has been involved in wind energy research and consulting for more than 30 years. The company typically assesses wind project assumptions, risks (e.g., energy production, O&M costs, warranty issues, etc.) and economic feasibility, while often being called in to find sources of project problems and/or

energy and revenue shortfall and support workouts in troubled loans on wind projects. The company has supported attorneys in various legal proceedings as either an expert witness or litigation consultant. The company provides a unique blend of theoretical knowledge and practical field experience with operating wind turbines – having climbed and assessed a wide variety of wind turbines currently in operation.

Typical Clients. Besides carrying out work for numerous institutional lenders and investors, the Company has carried out wind energy projects for consulting firms, law firms, agencies of the Federal Government, electric utilities, and private corporations. The vast majority of company work has been for private clients.

SPECIFIC WIND ENERGY EXPERIENCE

Due Diligence or Technical Assessments or of Wind Turbines. William Vachon has conducted extensive technical “due diligence” technical assessments of wind turbines and wind projects since 1982. These reviews have included a detailed examination of the engineering issues on wind turbines - including the projected loads, stresses, component life and machine reliability and O&M costs. During the past 27 years, WAVA has conducted an assessment (at varying levels of detail) of the following wind turbines:

- Vestas Models V15, V17, V27, V47, V66, V80, V82 and V90;
- General Electric Model 1.5 sle (and other similar units);
- Mitsubishi Model MWT250 wind turbine;
- Siemens/Bonus 1.3-MW turbine;
- Suzlon Model S64;
- Enron Wind Corporation Model Z-40FS and Model 750 Series (variable-speed) wind turbines; and
- Kenetech Models KCS-56 and KVS-33 turbines.

In addition, the company has conducted partial (i.e., less thorough) assessments of the following wind turbines:

- Nordex Model N50, N54 and N60 turbines.

Studies in recent years have also involved an evaluation of performance problems and asset repurchase and/or refinancing of various wind projects.

ProForma Assessments. The company has reviewed and assessed numerous project financial pro forma projections and made recommendations regarding (a) expected revenue from energy production, (b) O&M costs, (c) project net cash flow, (d) aspects of a maintenance reserve account, and (e) project value.

Consulting for Electric Utilities. In the past 17 years electric utilities have begun to seek bids from wind project developers and wind turbine suppliers for new energy supplies from renewable sources. WAVA has provided technical consulting and independent engineering services for several electric utilities (in all regions of the country) that are striving to ensure that they obtain the most viable wind energy projects that are commensurate with acceptable risks and costs. WAVA provides input on (1) structuring the Requests for Proposals (RFPs), (2) evaluation of RFP responses, (3) detailed assessments of the expected reliability of the hardware that utilities plan to procure, (4) negotiations and utility procurement documents, agreements, and economic

assumptions, (5) appropriate risk-sharing approaches (e.g., warranty, test and maintenance issues), (6) wind turbine design needs and features, (7) acceptance testing requirements, and (8) power curve tests.

In several cases, the company has also coordinated the assessment of the wind resource at sites. For such work, the company often subcontracts and co-ordinates the work of a recognized consulting meteorologist with extensive experience in wind energy. WAVA has provided guidance in defining a reasonable and acceptable risk level over various timelines for electric utilities who are purchasing current wind turbines. In certain cases the wind turbines will be required to operate in harsh environments (e.g., severe icing conditions and cold) where little past operational experience has existed to act as a guide.

Electric utilities for which W. A. Vachon & Associates, Inc. has provided or continues to provide consulting services include the following:

- o Green Mountain Power Corporation
- o Idaho Power Company
- o PacifiCorp
- o Portland General Electric Company
- o Platte River Power Authority
- o Energy Northwest
- o Northern States Power Company
- o Puget Sound Power & Light
- o Sacramento Municipal Utility District
- o Dominion Energy

In addition, Vachon & Associates has provided wind energy consulting to a wide variety of unregulated subsidiaries of U. S. electric utilities that are involved in equity investments or long-term loans associated with domestic and foreign wind energy projects.

Support to Developers, Attorneys, Insurers and Lenders. W. A. Vachon & Associates, Inc. has carried out several technical, economic, and/or forensic studies aimed at understanding wind turbine problems and risks and has developed recommendations for methods to re-engineer and retrofit wind turbines. The projects have also led to plans for redirecting resources to obtain better project profitability – often after a few years of operation have revealed problems. Some studies have focused on wear-related problems associated with wind turbine blades, yaw systems, and gearboxes. As an example, key factors in early studies were to (1) understand the reliability problems with blades, (2) define the best means to repair old blades or design and build new blades to assure long life, (3) create the most realistic, yet cost-effective, methods to test new blades to assure that they are durable, (4) establish an effective set of quality control procedures that should be in place for checking the manufacturing quality of new/replacement blades, (5) estimate the affect of retrofit components on the loads, life, and maintenance costs of blades, drivetrain and yaw system components, and (6) conduct an economic analysis to determine the appropriate hub height for a specific turbine and site. Another key question that has had to be addressed on older projects has often been the criteria and timing for removal or rebuild of older, worn-out wind turbines. WAVA has assisted in these issues on several occasions.

A common concern in some troubled projects has been the trade-off of the potential of increased loads associated with new blades or other components (leading to shorter machine life and potentially higher maintenance costs) versus increased energy capture and increased short-term project cash flow. In support of lenders, Mr. Vachon has carried out extensive analyses of project cash flows, Internal Rate-of-Return (IRR), and project valuation - as a means of identifying low-risk, preferred options for upgrading the project assets.

Recent and Ongoing Projects. W. A. Vachon & Associates, Inc. has been the long-term lender's independent engineer that monitors the performance and reliability (in some cases, the O&M costs

also) on at least ten large wind power plants in the U. S. In conjunction with this work on some projects, the company has developed a detailed reliability database on specific wind turbines and failure rates of specific and important components. From this work, WAVA has developed a proprietary, statistical analysis/cost model that provides estimates of the long-term operation and maintenance (O&M) costs based on projections of scheduled maintenance costs, component failure rates, their repair costs and associated crane costs (see "Publications" for related professional papers in years 1996, 1999 and 2002). Periodically, on behalf of lenders, personnel working as subcontractors for WAVA have assisted in carrying out maintenance audits to assure that the wind turbines are receiving proper care. The same type of personnel often assess the current condition and future economic viability of older, operational wind power plants - as part of an asset sale or refinancing. In addition, the company facilitates solutions to technical problems that may be endangering the wind turbines or reducing their long-term reliability.

Research on Wind Turbine Controls. For nine years the company supported the Sandia National Laboratories' wind energy program to examine the role of wind turbine control parameters on the energy production and cumulative fatigue damage incurred by wind turbines. The effort included work to develop and improve computer design codes that synthesize wind data, model machine control characteristics, and predict annual energy production as well as machine fatigue damage. The analyses have been successful in predicting the fatigue lives very close to those actually experienced on operational machines. The analysis procedure was applied to the development of controls for both constant-speed and variable-speed wind turbines. The work has provided valuable insight into sources of reduced energy production due to controls on today's large wind turbines that are located in unusual and turbulent winds.

Power Curve and Energy Production Test Codes. W. A. Vachon & Associates, Inc. has worked with the American Society of Mechanical Engineers (ASME) to develop their Wind Turbine Power Test Code (PTC 42) which is published and has been used by the wind industry. For more than 15 years, Mr. Vachon had been a member of the ASME committee that drafted the PTC 42 Test Code. The company is familiar with current IEC standards for the design, verification and testing of wind turbines and assists clients in applying such standards.

PERSONAL QUALIFICATIONS

Mr. Vachon received his B. S., M. S., and M. E. degrees in Mechanical Engineering from the Massachusetts Institute of Technology, and has more than 40 years of experience as a practicing engineer. Prior to his wind energy work, Mr. Vachon designed, developed, and tested instruments that were employed in solar-heated buildings, outer space, the moon, and the deep ocean. As such Mr. Vachon has been involved in a broad range of mechanical and electrical engineering designs and field tests.

Mr. Vachon is a member of the American Society of Mechanical Engineers, the Society of Sigma Xi (honorary) and the American Solar Energy Society. For more than 10 years, Mr. Vachon was an Associate Editor (for wind energy articles) of **Solar Energy**, a monthly technical journal of the International Solar Energy Society. For four years he was a member of the Board of Directors of the American Wind Energy Association. He is a Registered Professional Engineer in the Commonwealth of Massachusetts and has published numerous papers, articles and reports on the subject of wind energy and other fields of professional engineering involvement. A partial list of publicly available wind energy publications is attached.

SECTION 2

Relevant Experience

RELEVANT EXPERIENCE

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

The following table outlines Weston & Sampson’s recent work on renewable energy projects within the past five years. Our proposed principal-in-charge, **Mr. Hank Ouimet, P.E., LEED® AP**, and project manager, **Mr. Stephen Wiehe, P.G.**, have managed all of the projects listed below. Detailed descriptions for a selection of our **wind power projects** are included at the end of this section.

RENEWABLE ENERGY PROJECT EXPERIENCE (PAST 5 YEARS)			
Client	Services Provided	Completion Date	Client Reference
Town of Harwich Harwich, MA	Secured LORI grant for full feasibility study of utility scale turbines on town-owned land. Feasibility study completed. Currently assisting town with project development in partnership with local electric cooperative.	Ongoing	Jim Merriam, Manager Town of Harwich 732 Main Street Harwich, MA 02645 (508) 430-7513
Town of Falmouth Falmouth, MA	Completed design, permitting, and public procurement for 1.5 MW wind turbine at wastewater treatment facility. Currently providing construction administration services.	Ongoing	Heather Harper Assistant Town Manager 59 Town Hall Square Falmouth, MA 02574 (508) 495-7320
Town of Mashpee Mashpee, MA	Secured MTC LORI grant for full feasibility study of utility scale turbines on town-owned land. Feasibility study underway.	Ongoing	Joyce Mason, Manager Town of Mashpee 16 Great Neck Road North Mashpee, MA 02649 (508) 539-1400 x510
College of the Holy Cross Worcester, MA	Prepared pre-feasibility study and secured LORI grant funding for full scale feasibility study of utility scale turbine at campus. Feasibility study completed. Client evaluating development potential.	August 2009	John B. Lapomardo Assistant Director for Engineering & Utilities One College Street Worcester, MA 01610 (508) 793-2438
St. Joseph’s Abbey Spencer, MA	Secured MTC LORI grant for full feasibility study of utility scale turbines on privately owned land. Feasibility study underway.	Ongoing	Brother Brian Rooney St. Joseph’s Abbey 167 N. Spencer Road Spencer, MA 01562 (508) 885-8700

RELEVANT EXPERIENCE

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

RENEWABLE ENERGY PROJECT EXPERIENCE (PAST 5 YEARS)			
Client	Services Provided	Completion Date	Client Reference
Upper Cape Cod Regional Technical School Bourne, MA	Completed large-scale wind feasibility study for the Upper Cape Cod Regional Technical School campus. Current work includes geotechnical investigation, FAA 14 CFR Part 77 Obstruction Analysis, electrical interconnection design and application process with NSTAR, and assistance in identifying potential teaming partners and funding alternatives.	Ongoing	Kevin C. Farr Superintendent 220 Sandwich Road Bourne, MA 02532 (508) 759-7711 ext. 201
Nashoba Valley Technical High School Westford, MA	Completed renewable energy alternatives analysis and solar PV procurement support at 205,000 square foot vocational technical high school. Assessment included technical and economic evaluation of solar PV, solar thermal, geothermal, and wind power.	March 2009	Denise Page Pigeon Director of Curriculum and Grants 100 Littleton Road Westford, MA 01886 (978) 692-4711 x1210
Town of Stoughton and Stoughton Public Schools Stoughton, MA	Performed town-wide screening study to evaluate renewable energy opportunities, including wind, solar, and geothermal heating and cooling systems as a means to reduce energy consumption.	October 2008	Joel Harding, Supervisor of Support Services Stoughton Public Schools 232 Pearl Street Stoughton, MA 02072 (781) 344-4000
Massachusetts Division of Capital Asset Management (DCAM) Various Higher Education Facilities	Conducted initial solar resource assessments, reviewed existing infrastructure, and created project economic evaluations and cost estimates for five higher education (community college) facilities	June 2008	Mark C. Nelson Deputy Commissioner Facilities Maintenance & Management One Ashburton Place Boston, MA 02108 (617) 727-4030
Massachusetts Division of Capital Asset Management (DCAM) Various Department of Corrections (DOC) Facilities	Development of preliminary design and procurement documents for photovoltaic installations at five separate Department of Corrections (prison) facilities	February 2008	Mark C. Nelson Deputy Commissioner Facilities Maintenance & Management One Ashburton Place Boston, MA 02108 (617) 727-4030

RELEVANT EXPERIENCE

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

RENEWABLE ENERGY PROJECT EXPERIENCE (PAST 5 YEARS)			
Client	Services Provided	Completion Date	Client Reference
Massachusetts Technology Collaborative Kingston, MA	Under LORI grant, designed and permitted MET tower on the Kinston sanitary landfill, adjacent to the town's wastewater treatment plant	July 2007	Nils Bogen, Manager MTC 75 North Drive Westborough, MA 01581 (508) 870-0312
Staples, Inc. Framingham, MA	Completed feasibility study for commercial scale wind turbine at corporate facility. Work included installation of a 50-meter MET tower and wind data collection.	January 2009	Mark F. Buckley Vice President of Environmental Affairs 500 Staples Drive Framingham, MA 01702 (508) 253-0510
Moon Island Boston, MA	Secured LORI grant for full feasibility study of utility scale turbines on city-owned land. Feasibility study underway.	Ongoing	Tom Barraso, Manager Environmental Program City of Boston Boston City Hall Boston, MA 02201 (617) 635-0103
Town of Chatham Chatham, MA	Secured LORI grant for full feasibility study of commercial scale turbines at WWTF. Feasibility study underway.	Ongoing	William G. Redfield, P.E. Water and Sewer Manager 127 Old Harbor Road Chatham, MA 02633 (508) 945-5150
Town of Orleans Orleans, MA	Updated economic analysis for a wind turbine under Municipal Ownership Model	February 2009	John Jenell Assistant Town Planner 19 School Road Orleans, MA 02653 (508) 255-1200
Town of Pembroke Pembroke, MA	Performed preliminary feasibility study for small wind turbine to be utilized by municipal water department; project included installation of 30 meter tall MET tower and wind data collection	March 2008	Michael Valenti Director of Public Works 100 Center Street Pembroke, MA 02359 (781) 293-5620

WIND TURBINE FEASIBILITY STUDY

Mr. Kevin C. Farr
Superintendent
Upper Cape Cod Regional Technical
School
220 Sandwich Road
Bourne, Massachusetts 02532

(508) 759-7711 ext. 201

Weston & Sampson completed a large-scale wind feasibility study for the Upper Cape Cod Regional Technical School campus in Bourne, Massachusetts. The study was partially funded by a grant from the Massachusetts Technology Collaborative (MTC) awarded under the Large On-site Renewables Initiative (LORI) program, which Weston & Sampson helped to obtain. The feasibility study included:

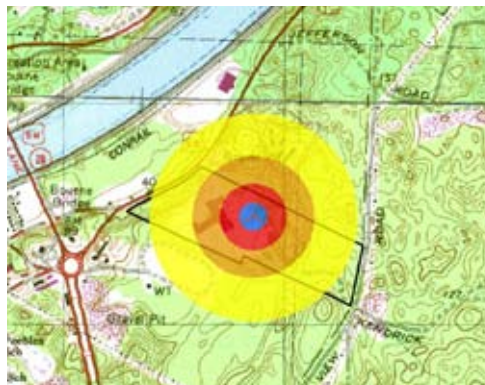
- Electrical Load Evaluation
- Electrical Interconnection Feasibility
- Wind Resources Assessment
- Site Engineering Analysis
- Noise Assessment/Modeling
- Visibility Assessment and Photo-Simulations
- Shadow Flicker Analysis
- Wind Turbine Energy Output Modeling
- Economic Modeling
- Evaluation of Project Risk Factors

Working collaboratively with school staff, Weston & Sampson is creating educational and training opportunities for the students by incorporating elements of the feasibility study into the curriculum, including field data gathering, energy evaluation, and construction monitoring. In addition, Weston & Sampson is actively working with the school to identify and help implement other environmentally sustainable and energy efficient projects such as the programming and conceptual design of a marine services facility.

Following completion of the feasibility study, Weston & Sampson helped the school receive a \$400,000 Design and Construction Grant from the MTC. The work currently under contract includes a geotechnical investigation, FAA 14 CFR Part 77 Obstruction Analysis, electrical interconnection design and application process with NSTAR, and assisting the school identify potential teaming partners and funding alternatives. Weston & Sampson



is also expecting to help the school with procurement support, through a public bidding process and owner's representative services during construction phases of the project. The school is interested in developing, owning, and operating their own turbine.



DEVELOPMENT OF WIND TURBINE AT WASTEWATER TREATMENT FACILITY

Ms. Heather Harper
Assistant Town Manager
Town of Falmouth
59 Town Hall Square
Falmouth, MA 02574

(508) 495-7320

Weston & Sampson is currently assisting the Town of Falmouth with the design, procurement, and development of a town-owned, utility scale wind turbine located at the wastewater treatment facility. Weston & Sampson provided the geotechnical evaluation, electrical interconnection design and application, drawings and specifications; and advertisement and procurement of public bid under provision of Chapter 149, MGL. Weston & Sampson provided support during the mandatory pre-bid conference, reviewed all bids and references, made recommendations for contract award, and is providing owner's representative services during the construction phase.

The project involves the construction of a 1.65 MW Vestas V-82 wind turbine, which is expected to produce 3,624 MWh of electricity – enough to provide all of the electricity demand at the wastewater facility, plus credit for other town-owned accounts under virtual net metering. The \$5 million project is being funded initially by Massachusetts Technology Collaborative (MTC) grants in the form of advanced REC payments, and by General Obligation Bonds raised by the town. Economic projections forecast positive cash flows during the first year of operation and a Net Present Value of \$2.5 million at a discounted cash flow of 5%.

The project has been in planning and development since 2003, and was the subject of several detailed feasibility studies by others. The project received support from the MTC during the feasibility phase,



and continues to receive support from the MTC in the form of renewable energy certificate purchase guarantees. This is one of the first projects of its kind to be developed and owned by a municipality in Massachusetts.

Weston & Sampson provided engineering and permitting services for the project, including the preparation of construction documents for site improvements, electrical interconnection, and the turbine foundation. Weston & Sampson assisted the town with the solicitation and award of the construction contract, and is providing construction phase support services, including office engineering support and construction administration services.

WIND TURBINE FEASIBILITY STUDY

Mr. Mark C. Nelson
Deputy Commissioner
Facilities Maintenance & Management
Massachusetts DCAM
One Ashburton Place
Boston, Massachusetts 02108

(617) 727-4030

Weston & Sampson was recently awarded a three-year, \$500,000 contract to provide a broad range of consulting and engineering services to support renewable energy projects (wind, photovoltaic, woody biomass) at state-owned facilities throughout the Commonwealth of Massachusetts. As prime consultant, Weston & Sampson leads an interdisciplinary team of firms providing a wide range of energy consulting and engineering expertise to help identify and implement renewable energy projects.

As part of this project, Weston & Sampson was responsible for a wind turbine feasibility study at the North Central Correction Institute (NCCI) in Gardner, Massachusetts.

The scope of services for the technical feasibility analysis included:

- Permitting Analysis
- Environmental Resources Impact
- Electrical Load Evaluation
- Wind Resources Assessment
- Site Engineering Analysis
- Noise Assessment/Modeling
- Photo-Simulations
- Shadow Flicker Analysis
- Evaluation of Project Risk Factor

The scope of services for the economic feasibility analysis included:

- One and two 1.65 MW turbine scenarios
- Net Present Value Calculations
- Project Construction Cost Estimates
- Economic Benefit to Cost Comparison
- Renewable Energy Credits
- Grants and Funding Options
- Financing Options
- Impact of July 2008 Green Communities Act impact of Net Metering Changes



WIND TURBINE FEASIBILITY STUDY

Mr. John B. Lapormado
Assistant Director for
Engineering & Utilities
College of the Holy Cross
One College Street
Worcester, Massachusetts 01610

(508) 793-2438

Weston & Sampson was initially awarded a contract to perform a Wind Pre-Feasibility Study to enable the College to make an initial “go” or “no go” determination if pursuit of a large-scale wind turbine was viable. Based on the result of the study, the decision was made to pursue a detailed feasibility study, which was supported by a grant from the MTC under the LORI program.

As part of the detailed feasibility study, Weston & Sampson installed a 50-meter tall MET tower in July 2008, which will be used to collect at least one year of wind speed data at the site. Elements of the feasibility study for which Weston & Sampson is responsible also include:

- MET Tower Installation
- Permitting Analysis
- Environmental Resources Impact
- Electrical Load Evaluation
- Electrical Interconnection Feasibility
- Wind Resources Assessment
- Site Engineering Analysis
- Background Noise Study and Noise Modeling
- Photo-Simulations
- Shadow Flicker Analysis
- Evaluation of Project Risk Factors

The scope of services for the economic feasibility analysis included:

- Various Turbine Sizes
- Net Present Value Calculations
- Project Construction Cost Estimates
- Economic Benefit to Cost Comparison
- Renewable Energy Credits
- Grants and Funding Options



WIND TURBINE MET TOWER

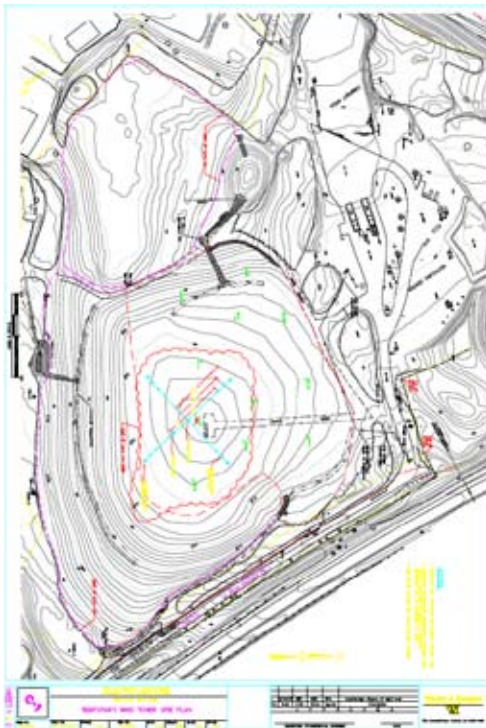
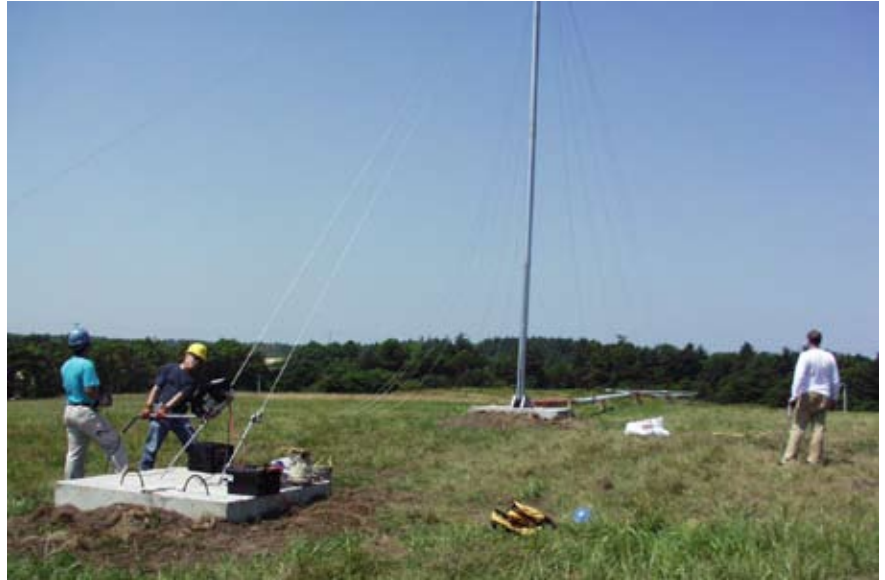
Mr. Nils Bolgen
Massachusetts Technology
Collaborative
75 North Drive
Westborough, Massachusetts 01581

(508) 870-0312

Weston & Sampson designed, permitted, and installed a meteorological tower (MET tower) on the Kingston, Massachusetts sanitary landfill, which is adjacent to the town's wastewater treatment plant. The work was awarded under a grant from the Massachusetts Technology Collaborative (MTC).

The scope of services for this project included:

- MET Tower Anchoring Design
- Permitting of Landfill Post-Closure Use Modification



WIND TURBINE FEASIBILITY STUDY

Mr. Michael Valenti
 Director of Public Works
 Town of Pembroke
 100 Center Street
 Pembroke, Massachusetts 02359

(781) 293-5620

Weston & Sampson successfully performed a preliminary feasibility study for a small wind turbine to be utilized by the municipal water department.

The project included the installation of 30 meter tall MET tower, which was used to collect nearly two years of wind speed data at two different locations. Weston & Sampson prepared an economic analysis based on the output of several turbine sizes and the available wind resources. Based on the results of the analysis, the installation of a wind turbine was not recommend as it was determined not to be economically viable based on low wind resources and poor capacity factors. The town is considering other renewable opportunities at other locations within Pembroke.

The wind speed measurements obtained from the site were input in WindPRO© computer software and used to predict energy output for three sizes of wind turbines. The modeling software uses the actual wind data and calculates the energy output and capacity factor for each turbine. The results of the modeling are described below.



Turbine Size	50 kW		225 kW		1,500 kW	
Hub Height	MWh	%	MWh	%	MWh	%
30 meters	27	6.9	99	5.6	NA	NA
50 meters	32	8.1	117	6.6	NA	NA
65 meters	NA	NA	NA	NA	996	8.4
80 meters	NA	NA	NA	NA	1050	8.9

The capacity factors (% efficient) ranged from 5.6% to 8.9%, which are considered very low and commercially unattractive. The annual energy output ranged from 27 MWh for the small turbine to 1,050 MWh for the large turbine. The annual energy load at the site in 2007 was approximately 199 MWh.

WIND TURBINE FEASIBILITY STUDY

Mr. Mark F. Buckley
Vice President of Environmental Affairs
Staples, Inc.
500 Staples Drive
Framingham, Massachusetts 01702

(508) 253-0510

Weston & Sampson is part of a project team conducting a wind turbine feasibility study for the Staples, Inc. Corporate Headquarters facility in Framingham, Massachusetts. The study is being partially funded by a grant from the Massachusetts Technology Collaborative (MTC) awarded under the Large On-site Renewables Initiative (LORI) program.



As part of the wind feasibility study, Weston & Sampson erected a 50-meter tall Meteorological tower (MET tower) for monitoring wind, and is currently preparing a wind feasibility study in accordance with MTC requirements.

The scope of work includes:

- Zoning Board Appeals Permitting and Public Hearings
- Installation and monitoring of 50-meter tall MET Tower
- Electrical Load Evaluation
- Wind Resources Assessment
- Site Engineering Analysis
- Noise Assessment/Modeling
- Visibility Assessment and Photo-Simulations
- Shadow Flicker Analysis
- Wind Turbine Energy Output Modeling
- Economic Modeling
- Evaluation of Project Risk Factors

RENEWABLE ENERGY ALTERNATIVES ANALYSIS

Mr. Joel Harding
Supervisor of Support Services
Stoughton Public Schools
232 Pearl Street
Stoughton, Massachusetts 02072

(781) 344-4000
j_harding@stoughtonschools.org

Weston & Sampson completed a town-wide screening level study which evaluates renewable energy opportunities. The study examined 14 town-owned facilities, including public school buildings, and examined the feasibility of applying wind, solar and geothermal heating and cooling systems as a means to reduce energy consumption. The scope of services included an inspection of each facility, where building types, square footage, heating and cooling systems and energy use were identified and documented. Weston & Sampson then provided a review and evaluation of wind, photovoltaic, and geothermal resources, which included a preliminary financial pro forma for the development of each technology. As prime consultant, Weston & Sampson lead an interdisciplinary team of firms, which also included Allied Consulting Engineering Services and Power Engineers, to supplement the wide range of energy consulting and engineering expertise and help identify and estimate the cost-benefits of implementing various renewable energy projects.

The feasibility and cost of developing **solar photovoltaic** renewable energy systems was evaluated for various size systems. The analysis included a review of available economic incentives and contracting mechanisms available to advance a solar project, ranging in size from 50kW to 150kW in both roof mounted and ground mounted installations. The Weston & Sampson-led team evaluated **geothermal** opportunities at each of the 14 facilities. This task included data validation, cost estimates for installing geothermal systems, and estimated annual energy cost savings for each facility. Our team reviewed public domain wind resources data and a range of **wind turbine** sizes for an evaluation of developing wind energy systems within the town. The preliminary feasibility study work included a review of technological and economic factors relevant to the development of wind turbines ranging in



size from 50 kW to 2 MW. The economic analysis included estimates of benefit to cost ration, internal rates of return, net present value, and simple payback for various sized wind turbines based on current net metering regulations under the **Green Communities Act**.

The study included presentation of project findings, cost estimates, review of funding alternatives, project risk factors, including permitting, impacts to the abutting landowners, impacts to environmental receptors, and compliance with local requirements regarding the siting of a wind turbine. The findings of the project were also documented in a written report.



RENEWABLE ENERGY ALTERNATIVES ANALYSIS

Ms. Denise Page Pigeon
Director of Curriculum and Grants
Nashoba Valley Technical High School
100 Littleton Road
Westford, Massachusetts 01886

(978) 692-4711 x1210
dpigeon@nashoba.tec.ma.us

Weston & Sampson completed a screening level study which evaluates renewable energy opportunities at Nashoba Valley Technical High School. The study included an inspection of the 205,000 square foot building, including energy use, heating and cooling systems and grounds for potential application of renewable energy systems. The renewable energy systems included a review and evaluation of the viability of using wind, photovoltaic, and geothermal resources. The study included a preliminary financial pro forma for the development of each technology. Weston & Sampson helped identify and estimate the cost-benefits of implementing various renewable energy projects at the school, including identification of funding alternatives, and grant opportunities.

The feasibility and cost of developing **solar photovoltaic** renewable energy systems was evaluated for various size systems. The analysis included a review of available economic incentives and contracting mechanisms available to advance a solar project, ranging in size from 50kW to 150 kW in both roof mounted and ground mounted installations. Weston & Sampson evaluated **geothermal** opportunities at the school. This task included data validation, cost estimates for installing geothermal systems, and estimated annual energy cost savings for each facility. Our team reviewed public domain wind resources data and a range of **wind turbine** sizes for an evaluation of developing wind energy systems within the town. The preliminary feasibility study work included a review of technological and economic factors relevant to the development of wind turbines ranging in size from 50 kW to 2 MW. The economic analysis included estimates of benefit to cost ration, internal rates of return, net present value and simple payback for various sized wind turbines, based on current net metering regulations under the **Green Communities Act**.



The study included presentation of project findings, cost estimates, review of funding alternatives, project risk factors, including permitting, impacts to the abutting landowners, impacts to environmental receptors, and compliance with local requirements regarding the siting of a wind turbine. The findings of the project were also documented and delivered in a written report.

SECTION 3

Proposed Scope of Work and Schedule

PROPOSED SCOPE OF WORK AND SCHEDULE

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

PROJECT APPROACH

Weston & Sampson’s approach to this project is generally consistent with the scope of work presented in the Request for Qualifications (RFQ), and will reflect the number of valuable lessons we have learned over the past several years in overcoming the numerous obstacles that will likely present themselves in the development of this project.



Our first task will be to conduct a “pre-feasibility/screening assessment.” The objectives of this pre-feasibility study are to enable the group make an initial “Go” or “No Go” decision for proceeding with a detailed feasibility study at a particular site location. The pre-feasibility Study is a fatal flaw analysis to determine if further study, and costs, is warranted at a potential wind turbine location (candidate site). To accomplish these objectives, Weston & Sampson would assemble and evaluate readily available information and apply our experience to identify significant obstacles or challenges in the overall project concept. Our scope of services will consist of a review of the published data, information furnished by the Client, as well as a preliminary review and assessment of a number of factors significant to the overall success of the project. These factors will include:

- Wind turbine siting considerations constraints;
- Available wind resources, based on wind data available in the public domain;
- Facility electrical consumption (current and proposed) and cost;
- Preliminary electrical interconnection requirements;
- Environmental impacts and permitting requirements; and
- Preliminary project economics for potential turbine development.

At the conclusion of our evaluation, we will prepare a written report containing a brief analysis for each of the factors listed above. In addition, the report will provide an opinion regarding the overall viability of the project, and a recommendation for future activities. We will also be prepared to meet with you and discuss the report and our recommendations.

Weston & Sampson shall be available to attend meetings and respond to questions on regulatory and legal issues to be addressed on a separate, parallel track by Roger Williams University Law School fellows and the EBEC legal consultant (who have been hired under a separate contract). These issues include the following:

- In RIGL 39-26 Renewable Energy Standard – definitions of terms: “Eligible facility,” “Owner,” “Consortium.”
- Restrictions imposed by RIGL 39-26-6 (g) (1) that limit net metered eligible energy systems to 2.25 MW or 3.5 MW name plate capacity.
- Restriction in RIGL 39-26-6 (g) (1) “energy systems... located on city or town owned land.”

PROPOSED SCOPE OF WORK AND SCHEDULE

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

- Restrictions of United States Internal Revenue Code Section 54 (j) (4) limiting “qualified issuer” to, among other entities, a governmental body.” [A consortium is not a governmental body.]
- Ownership issues as well as long-term site control.
- Ownership of Facility (facilities) – consideration of various legal/financial structures: advantages or disadvantages of given alternative structures.
- Operation of facility and responsibility of consortium.

Weston & Sampson will be available to discuss these topics as requested in the RFP.

Upon completion of this first task and consultation with the EBEC and its consultants, we will proceed to a detailed feasibility task (Stage 2) as may be authorized. Again, our detailed feasibility study will be generally consistent with what is described in the RFQ; however, based on the findings and recommendations of Stage 1, we may elect to modify or tailor the scope of the detailed feasibility study. For example, if FAA height restrictions are potentially problematic due to proximity to a public airfield, we would recommend the immediate filing of the FAA notification form and the retention of an aviation subconsultant to perform an airspace analysis. In our recent experience, receiving an FAA Determination of No Hazard may take many months after filing of the FAA notice. A cost-effective approach is to have an aviation consultant perform the same analysis that FAA will perform and provide an opinion of what the likely FAA determination will be. This finding is often critical and may govern the size and/or location of the project.

If authorized by our client, Weston & Sampson can prepare a detailed feasibility study. The scope of work includes a detailed technical and economic feasibility. An outline of the subsequent report contemplated for this effort generally includes the following:

Technical Assessment

- Wind Resource Assessment
- Turbine Screening
- Energy Production Estimates
- Turbine Siting Considerations
- Foundation Requirements
- Access and Constructability Assessment
- Electrical Connection and Integration Assessment
- Permitting Requirement
 - Local
 - State
 - Federal
- Environmental Impacts
 - Avian Risk
 - Noise Modeling
 - View Shed Impact (Photo Simulations)
 - Strobing and Shadowing

PROPOSED SCOPE OF WORK AND SCHEDULE

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

Economic Assessment

- Project Cost Estimates
 - Equipment Cost
 - Construction Cost
 - Operation and Maintenance Cost
 - Insurance Cost
 - Financing Cost
- Project Revenue Estimates
 - Electricity Production
 - Renewable Energy Certificates
 - Production Tax Credits
 - Available Financial Incentives
- Project Ownership Options
- Estimated Project Revenue and Cash Flows

Calculation of Key Figures of Merit

- Net Present Value
- Internal Rate of Return
- Simple Payback
- Benefit to Cost Ratio
- Annual and Cumulative Cash Flow Analysis

Our detailed feasibility study generally consists of a thorough assessment of technical and economic issues. The technical and economic assessments are performed nearly in parallel, although the technical feasibility issues are usually addressed first as the results (electrical loads, construction estimates, wind energy estimates, etc.) are pre-requisites to the economic analysis. One of the many critical technical feasibility factors is the viability of the wind resource. We will often recommend the use of existing wind resource data available in the public domain (and in fact will use only this data in Stage 1) versus the collection of site-specific data using a MET tower, especially in the case of a small or commercial scale behind the meter application. Our reasoning is that the collection of site-specific wind data is an expensive endeavor and may not be warranted given the size of the project and the risk tolerance of the owner with respect to economic performance of the project.

Upon completion of the technical and economic assessment, we will prepare a draft feasibility report for review by the EBEC. Upon incorporating comments from the EBEC, we will prepare a final report for presentation to the EBEC and other stakeholders. The final report will be the basis for a PowerPoint presentation that will be prepared and used during community outreach efforts to garner support for the project.

We recognize that the initial assignment includes only Task 1 – Pre-feasibility study for an unknown number of candidate sites. We have therefore provided a lump sum fee proposal on a per site basis, which is dependent on the number of sites requested for study. The cost proposal has been provided under separate cover, as requested.

PROPOSED SCOPE OF WORK AND SCHEDULE

*East Bay Energy Consortium
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PROJECT SCHEDULE

The Preliminary Feasibility Site Screening Studies are usually completed within approximately 30 to 60 days from receipt of authorization to proceed. The detailed feasibility study usually requires four to six months to complete where site specific wind resources are obtained from the public domain or other commercially available sources. Should wind monitoring be included as part of the scope of work for the study, this will usually add a minimum of one year to capture at least one year of seasonal variation. Weston & Sampson routinely installs 50 to 60 meter tall MET towers and has also begun working with firms who specialize in deploying advanced SODAR wind monitoring equipment, which requires much less consideration for permitting.

SECTION 4

Additional Items

ADDITIONAL ITEMS

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
Regional Wind Energy System within the East Bay of R.I.*

INSURANCE

The present standard insurance coverage of Weston & Sampson includes a policy of Professional Liability insurance that is issued by the Zurich American Insurance Company with a Limit of Liability (Per Claim and Aggregate) of \$3 million. Upon selection, we will be sure to meet the EBEC's insurance requirements. On the following page, we have provided a copy of our insurance certificate for your review.

ASSURANCES

Weston & Sampson maintains a staff of nearly 300 engineering and environmental professionals. Our team of qualified individuals includes professional engineers and environmental and wind energy specialists who have successfully worked together on similar projects throughout New England. With this depth of resources, we have sufficient staff to work on multiple projects simultaneously, and we are able to ensure staff continuity and prompt delivery of service.

Past Performance on Public Projects

Nearly 90 percent of our clients are municipalities and public agencies in New England. Much of our work has been completed under high-profile conditions and with critical schedule constraints. When limitations on municipal budgets arise, the need to control costs through quality designs and meet scheduling requirements to secure project funding becomes even more critical to a project's success. We invite you to contact our references provided in Section 2 to discuss our track record and commitment to quality.

Current Workload with Other Projects

We have structured our team for depth of technical competence and to provide significant production capabilities. Through our work on previous public and private sector projects, our project team members have proven themselves to be able to meet the quality and budget controls required by projects such as yours. Upon authorization to proceed, our team members will be immediately available to begin work. As your project progresses, we will continuously monitor our performance to verify our compliance with schedule and cost constraints.

Additionally, we have carefully considered the current and planned workload of each of our team members to ensure that the work required by the EBEC is successfully completed in a timely manner. Though we do not anticipate work assignment conflicts on the part of any of our key personnel, our depth of staff with regard to all aspects of this project will ensure the reassignment of highly qualified personnel should such conflicts arise. Our project manager will work with the EBEC to take the immediate steps necessary to reassign team personnel as needed to ensure schedule conformance. We will make no changes in personnel without the written consent of the EBEC.

ADDITIONAL ITEMS

*East Bay Energy Consortium
Evaluation of the Feasibility of Erecting a
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REFERENCES

In Section 2, *Relevant Experience*, we have included a table as well as detailed project descriptions for a selection of our recent projects similar to the EBEC's. We invite you to contact any of the clients provided to discuss our capabilities and past performance. If you would like additional information regarding a specific project, we would be happy to meet with you and more thoroughly discuss the similarities to your proposed project.

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
07/01/09

PRODUCER
Ames & Gough, Inc.
859 Willard Street
Suite 320
Quincy, MA 02169
Michael Herlihy

1-617-328-6555

INSURED
Weston & Sampson Engineers, Inc.
5 Centennial Dr.
Peabody, MA 01960

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Transportation Ins. Co.	
INSURER B: National Fire Insurance	
INSURER C: Continental Casualty	
INSURER D: Zurich American Insurance Co.	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR	INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS								
A		GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	1056123758	01/01/09	01/01/10	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$500,000 MED EXP (Any one person) \$15,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$1,000,000 Valuable Papers 1,200,000								
B		AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	4014265755 4014265805 AOS	01/01/09	01/01/10	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$								
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC AGG \$								
A		EXCESS/UMBRELLA LIABILITY <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$	1056123744	01/01/09	01/01/10	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$ \$								
A		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below	2053847543	01/01/09	01/01/10	<table border="1"> <tr> <td>WC STATU-TORY LIMITS</td> <td>OTH-ER</td> </tr> <tr> <td>E.L. EACH ACCIDENT</td> <td>\$1,000,000</td> </tr> <tr> <td>E.L. DISEASE - EA EMPLOYEE</td> <td>\$1,000,000</td> </tr> <tr> <td>E.L. DISEASE - POLICY LIMIT</td> <td>\$1,000,000</td> </tr> </table>	WC STATU-TORY LIMITS	OTH-ER	E.L. EACH ACCIDENT	\$1,000,000	E.L. DISEASE - EA EMPLOYEE	\$1,000,000	E.L. DISEASE - POLICY LIMIT	\$1,000,000
WC STATU-TORY LIMITS	OTH-ER													
E.L. EACH ACCIDENT	\$1,000,000													
E.L. DISEASE - EA EMPLOYEE	\$1,000,000													
E.L. DISEASE - POLICY LIMIT	\$1,000,000													
D		OTHER Professional Liability	EOC 9671257-00	07/03/09	07/03/10	Per Claim 3,000,000 Annual Aggregate 3,000,000								

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

CERTIFICATE HOLDER

CANCELLATION

For Proposal Only

5 Centennial Drive

Peabody, MA 01960

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Michael Herlihy