Sunapee School District

Sunapee, NH

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Proposal For:

Request for Qualifications
Pre Bond Architectural Services
Sunapee School District

May 20, 2019

Banwell Architects
6 South Park Street
Lebanon, NH 03766
603-448-3778

1856 Main Street
Suite 1, PO Box 1011
Quechee, VT 05059

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Table of Contents

Tab 1- Cover Letter

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May 20, 2019

Mr. Russell E. Holden, Superintendent of Schools
Sunapee School District
70 Lower Main Street
Sunapee, NH 03782

Re: Request for Pre Bond Architectural Services
Design and Estimating Services RFQ 2019
Sunapee School District New Hampshire

Dear Mr. Holden:

Banwell Architects is pleased to submit our credentials to you for the Sunapee School District's comprehensive professional design, architectural and engineering services for the School District of Sunapee in developing a plan to address school district facility needs/projects, to include renovation/remodeling, modernization, additions and/or replacement of existing facilities.

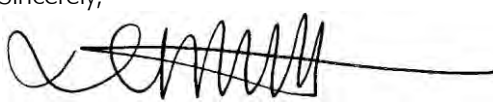
We gathered a great deal of valuable information at the site walk through and believe that Banwell Architects and our experienced team of Architects and Engineers will ensure the success of your project.

Why Banwell Architects?

- We have decades of experience and are experts in educational facilities
- We are experts in preparing for pre-bond votes
- We have completed numerous jobs in the area and are currently working in the area
- We work well with Town and State officials
- Principal is point of contact and involved from the beginning until the end of the project
- We have decades of experience in green design, LEED and NECHPS
- We have state of the art 3d and Virtual Reality Technology
- We have completed over a hundred successful school projects
- We have a strong dedication and experience in designing 21st Century Schools
- We have competitive fees
- We are SURE to comply with budgets and schedules throughout the process
- We work using an integrated design approach
- We solve challenges and are team players
- We make sure that the entire team communicates effectively
- We are good listeners

We would welcome the opportunity to meet with you in person and discuss your exciting project in further detail. Thank you for your time and consideration I look forward to hearing from you in the near future.

Sincerely,



Ingrid Nichols AIA LEED™ AP
President 6 South Park Street
ingrid@banwellnh.com

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Tab 2- Statement of Qualifications
Fee Proposal/Schedule

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EXECUTIVE SUMMARY

We will start with a thorough understanding of your existing conditions. Identify items that will or should not change, or if anything is "off-limits". We will review the educational program with the ed specifications to be sure the design solution will address all of the needs and identify any "wants" or wish list items. Then we will develop as many options as we can think of to review with the committee. After review of all of the out of the box options, we will distill it down to 2-3 options to review with the community for input. We will develop advantages/disadvantages of each option and their relative costs to help weigh the options. We will also review the options with the faculty, students and staff to get their input before going out to the general public.

Typically the major challenge is convincing the community what is the BEST solution for all of the schools. We have found that if you involve the community in public forums to get their feedback this builds consensus for the solution. Sometimes change is difficult for people to adapt to. Another challenge in all school projects is the budget and getting the right full solution at the right cost that tax payers will support. Reviewing ALL possible options so that the community can decide together as a whole which preferred option is the final option.

The solution should address needs for the next several decades to improve learning and save money on operational costs. We strive to create new vibrant learning areas that are better aligned with current teaching trends and planning for the future and flexibility. Including high performance design features into the school will be a "win win" with saving money, creating a healthier environment and a more comfortable building for students and staff.

Our School design philosophy is simple: to build the best spaces possible at the most efficient cost as possible. Flexibility is the key in today's educational environment. We must understand the program for all of the spaces of the current educational programs, but must also design for the future so must design spaces that can be modified easily to accommodate growing programs.

We have extensive experience with elementary schools, middle schools, high schools and all ranges of public school projects. We understand the prebond project requirements. We understand the need to be transparent and include as many people and groups as the committee deems fit. It is also important to get internal buy in to the proposed solution and meeting with all groups in the District will be important. Keeping everyone involved and communication open throughout the process is extremely important. We are very well versed in all of the codes required for public school projects.

Renovation vs New Buildings

Banwell has assisted school districts in navigating this question in School Projects. Although Facilities and Educational program analysis are a critical foundation for every major project, they should be examined with a fresh perspective. Often, previous assumptions that lead to more expensive conclusions can be mistaken. As part of the process, Banwell re-examines the analysis and assumptions to help the client be certain of the best solution. A few recent examples:

Newmarket School District was led by a previous Architect and their facilities study to include that a new Jr/Sr High School was required because of the level of renovation needed and costly seismic requirements. After doing a "deep dive" on the analysis and meeting with the City codes department, Banwell was able to provide them with a viable path for the more cost effective renovation without expensive, unnecessary seismic upgrades.

Windham School District had worked with a previous architect with prior designs with an expensive middle school addition and a new middle school as a solution to overcrowding. Banwell and the district worked together to analyze student capacity options for their elementary schools as well as an alternate site for a new middle school. The team worked together to develop a grade re-assignment inside their existing buildings, minimized middle school renovation costs and afforded them new spaces that provided a true, middle school curriculum. This district wide solution provided the most educational benefit for the least cost.

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Lebanon Middle School: Cost is not always the deciding factor. When examining renovation versus new buildings, Lebanon School District concluded that the new middle school more closely aligned with their priorities. Having new athletic fields as part of their campus, added parking, a separate bus from parent drop off area and room for expansion were the main reasons they decided to build a new middle school. The existing school has been repurposed as a housing project and a community gym.

The project is about your community and what is the best educational environment that can be provided within your budget. With this philosophy, we approach every project individually and without pre-conceived assumptions. Creative, "outside the box" thinking is our standard for helping School Districts make informed decisions on their strategic plans.

NARRATIVE

Banwell Architects is located at 6 South Park Street, in Lebanon, NH. We do projects all over New England and 85% of our work is on public schools in NH. We have been in business for over 53 years. The work on this project would be performed by our Lebanon, NH office. Banwell Architects was incorporated in 1966.

Since beginning our firm, schools have been the mainstay of our project type. At Banwell Architects, we see design as problem-solving; listening carefully to our client's needs, learning from their expertise to create practical, creative sustainable buildings. With an integrated, team-focused approach, our in house designers and expert engineers examine options for client's and community review and feedback. We implement project solutions with comprehensive services and documents for permitting, bidding and construction. Banwell Architects is a leader in exploration and application of sustainable principles in building design. We offer our clients the best value for services and we take great pride in our work.

We think that by involving senior level personnel in all phases of a project that it provides a high level of continuity to the design and construction documents. That ensures continuous communication project conformance to requirements. We use checklists of project requirements at milestone completions, hold regular design and document coordination meetings with all consultants and keep detailed meeting notes throughout the project. After the master planning phase, the project manager is also involved with the construction documents, bidding phases, and construction administration meetings.

At Banwell Architects, design is a process that begins and ends with the needs of our clients. We provide the following services tailored to meet your individual needs:

- Full Design Services
  - Concept Design
  - Schematic Design
  - Design Development
  - Construction Documents
  - Construction Administration
- LEED/NECHPS Certification
- Sustainable Design
- Revit 3D Models and Videos
- Public School Bond Vote Preparation
- Master Planning
- Facility Needs Assessments
- Code Reviews
- Interior Design
- Historic Preservation

Processes for Projects of Similar Type (Educational Facilities)

- We facilitate communication and Public Forums throughout the process
- Banwell understands if you decide to renovate that school renovation projects take even more extreme care due to the faculty and students that can be affected & hazardous materials abatement and construction phasing need to be well planned. Safety is priority number one

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

- Banwell Architects has extensive experience with building codes in New Hampshire for educational facilities
- We meet with the local Building Inspector & Fire Department to review the plans during design
- Ingrid Nichols helped rewrite the NH Department of Educational Guidelines
- Banwell staff constantly attends seminars to review current building and ADA code requirements
- Ingrid also helped develop the Northeast Collaborative for High Performance Schools, a high performance design program specifically for school design
- We are in constant contact with the State Fire Marshal to review the school projects we are working on
- Ingrid is currently working with the State of New Hampshire Department of Education to update the design guidelines.

21st Century Learning:

Education spaces that accommodate 21st Century learning and are adaptive for the evolving curriculums has become essential to educational design. School design has moved beyond room boxes with rows of desks and a lecture based curriculum. School environments can be designed to provide opportunity for collaboration, project based learning, interdisciplinary learning, community engagement and positive stimulation.

Collaboration: Diverse learning environments provide curriculum supporting spaces for a variety of learning styles. We strive to provide personalized instruction spaces that accommodate learning in large and small groups as well as peer-to- peer and individual instruction. The technology infused schools of our time allow an added layer of flexibility through non-stationary, handheld devices. Movable displays, touch screens and furniture that can be manipulated easily allow for active and reflective learning needs.

Project Based Learning: Learning through teamwork, hands-on, problem solving and critical thinking has been an important evolution in curriculum. Spaces encouraging problem solving curriculums extend throughout a variety of instructional environments in the schools including learning commons, science and engineering labs, break out spaces as well as general classrooms.

Maker spaces for hands on learning can be accommodated to varying degrees in all these spaces to encourage the collaborative and individual problem solving so essential to the learning method.

The library concept has evolved from a book- only based resource to an extension of the classroom. Large presentation areas for web seminars, collaborative web learning and video are an extension of and support classroom efforts and reinforce team teaching. Through technology, they become a virtual resource as an extension of the classroom. Both individual learning and collaborative spaces encourage methods of learning for all needs in these environments

Arranging "dirty" maker spaces for lab / fabrication work and "clean" learning spaces for research is important across the Project Based Learning classroom prototype. Whether a science, engineering or general classroom, bringing the appropriate opportunities for these activities with sufficient built and technological support is essential to successfully supporting these programs.

Interdisciplinary Learning: STEM/STEAM (Science Technology Engineering (Art) and Math) curriculums have evolved in many schools to include humanities studies and art. Reinforcing team curriculums through the project based learning classrooms with interdisciplinary studies allows for successful, integrated subject environments. Providing a close physical proximity of

these spaces so subjects can be clustered and mutually supportive allows the opportunity to reinforce their synergy through team teaching and technology.

Community Engagement: Connection to promote school, local and global communities provide additional resources for individual and group learning as well as civic connection and relevance. Creating and arranging spaces to encourage

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

community connection while respecting educational needs is an important balance. Cafeteria, gym, auditorium and learning common spaces open to the public for performances, competition and continuing education provide valuable community resources. Technological integration throughout the entire facility through Wi-Fi and hardwire learning technology removes the constraints for the classroom four walls and school building.

Positive Stimulation: Providing healthy and positive environments supports improved learning opportunity. Providing natural daylighting improves mood, mental alertness and vision in class spaces. Window placement, solar shelves, skylights and light tubes are frequently employed as resources for this benefit. Thermal comfort and good indoor air quality through appropriate building envelope and building system design promote productivity and concentration. Employing the latest envelope science with supporting mechanical systems provides the best opportunity for learning support.

21st Century Learning is particular to each school curriculum. At Banwell, we engage with all stakeholders to understand your goals and aspirations for teaching in the coming decades. We integrate flexible, project based, collaborative and technology infused design that is customized to your community's needs. Our passion is to provide the educational environment that best supports your learning goals.

Recent Similar Experience:

Newmarket Jr/Sr High School, Newmarket, NH
Windham Middle School, Windham, NH
Windham Golden Brook Elementary School, Windham, NH
Woodsville High School, Woodsville, NH
New Franklin School, Portsmouth, NH
Hollis School, Hollis, NH
Richmond Middle School, Hanover, NH
Lebanon Middle School, Lebanon, NH
Merrimack Valley High School and Middle School, Penacook, NH
Falmouth Middle School, Falmouth ME
Portsmouth School District: Little Harbour and Dondero Elementary Schools
Keene School District: Symonds and Franklin Elementary Schools
Gilford Middle High School, Gilford, NH
Lyme School, Lyme , NH
Ray School, Hanover, NH
Claremont MS, Claremont, NH
Contoocook Valley High School, Peterborough, NH
Champlain Valley Union High School, Hinesburg, VT
Loudon Elementary School, Loudon, NH
Webster Elementary, Webster, NH
Salisbury Elementary, Salisbury, NH
Stevens High School, Claremont, NH
Lebanon High School, Lebanon, NH
Cornish Elementary School, Cornish, NH
Woodland Heights Elementary School, Laconia, NH
Pembroke Schools Biomass District Heating, Pembroke, NH
Pleasant Street Elementary, Laconia, NH
Elm Street Elementary, Laconia, NH
Hanover High School, Hanover, NH
Winnisquam Schools Biomass District Heating, Tilton, NH
Vergennes High School, Vergennes, VT
Glover Community School, Glover, VT
Falmouth Schools Biomass District Heating, Falmouth, ME
Messalonskee Schools Biomass District Heating, Oakland

Please find our detailed project sheets included with our submission.

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

Current School Projects Include:

Windham Schools (Windham NH)	Budget: $38,900,000 Variance: Bid results came in under budget Change Orders: ongoing Returned savings to the Owner (Phase 1)
Newmarket Schools (Newmarket NH)	Budget: $38,000,000 Variance: Bid results came in on budget Change Orders: ongoing
Woodsville High School (Woodsville, NH)	Budget: $4,000,000 Variance: Bid results came in on budget Change Orders: ongoing
Franklin (Keene, NH)	Budget: $1,000,000 Variance: Bid results came in on budget Change Orders: ongoing

We have not been terminated from any of our schools projects in the last two years.

Dollar value of school projects done by Banwell Architects in the past fiscal year (July 1, 2018 to June 30, 2019) = $90million

References

Bill Hickey
SAU 95
Executive Director of Finance and Operations
Windham School District
19 Haverhill Road
Windham, NH 03087
603-845-1550
bhickey@windhamsd.org
Length of Service: 4 years

Meredith Nadeau
Superintendent of Schools
SAU #31
186A Main Street
Newmarket, NH 03857
603-659-5020
nadeaum@newmarket.k12.nh.us
Length of Service: 4 years

Michael Kenison
(School Board and Chair of Building Committee)
SAU #31
186A Main Street
Newmarket, NH 03857
603-396-4358
kenisonm@newmarket.k12.nh.us
Length of Service: 4 years

Fred Reagan
Facility Director
Merrimack Valley School District
105 Community Drive
Penacook, NH 03303
603-753-6422
freagan@mvsdpride.org
Length of Service: 13 Years

Laurie Melanson, Superintendent of Schools
SAU #23
Office of the Superintendent
2975 Dartmouth College Highway
N. Haverhill, NH
lmelanson@sau23.org
Length of Service: 1 year

We are working in construction administration for our current workload and your project and the schedule fit in perfectly with our schedule.

Banwell Architects:

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

- Has over 70 years of combined experience for the team of Architects assigned to your project.
- Has code specialists on staff that will keep up with the latest requirements.
- Has all staff on Revit and our computers and all equipment are continuously updated.
- Has Virtual Reality software and 3D goggles that allow stakeholders to walk through the building
- Has state of the art financial software called Ajera that manages all aspects of time and budget for our projects.
- The PM is involved throughout the entire process.

PERSONNEL:

BANWELL:

Principal/Project Designer:

Ingrid Moulton Nichols, AIA, LEED AP is the President of Banwell Architects. She joined Banwell in 2000, and previously worked at BMA Architects in Amherst, NH and Arrowstreet Inc. in Somerville, MA. She attended Carnegie Mellon University (Pittsburgh, PA), Ecole Polytechnique Federal a Lausanne in Lausanne, Switzerland, Dartmouth College and the Advanced Studies Program at St. Paul's School (Concord, NH). Ingrid has completed numerous projects of similar in scope and size. Ingrid's detailed resume is included with this submission.

Project Manager:

Bradford Prescott AIA brings 26 years of experience to the firm. Since graduating from Pratt Institute in 1991, Bradford has practiced at firms in New York City and Massachusetts. His diversified project experience includes education, healthcare, municipal, retail and housing work. He is licensed to practice architecture in 7 states including all of New England and is a NCARB Certificate holder. Bradford's detailed resume is included with this submission.

Project Architect:

Jeremiah Goulet

Jeremiah has been with Banwell Architects since 2004. His expertise is educational facilities. A holistic approach to the design process including environmental stewardship and fostering relationships is important to Jeremiah. A background in furniture design and construction has influenced his respect for natural materials and attention to detail. He is a graduate of Roger Williams University. Jeremiahs detailed resume is included with our submission.

Structural Engineering:	Foley Buhl and Roberts Associates
Mechanical/Electrical Engineering:	Possible Engineers: Fitzemeyer & Tocci, Allied Engineering, Yeaton Associates
Civil Engineering:	Tighe & Bond
Technology:	Leading Edge Design Group
Landscape Architect:	Terrain Planning & Design

Professional Fees:

Please find our detailed fee proposal included with our submission.

1. Please describe your experience as it relates to managing public process

   We first start out with an overall plan on milestone dates, permitting requirements and develop a schedule on how we can meet the deadlines. We keep the entire team on track by meeting on a weekly or bi-weekly basis and keep school board informed as we go forward in the process. We will conduct interviews with each department to establish a full program of needs.

   - We review where we are to be sure we are keeping on schedule and even more importantly, on budget.
   - We have selected engineers that can perform well as a team and we need to foster effective communication and a good working relationship with all to successfully meet our end goal.
   - We keep detailed meeting notes and hold public forums to keep the community involved.
   - We hold several public forums throughout the process to solicit community feedback

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

Please see the attached draft pre bond schedule.

2. Ability to communicate and follow up promptly and efficiently with District personnel regarding the design of educational facilities to support the District's educational programs.
   Banwell takes pride in keeping constant communication with the District to be sure we end up with the best possible design solution that the community will support. We take detailed meeting notes for every meeting and review the schedule to keep us on track to meet the pre bond schedule.

   - Banwell works with the District to develop the program as a team and uses this document as a foundation for building the proposed solution
   - We will work together to develops the priority list of items needed and a separate wish list
   - Implements the staff visioning process for internal buy-in to the project and Educational Goals
   - Keeps the project realistic and align the goals with the budgets
   - Creates flexible spaces to help create opportunities to develop new programs
   - Makes the school exciting and create interesting spaces interior and exterior
   - Helps tie the architecture to the program of the space to help promote learning (daylighting, ease of flow of the space, comfortable spaces, good acoustics, etc).
   - Understands age specific designs for appropriate schools, elementary, middle and high schools

3. Experience and expertise of the firm and its consulting engineers on education projects
   Please find our extensive firm experience and our consultants. We have a long established history with working with this team for successful on budget results. We are experts in school design and take great pride in creating learning environments for children.

   We have extensive experience with elementary schools, middle schools, high schools and all ranges of public school projects. We understand the prebond project requirements. We understand the need to be transparent and include as many people and groups as the committee deems fit. It is also important to get internal buy in to the proposed solution and meeting with all groups in the District will be important. Keeping everyone involved and communication open throughout the process is extremely important. We are very well versed in all of the codes required for public school projects.

4. Capable personnel to manage the project in the office and supervise/admin of construction in the field:
   We have committed the "A-Team" at Banwell to work on this important project. Ingrid, Brad and Jeremiah have the most experience in the firm on public school and pre bond projects. We keep the same team and have experienced architects lead the construction admin process to insure consistency and assure a positive, team oriented process throughout construction. You will see from the resumes and the engineers we have assembled a well-seasoned team that has worked many times together.

5. Please describe your experience working with state agencies and inspections at it relates to school projects/construction. Provide details regarding the agencies that you have had to engage with and in what capacity.
   Due to the amount of school projects Banwell does, we are constantly involved with the state agencies. Ingrid is in constant contact with Amy Clark at the DOE and Sean Toomey at the State Fire Marshal's office. When the Unity school had problems opening, Banwell was hired to work directly with the state fire marshal to fix all of the code issues with the school design and construction.

   - Banwell Architects has extensive experience with building codes in New Hampshire for educational facilities
   - We meet with the local Building Inspector & Fire Department to review the plans during design

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- Ingrid Nichols helped rewrite the NH Department of Educational Guidelines
- Banwell staff constantly attends seminars to review current building and ADA code requirements
- Ingrid also helped develop the Northeast Collaborative for High Performance Schools, a high performance design program specifically for school design
- We are in constant contact with the State Fire Marshal to review the school projects we are working on
- Ingrid is currently working with the State of New Hampshire Department of Education to update the design guidelines.

6. Past record of meeting time schedules and budgets for comparable projects, accuracy of plans and minimum amount for change orders.:

Banwell is proud to be one of the state's most successful school architects. One of the reasons we are the best is that we pay attention to budgets and schedules. The prebond budget needs to be set at the right amount for the work that is promised to be done for the bond vote. At the same time, the budget needs to be a cost that the voters will support. Banwell takes great pride in designing a project that conforms to the budget and are sticklers to be sure that what we design meets the budget!

Staying on schedule is another topic that is reviewed at every meeting to be sure we stay on schedule. It is our job to lead the group through the process to be sure we stay on schedule and under budget!

The accuracy of our plans shines when bids come in competitively and when we have low change orders on jobs. Typically our projects have less than a 1-2% change order rate (not including owner scope changes).

- Years of experience has allowed us to create accurate budget estimates.
- No hidden fees- everything is presented clearly too all participants so there are no surprises.
- We have developed an overall total project budget template for school projects that includes, site costs, construction costs, plus all types of owner costs including contingencies so you are sure to include everything.
- We are honest and fair and bring that to every project we do.
- Our change order percentages are under 2% and typically are due to owner requested enhancements to the project.
- An architect in our office not familiar with the project does a thorough review of all drawings.
- One person follows the project through so they have the entire history.
- Our projects are completed on time and on budget.
- Many projects when bid are within 5% of low to high bid which shows our drawings are well done.
- We review the budget and schedule at every meeting to be sure we stay on track.

7. Recommendations and/or visits to Completed Projects:

We would welcome you to visit any of our school projects. We feel the most beneficial visits for your team would be:

- Lebanon Middle School (Lebanon, NH) – Completed
- Windham Golden Brook School, Middle School (Windham, NH) – Completion July 2019
- Newmarket Jr/Sr High School & Elementary School (Newmarket, NH) – Elem school Completed
- Bernice Ray School (Hanover, NH) - Completed
- Lyme Elementary School (Lyme, NH) – Completed
- Little Harbour School (Portsmouth, NH)- Completed
- Stevens High School (Claremont, NH)- Completed

Experience with energy efficient and Sustainable Design:
LEED/NECHPS Experience:

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

Experience Developing and Energy Efficient and Healthy Buildings

Banwell Architects has maintained a leadership role in environmental architecture for over five decades.
Good design begins with a broad understanding of environmental issues and the ability to apply them to specific, local conditions. We address green building concerns creatively so that everyone benefits - the inhabitants, present and future, and the community at large. We pursue an integrated design process involving all the players - owners, architects, engineers, special consultants, and often the builder.

We have successfully implemented strategies for solar heating, energy conservation, controlled daylighting, and biomass heating systems in many school projects. Efficient re-use and adaptation of existing buildings for improved energy performance is an important aspect of sustainable design and construction. Ingrid is a member of the USGBCNH and is a leader in LEED/NECHPS. We did the first NECHPS building in NH (Merrimack Valley). We have completed dozens of LEED/NECHPS projects, please see the attached green design info sheet. Ingrid is currently helping the State in DOE green design annual conferences.

Experience with green building and certification programs:

Energy Efficiency is near and dear to our hearts at Banwell Architects. We strive to design in high performance design features as our client's budget allows. We choose the right engineers to assemble the right design team in order to efficiently lead clients through the process of setting up Owner Project Requirements and Green Design Goals. We also use green design checklists to review possible green design features with clients to see if we want to implement them into the design. We complete a total building model in conjunction with our mechanical engineer to give you real time feedback on payback analysis on various design features.

Our firm designed the French Wing at the NH Forest Society in Concord, the first Leadership in Energy and Environmental Design (LEED™) certified building in New England and, at the time, one of only 12 gold level LEED™ projects in the country. AVA Gallery and Art Center in Lebanon, NH achieved LEED™ certification at the Gold level. Windy Hill School at Colby Sawyer

College has recently achieved a Silver LEED™ rating. Banwell Architects is a member of United States Green Building Council, the organization that developed and administers LEED™ certification. We have assisted in informational presentations to the profession on New England Collaborative for High Performance Schools (NE CHPS).
Banwell Architects has completed many LEED™/NECHPS certified buildings including:




Society for the Protection of New Hampshire's Forest (LEED Gold)
AVA Gallery and Art Center (LEED Gold)
VTC Campus Center (LEED Gold)
DPW Admin Building (LEED Certified)
Belleayre Ski Lodge (LEED Silver, final design completed, construction has not yet started)
Green Woodlands (LEED Platinum)
World Learning Lowey Center (LEED Gold design only)
Colby-Sawyer College – Windy Hill School Silver LEED Awarded
Lebanon Administrative Building LEED Certified
Lebanon Wastewater Treatment Facility (in design)
Merrimack Valley Schools (NECHPS)
Lebanon Middle School (NECHPS)
Newport Lakebridge Housing – Green Communities

6 South Park Street, Lebanon, NH 03766 1856 Main Street, Suite 1, PO Box 1011,Quechee, VT 05059 603.448.3778

Green Design Ideas that should be explored in this project:

Geothermal
High Performance Envelope and high R Value roof insulation
Solar hot water
Collection of roof water for grey water use (toilets)
Daylighting of spaces
Prismatic skylights in gym roof for natural daylight
Commissioning of systems
Low flow plumbing fixtures
LED lights
Energy recovery
Sun shades at east/south/west windows
Solatubes in central areas without windows for natural lighting
Use of low VOC and recycled materials
Walk off mat systems at main entries
Controllability of systems for HVAC and lighting for occupancy comfort
DDC controls
Minimize construction waste and recycle
Acoustics and specialty products for hearing impaired student environments
Rain gardens for storm water, green roofs? Pervious pavement?
Solar PV for educational opportunities

May 20,2019 DRAFT PROJECT SCHEDULE **Sunapee Schools** Sunapee, New Hampshire

	2019 June	July	August	September	October	November	2020 December	January	February	March
Meetings	*	* *	* *	* *	* *	* *	* *	*	*	
DESIGN:										
Existing Conditions Survey										
Programing										
Options Development										
Civil Review										
MEP & Technology Review										
Structural Review										
Staff Meeting/ Review	*			* *						
Public Forum	*						*			
Develop Preferred Option										
Staff Review				* *	*					
School Board Design/Cost Approval								*		
Meet with Local Inspector/FD					*					
Meet with DOE					*					
Meet with DES					*					
ESTIMATING:										
Review Construction Delivery Methods		*								
Cost Estimates										
BOND PREP:										
Budget Committee Review							*			
Issue Warrant								*		
Bond Hearing									*	
Bond Vote										*

Engineers Banwell Architects Cost Estimate

banwell ARCHITECTS

Tab 3- Project Team

Team Organization Chart

Sunapee School District

Ingrid Nichols, AIA, LAP

Principle & Project Designer

Project Specialists

Bradford Prescott
Project Manager

Jeremiah Goulet
Project Architect

Team Based Approach

Possible Engineering Team

Structural Engineer- Foley Buhl Roberts & Associates

MEP Engineer Options-
Fitzemeyer & Tocci/Allied Engineering/Yeaton Associates

Civil- Tighe and Bond

Technology: Leading Edge Design Group

Landscape Architect: Terrain Planning & Design

Collaborative Team Based Approach

The Banwell Architects dedicated leadership team is involved in all phases of a project, providing a high level of continuity to the design and construction. Our teams dedication ensures thoughtful design and an exemplary project. We are able to commit 100% to ensure the project is completed on time and on budget.
Other staff will be brought on board as key deadlines approach.

banwell ARCHITECTS

Ingrid Nichols, AIA, LAP
Principal in Charge/Design Principal

Ingrid Moulton Nichols, AIA, LEEDtmAP is the Managing Partner of Banwell Architects. She joined Banwell in 2000, and previously worked at BMA Architects in Amherst, NH and Arrowstreet Inc. in Somerville, MA.

She attended Carnegie Mellon University (Pittsburgh, PA), Ecole Polytechnique Federal a Lausanne in Lausanne, Switzerland, Dartmouth College and the Advanced Studies Program at St. Pauls School (Concord, NH). Ingrid resides in South Woodstock with her husband Chris, two shire horses, Truffle the dog and Pee Wee the cat.

Education

-Bachelor of Architecture 1989-1994
Minor in Management
Carnegie Mellon University
-Dartmouth College 1988-89
-Ecole Polytechnique Federal a Lausanne; Switzerland 1992-93
-St. Paul's School 1988 Advanced Studies Program

Professional Registration

State of New Hampshire
State of Vermont
State of Massachusetts
AIA
NCARB
LEED Accredited Professional

Professional Appointments

-Grafton Regional Development Corporation Board Member 2016-Present
-Friends of Norris Cotton Cancer Board Member 2017-Present
-Vermont Board of Architects 2009-2019
-USGBC NH Board 2015-2017
-AIA NH Board Member 2000-2003
-Secretary 2003
-PR Committee 2005-2014
-NH Department of Education
Review Board 2003 & 2006. 2019
-NH High Performance School/DOE 2016- Present

Community Service

-Hartford Vocational Center Advisor 2000-2015
-Youth and Architecture Program 2000-present
-Upper Valley Business and Education Partnership 2001-present
-St. Paul's School Interviewer 2005-present
-Woodstock Design Review Board (2008-2019)

Experience- Schools

Golden Brook Elementary School
PK-4 Public Educational
Windham, NH

Newmarket Elementary School
PreK-5 Public Educational
Newmarket, NH

Little Harbour Elementary School
K-5 Public Educational
Portsmouth, NH

Symonds Elementary School
K-5 Public Educational
Keene, NH

Franklin Elementary School
K-5 Public Educational
Keene, NH

Dondero Elementary School
K-5 Public Educational
Portsmouth, NH

New Franklin Elementary School
K-5 Public Educational
Portsmouth, NH

Ray Elementary School
K-5 Public Educational
Hanover, NH

Woodstock Elementary School
Woodstock, VT

Stevens High School
9-12 Public Educational
Claremont, NH

Lyme Elementary School
K-5 Public Educational
Lyme, NH

Laconia Schools
Woodland Heights, Pleasant Street
Elm Street
K-5 Public Educational
Laconia, NH

Hollis Brookline High School
9-12 Public Educational
Hollis, NH

Lebanon Middle School
5-8 Public Educational
Lebanon, NH

Windham Middle School
6-8 Public Educational
Windham, NH

Newmarket Jr./Sr. High School
9-12 Public Educational
Newmarket, NH

Merrimack Valley Middle & High School
6-8 and 9-12 Public Educational
Penacook, NH




banwell
ARCHITECTS

Bradford Prescott, AIA
Architect/Project Manager

Bradford Prescott AIA brings 25 years of experience to the firm. Since graduating from Pratt Institute in 1991, Bradford has practiced at firms in New York City and Massachusetts. His diversified project experience includes education, healthcare, municipal, retail and residential work. He is licensed to practice architecture in 10 states including all of New England and is a NCARB Certificate holder. Bradford lives in South Woodstock, Vermont with his wife, Christa where they are enjoy riding their horses and hiking the hills with their dogs.

Education
B. Arch 1985- 1991
Pratt Institute, Brooklyn, NY (Honors)

Professional Registration
State of Connecticut
State of Maine
Commonwealth of Massachusetts
State of New Hampshire
State of New York
State of Rhode Island
State of Vermont

Professional Affiliations:
NCARB
AIA NH Chapter
ICC

Community Service:
Plympton Building Complex Committee
High Horses Therapeutic Riding, Board of Directors 2017-2019

Woodstock Development Review Board
2019-present

WOMEN OWNED SMALL BUSINESS
FEDERAL CONTRACTING PROGRAM

Experience- Schools

Golden Brook Elementary School
PK-4 Public Educational
Windham, NH

Newmarket Elementary School
K-5 Public Educational
Newmarket, NH

Dondero Elementary School
K-5 Public Educational
Portsmouth, NH

Little Harbour Elementary School
K-5 Public Educational
Portsmouth, NH

Franklin Elementary School
K-5 Public Educational
Keene, NH

Symonds Elementary School
K-5 Public Educational
Keene, NH

Windham Middle School
6-8 Public Educational
Windham, NH

Newmarket Jr./Sr. High School
9-12 Public Educational
Newmarket, NH

Hollis Brookline High School
9-12 Public Educational
Hollis, NH

Little Harbour Elementary School
K-5 Public Educational
Portsmouth, NH

Woodstock Investments
Mixed Use Commercial
Woodstock, VT

Goffstown Police Department
Goffstown, NH

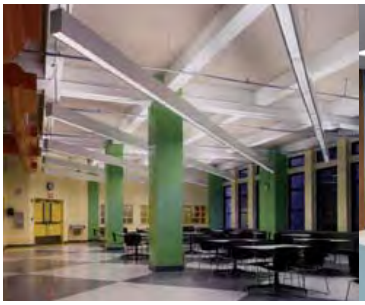
*Town Hall Renovation Planning
Scituate, MA

*Talbots Store Historic Renovation
Hingham, MA

*Treasurers Office Renovation
Scituate, MA

*DMB&B Office Renovation
NYC, NY

*Projects Listed were complete at previous firms




banwell ARCHITECTS

Jeremiah Goulet, AIA
Architect

Jeremiah has been with Banwell Architects since 2004. He has a wide variety of experience with housing, educational and commercial facilities. A holistic approach to the design process including environmental stewardship and fostering relationships is important to Jeremiah. A background in furniture design and construction has influenced his respect for natural materials and attention to detail. He is a graduate of Roger Williams University.

Education
Bachelor of Architecture 2000-03
Roger Williams University, Bristol, RI

Associate Degree Arch 1998-00
Vermont Technical College
Randolph, VT

Professional Registration
Licensed Architect 2015 Vermont
NCARB

Experience- Schools

Golden Brook Elementary School
PK-4 Public Educational
Windham, NH

Newmarket Elementary School
PK-5 Public Education
Newmarket, NH

Little Harbour Elementary School
K-5 Public Educational
Portsmouth, NH

Ray Elementary School
K-5 Public Educational
Hanover, NH

Symonds Elementary School
K-5 Public Educational
Keene, NH

Windham Middle School
6-8 Public Educational
Windham, NH

Merrimack Valley Middle & High School
6-8 and 9-12 Public Educational
Penacook, NH

Hanover High School
9-12 Public Educational
Hanover, NH

Stevens High School
9-12 Public Educational
Claremont, NH

Newmarket Jr./Sr. High School
9-12 Public Educational
Newmarket, NH

Lebanon Middle School
5-8 Public Educational
Lebanon, NH

Richmond Middle School
6-8 Public Educational
Hanover, NH

Merrimack Valley Middle & High School
6-8 and 9-12 Public Educational
Penacook, NH

Cardigan Mountain School McCusker Hall
Private Educational
Canaan, NH

Cardigan Mountain School Clark Morgan
Private Educational
Canaan, NH

Cardigan Mountain School Hayward Dormitory
Private Educational
Canaan, NH




Foley Buhl Roberts Associates
Structural Engineers

Foley Buhl Roberts & ASSOCIATES INC
structural engineers

500 Commercial Street
Manchester NH 03101
T 603·622·4578
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offices in:
Newton MA
Manchester NH
Portland ME
Decatur GA
www.fbra.com

COMPANY OVERVIEW

The firm of Foley Buhl Roberts & Associates, Inc. (FBRA) provides structural design and consultation for new and existing buildings. The firm's services are available to architects, developers, municipalities, owners, contractors and engineers. The company was founded in 1985 and their offices are located in Manchester, New Hampshire, Newton, Massachusetts, Portland, Maine, and Atlanta, Georgia. The firm's experienced technical staff includes ten registered professional structural engineers; collectively licensed in a total of twenty-one states.

FBRA provides structural design, preparation of structural drawings and specifications, shop drawing review and site observations for new buildings, and for the renovation and adaptive re-use of existing buildings. Additional consulting services that the firm offers include: analysis and evaluation of existing buildings, feasibility studies and comparative structural systems studies. The firm has a thorough knowledge of procedures, requirements and practices required by the International Building Code (IBC) for both new construction and existing buildings.

FBRA is an industry leader in the use of Building Information Modeling (BIM). Virtually all of the firm's major building projects undertaken since 2008 have been completed or are in progress utilizing BIM. Employing Revit software, BIM models are utilized by the firm as a visualization tool, as the principal means for coordination between design disciplines, as the basis for structural analytical models and for the development of structural contract drawings.

FBRA has been involved in the design of both public and private sector projects, with construction costs ranging from 1 million to over 150 million dollars. The firm's portfolio includes building projects with gross floor areas in excess of 400,000 square feet (both renovation and new construction). The experience of the Principals and the staff with various structural systems (both new and antiquated) covers a wide range of materials and construction methods; including reinforced concrete, post-tensioned concrete, precast concrete, composite and non-composite structural steel, open web and composite steel bar joists, reinforced masonry, heavy timber, engineered lumber and laminated wood. The foundation systems involved in these projects include deep piles, pressure injected footings, caissons, slurry walls, rammed aggregate piers and spread footings.

FBRA has completed 185 public school projects (K-12) in the past 33 years (more than 25 in New Hampshire) involving new construction, additions and renovations. The Principals and staff have extensive experience with the planning, budget and schedule issues that are critical to the success of any public school project, as well as the level of service and the attention to detail that is required. The firm has also conducted 350 Master Plan studies, programming and feasibility studies, existing conditions assessments and structural evaluations for various institutions and municipalities; including 100 school studies in 75 school districts throughout New England.

FBRA's recent and ongoing collaboration with Banwell Architects is the Golden Brook Elementary School in Windham. This three-phased project entails the demolition and reconstruction of approximately 85% of the existing building. In order to accommodate the continuous use of the school, the construction has been phased over a two-year period. The finished school, which is currently under construction utilizing the CM at Risk delivery method, will have a total floor area of 130,700 SF (18,700 SF of renovated space and 112,000 SF of new construction) and is expected to be completed in the summer of 2019. The firms are also working together on the Windham Middle School renovations, which is also under construction.

FBRA has been the structural consultant for 60 projects that were designed and constructed in accordance with LEED standards, registered with the US Green Building Council (USGBC), or meeting the requirements of the Collaborative for High Performance Schools (CHPS). The firm's near and Net-Zero Energy buildings include the R. W. Kern Center (NZE) at Hampshire College in Amherst, MA, and the Dr. Martin Luther King, Jr. School (nNZE) in Cambridge, MA.

The building industry is rapidly changing through technological advances, new building codes and innovative approaches to structural design, construction methods and project delivery (including CM at Risk and Design/Build projects). FBRA is committed to the pursuit of creative and economical structural solutions, coupled with a team approach on all projects, to produce integrated designs and to address the needs of the client in the continually changing building and economic environment.

Foley Buhl Roberts & ASSOCIATES INC
structural engineers

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Manchester NH 03101
T 603·622·4578
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offices in:
Newton MA
Manchester NH
Portland ME
Decatur GA
www.fbra.com

RESUME

KENNETH G. MARSHALL, P.E.

Project Manager/Engineer

EDUCATION

B.S. Civil Engineering, University of New Hampshire, 1990
M.S. Structural Engineering, University of New Hampshire, 1991

PROFESSIONAL EXPERIENCE

1992 Costello, Lomasney & DeNapoli, Inc., Manchester, NH, Project Engineer
1996 Foley and Buhl Engineering, Inc., Manchester, NH, Project Engineer
2003 Foley and Buhl Engineering, Inc., Manchester, NH, Senior Engineer
2005 Foley Buhl Roberts & Associates, Inc., Manchester, NH, Senior Engineer
2006 Foley Buhl Roberts & Associates, Inc., Manchester, NH, Senior Engineer/Associate

ENGINEERING REGISTRATION

New Hampshire No. 9063

PROFESSIONAL ASSOCIATIONS

American Institute of Steel Construction
National Council of Examiners for Engineering and Surveying
Structural Engineers of New Hampshire
Tau Beta Pi Association - The Engineering Honor Society

RELEVANT EXPERIENCE (New Hampshire Public K-12 Schools and Sunapee)

Alton - Prospect Mountain High School
Kingston - Sanborn Regional High School
Manchester - Bakersville Elementary School Renovations
Manchester - Memorial High School Library Addition
Nashua - Nashua North High School
Nashua - Nashua South High School Additions and Renovations
Rochester - Creteau Regional Technology Center Additions and Renovations
Rochester - East Rochester Elementary School Additions and Renovations
Salem - Salem High School & CTE Additions and Renovations
Sunapee - Abbott Library
Sutton - Kearsarge Regional Middle School
Windham - Windham High School
Wolfeboro - Kingswood Regional High School Additions and Renovations
Wolfeboro - Kingswood Regional High School Multipurpose Building
Wolfeboro - Kingswood Regional Middle School Additions and Renovations
Wolfeboro - Lakes Region Technology Center Additions and Renovations

CATHERINE A. FAUCHER, P.E.

Allied Engineering
Structural Mechanical Electrical Commissioning

Electrical Engineer/Principal
LEED AP

Catherine A. Faucher P.E. is President and Chief Electrical Engineer at Allied Engineering. In addition to her experience in new construction and renovations for power supply and distribution, lighting and system controls, Cathy has been heavily involved in the design of Technology Systems. This specialized area concentrates on the design of data/voice and other lower voltage wiring and components. Ms. Faucher has attended numerous courses and seminars in this field and supervises technical staff with RCDD credentials. Cathy is also a **LEED™** (Leadership in Energy and Environmental Design) Accredited Professional.

Work Related Experience

- Rollinsford School District MEP Facilities Assessment - Somersworth, NH
- Merrimack Valley High School (Electrical and Technology Services) - Penacook, NH
- Town of Scarborough Municipal, Administrative, and School Buildings Study - Scarborough, Maine
- Augusta Courthouse - Augusta, Maine
- Cumberland County Courthouse - Portland, Maine
- Portland Public Library Phase I Renovations - Portland, ME
- Cumberland County Jail Control Room - Portland, ME
- MaineDOT Acadia Gateway Phase I and II - Trenton, ME
- Maine Correctional Center, Windham, ME
- Maine Department of Transportation - Maintenance Garage Projects throughout the State
- Maine Turnpike Authority Gray Maintenance Facility - Gray, ME
- MaineDOT/BGS Fleet Services Center - Augusta, ME
- West Kennebunk Fire Station – Design/Build with PM Construction
- USPS Projects in Maine and New Hampshire
- Portsmouth Naval Shipyard, Kittery, ME
- West Kennebunk Fire Station – Design/Build with PM Construction

Education, Registration, and Affiliation

University of Maine - Orono - B.S. Electrical Engineering - 1987
Registered Professional Electrical Engineer (NCEES) - ME, MA
Institute of Electric and Electronics (IEEE)
National Association of Electrical Inspectors
Illuminating Engineering Society (IES)
LEED™ (Leadership in Energy and Environmental Design) Accredited Professional

Employment History

1996 – Present	**Allied Engineering** – President and Principal in Charge of Electrical Engineering
1995 – 1996	TMP Consulting Engineers - Project Engineer
1993 – 1995	SMRT - Electrical Engineer
1988 – 1993	Oak Point Associates - Electrical Engineer
1987 – 1988	Factory Mutual Engineering - Field Engineer

COMPANY PROFILE

Allied Engineering
Structural Mechanical Electrical Commissioning

BACKGROUND

Allied Engineering, Inc. **(AEI)** has been providing multi-discipline engineering support to our clients since 1958. Our experience lies in our knowledge and understanding of Structural, Mechanical, Electrical and Technology systems for new buildings and renovation design projects. Our expertise is demonstrated in our attention to detail, integrated designs, and our excellent reputation.

AEI has the advantage of having most disciplines under one roof. We are a team player, working for architects as well as leading full-service teams as a prime consultant. We flourish in all project delivery methods, including traditional design-bid-build, design-build, and construction management.

Today's complex buildings require leading-edge systems engineering to optimize performance in both efficiency and use. As projects increase in complexity, communicating designs and design changes among mechanical, electrical, and plumbing (MEP) engineers and their extended teams, including architects and contractors, becomes more important. **AEI** utilizes Autodesk Revit and Autocad design tools to improve productivity, accuracy, and coordination.

OUR PRACTICE/SERVICES OFFERED

- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Building Commissioning
- Technology Engineering
- Fire Protection
- Environmental
- Construction Administration

CERTIFICATIONS

Allied Engineering, Inc. is certified as a ***Disadvantaged Business Enterprise (DBE) by Maine DOT and a self-certified Woman Owned Small Business (EDWOSB/WOSB)***

LOCATION OF OUR OFFICE

160 Veranda Street, Portland, ME 04103

DATE OF INCORPORATION:

January 24, 1958; State of Maine, Corporation

BCxA Building Commissioning Association

ENERGY STAR PARTNER

U.S. GREEN BUILDING COUNCIL

ANTHONY DAVIS, P.E.

Allied Engineering
Structural Mechanical Electrical Commissioning

Mechanical Engineer/Principal/Accredited Commissioning Process Provider
LEED AP

Anthony Davis, P.E., Principal, is a mechanical engineer with experience in the assessment, design, and commissioning of mechanical systems. Tony has completed the VFA Facilities/Infrastructure Certification Program, and has also been trained and certified as an asbestos professional with experience in the survey, design, and construction management of asbestos remediation/removal projects. Tony has attained accreditation from the University of Wisconsin as a Total Building Commissioning Process Provider. He has completed many projects throughout the New England region. Tony is also a **LEED™** (Leadership in Energy and Environmental Design) Accredited Professional. Most recently, Tony has achieved certification as commissioning authority under the Associated Air Balance Council Commissioning Group (ACG). This certification is required to perform commissioning work on many Federal Government projects.

Education, Registration, and Affiliation

University of Maine - B.S. in Mechanical Engineering - 1988
Registered Professional Engineer – ME, NH, MA, CT and OH
Member - American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
Member - Maine Indoor Air Quality Council
LEED™ (Leadership in Energy and Environmental Design) Accredited Professional
Member - National Fire Protection Association (NFPA)
Member – Building Commissioning Association (BCA)
Accredited Total Building Commissioning Process Provider, University of Wisconsin
Accredited Installer-International Ground Source Heat Pump Association
Certified Commissioning Authority-AABC Commissioning Group

Work Related Experience

- Municipal Service Facility, Center Conway, New Hampshire Windham Public Works Garage, Windham, ME
- Riverview Psychiatric Facility-HVAC Assessment-Augusta, Maine
- South Portland Bus Garage, South Portland, ME
- Maine Turnpike Authority Gray Maintenance Facility - Gray, Maine
- MaineDOT/BGS Fleet Services Center - Augusta, Maine
- Acadia Gateway Center-Phase I-Maintenance Garage, Trenton, Maine
- Richmond Maintenance Garage-MDOT Richmond, Maine
- Bethel Maintenance Garage-MDOT, Bethel, Maine
- MDOT Visitor's Information Center, Fryeburg, Maine
- Cumberland County Courthouse – Portland, ME
- York Village Fire Station Heat Load Analysis - York ME
- Goodwins Mills Fire Rescue Addition - Lyman, ME

Employment History

2000 – Present **Allied Engineering** - Mechanical Engineer, Principal
1999 – 2000 **Allied Engineering** - Chief Mechanical Engineer
1988 – 1999 **Allied Engineering** - Mechanical Engineer

SUSAN HATHAWAY, LEED AP

Allied Engineering
Structural Mechanical Electrical Commissioning

Senior Mechanical Designer

Susan has more than 20 years of experience in plumbing, fire protection and mechanical design. She has provided estimating and design of commercial projects throughout the State of Maine. As a designer Susan also meets with prospective clients and other team members to establish the project scope and work cooperatively to create drawings and specifications for the project. She also provides assistance to technicians in the field when questions arise.

Education

Architectural Drafting and Design - CMCC, South Portland, ME - 1989
Associates Degree
LEED Accredited Professional
Proficient in AutoCAD 2014 and Revit 2014

Work Related Experience

- Wells-Ogunquit High School - Plumbing Design
- Skyhaven Ambulatory Surgery Center - Plumbing Design
- UNH Parsons EMC Relocation - HVAC and Plumbing Design
- Unum HO1 2014 Interior Renovations – HVAC and Plumbing Design
- Animal Refuge League of Greater Portland - Plumbing Design

Projects completed while with previous employers:

- UNE Gross Anatomy Lab, Biddeford
- Preble Street Teen Shelter, Portland
- Legacy Memory Care, Falmouth
- Saco Fire Station remodeled into a Housing Unit, Saco
- Gray Public Library, Gray
- Mid Coast Medical Office Building, Topsham
- Prime Motors, Portland
- Numerous Shaw's projects throughout New England
- Whole Foods
- Mohnlycke Health Care, Brunswick
- Biddeford High School, Biddeford
- Idlehurst Elementary School, Somersworth NH
- Fryeburg Academy Performing Arts Center, Fryeburg
- Bridgton Academy, Bridgton
- Maine Health, Portland
- Buxton Elementary School, Buxton
- DTAV Dormitory at UMO, Orono
- Several small remodels at CMCC, Auburn
- Maine Medical Office Building, Portland

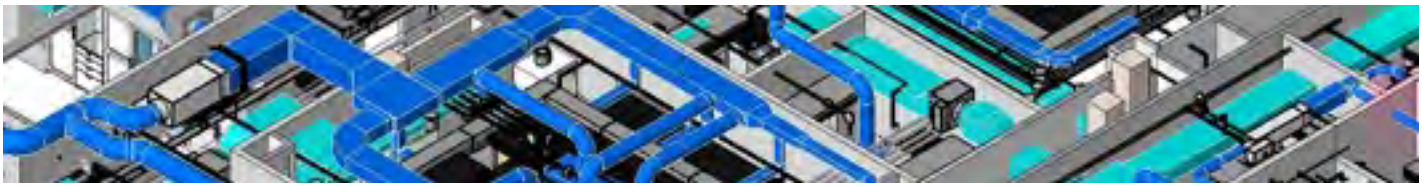
Employment History

2014 – Present	**Allied Engineering** - Senior Mechanical Designer
2012-2014	Titan Mechanical - Mechanical Designer
2000-2012	Harriman - Plumbing/Sprinkler Designer

Company Overview

WHO WE ARE

Fitzemeyer & Tocci is a leading engineering firm for health science institutions, including academic, research, and manufacturing facilities. Several of the biggest names in healthcare rely on our services. We have been solving complex mechanical and electrical engineering challenges at leading institutions since 1960. Clients hire us because we're exceptional at what we do – engineer facilities that promote wellness and keep patients, staff and students safe. While the technical and regulatory requirements in these environments are steep, we've developed processes that make us fast and efficient. We help our clients understand how their facilities stack up against others in the industry, our proprietary benchmarking tool provides critical insights during critical decision making stages of a project. At Fitzemeyer & Tocci, our priorities are the same as yours: keep patients, staff and students safe.



SERVICES

Mechanical Engineering
Electrical Engineering
Plumbing Engineering
Fire Protection Engineering
Life Safety Consulting
Commissioning/Retro-commissioning
Building Information Modeling (BIM)
Design / Build Integrated Project Delivery
Energy Conservation Measures
Infrastructure Master Planning
Infrastructure Assessments
LEED Consulting
Sustainability
Information Technology & Communications
Owner's Engineer and Project Support Services

MARKETS

Healthcare
Academic Institutions
Medical Schools
Research Laboratories
Pharmaceutical
Manufacturing
Commissioning
Energy & Infrastructure

ASSOCIATIONS

AABC Commissioning Group (ACG)
American Society of Healthcare Engineers (ASHE)
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
Association of Energy Engineers (AEE)
New England Healthcare Society (NEHES)
Northern New England Chapter APPA (NNECERAPPA)
Society of College and University Planning (SCUP)

ESTABLISHED

1960 | Massachusetts | Corporation

HEADQUARTERS

Fitzemeyer & Tocci Associates, Inc.
300 Unicorn Park Drive, 5th Floor
Woburn, MA 01801
781.481.0210

www.f-t.com

OUR TEAM

We provide leadership in engineering consulting through our Principal-led, multi-disciplinary project teams. Our team members are creative and flexible (we deal with projects that change continually). We value technical expertise, strong communications skills, teamwork, and involvement in industry organizations.

The Fitzemeyer & Tocci team consists of Professional Engineers licensed throughout the Northeast and Mid-Atlantic.

Windham Middle School and Golden Brook Elementary School Renovation/ Addition

Windham, New Hampshire

Fitzemeyer & Tocci is providing full MEP/FP engineering services for design and construction administration of the phased project that includes renovation and addition of the Windham Golden Brook Elementary and renovation of the Windham Middle School. Phase 1 was completed for students to start school in August of 2018, while Phase 2 (and total project) completion will occur in August of 2019. The project included providing all new MEP/FP systems within the renovated spaces as well as the addition. An emphasis on phasing and maintaining an operable school during construction was the key success factor for the project.

Construction Cost: $30,00,000
Project Size: 130,000 sf
Year Completed: August 2018 (Phase 1) & August 2019 (Phase 2)
Architect: Banwell Architects

Greenfield High School New Construction

Greenfield, Massachusetts

Completed in September of 2015, this brand-new high school incorporated displacement ventilation, and earned LEED Gold Certification from the USGBC, in part due to the Indoor Air Quality credits achieved from the system. The $66 million high school spanned a 160,650 square foot building footprint with displacement ventilation serving all the classroom spaces. A state-of-the-art auditorium included speciality lighting and audio/visual design integration. Ventilation included central energy recovery units for maximum efficiency. The project involved phased construction and helped modernize the school experience.

Construction Cost: $65,000,000
Project Size: Fisk 160,650 sf
Year Completed: Septemeber 2015
Architect: Dore & Whittier Architects

East Rochester Elementary School Renovation and Addition

East Rochester, New Hampshire

Fitzemeyer & Tocci completed the renovation consisting of a separation of the existing school into 2 separate buildings, including classrooms, multi-purpose rooms, kitchen and a mechanical room. The project was phased and required the separation of underground utilities. The mechanical design implemented the use of chilled beam (active and passive) for an energy efficient cooling system. Close coordination between LBA and F&T took place as an open ceiling concept was implemented in various spaces. HVAC ductwork/piping, sprinkler layout and lighting was coordinated to work with the architectural 'cloud' layout.

Construction Cost: $8,000,000
Project Size: 49,000 sf
Year Completed: 2015
Architect: Lavallee Brensinger Architects

Fisk, Haigh and Soule Elementary Schools Renovations and Upgrades

Salem, New Hampshire

Fitzemeyer & Tocci provided full MEP/FP engineering services for design and construction of three (3) schools in Salem, NH with Lavallee Brensinger Architects. The Soule and Fiske Schools included both renovations and additions, while the Haigh school included minor renovations. Cumulatively the project renovated or added approximately 25,000 SF. The HVAC system included new energy recovery units for classroom ventilation along with new primary boilers, pumps and associated piping distribution systems. The electrical work included new power for the renovations along with new lighting layout to support architectural enhancements.

Construction Cost: $12,000,000
Project Size: Fisk 25,000 sf
Year Completed: 2014
Architect: Lavallee Brensinger Architects

Createu Regional Technolog Center / Spaulding High School

Rochester, New Hampshire

Fitzemeyer & Tocci has served as the mechanical, electrical, plumbing and fire protection engineer for phased construction projects at the Spaulding High School and connected Creteau Regional Technology Center in Rochester, New Hampshire. The phased construction project included various life safety system upgrades over the past three (3) years and is now in the middle of construction of a $16,000,000 construction renovation and addition to the Creteau Technology Center. The latest work includes new HVAC and electrical infrastructure to service the various program enhancements throughout the school. F&T worked closely with the project stakeholders and school teachers to meet the individual program needs, enhancing the student experience.

Cumulative Construction Cost: $20,000,000
Project Size: 110,000 sf
Year Completed: Phased from 2014 thru Estimated 2019
Architect: Lavallee Brensinger Architects

University of New Hampshire Hamilton Smith Hall

Durham, New Hampshire

Recently completed Hamilton Smith Hall is located at the University of New Hampshire in Durham. This 75,000 square foot, $37 million academic building was completed in September of 2017, and incorporated displacement ventilation in the classroom spaces. A state-of-the-art auditorium included speciality lighting and audio/visual design integration. Ventilation included central energy recovery units for maximum efficiency. The building was provided with entirely new MEP/FP systems, while the original architecture was preserved within the original building. The final product includes lecture halls, classrooms and state-of-the-art Technology Enabled Active Learning (TEAL) classroom design for modern teaching and learning techniques.

Construction Cost: $37,000,000
Project Size: 75,000 sf
Year Completed: September 2017
Architect: DiMella Shaffer

JEFF A. ROMEO, PE

Principal | Executive Vice President of TSG

As Principal, Jeff serves as the overall supervisor of the Academic team, being actively involved in the design and management of all academic projects within the firm. In his role as Principal, Jeff directs, leads and ensures the incorporation of all client requirements, reviews all project deliverables and coordinates and monitors all design and construction activities. His primary goal is to consistently meet all client expectations by delivering successful and innovative solutions.

RELEVANT EXPERIENCE

Windham Golden Brook & Middle School |Feasbility Study | Windham, NH
Facilities assessment of the HVAC, plumbing, fire protection and electrical infrastructure of two schools in Windham, NH.

Dr. John C. Page Elementary School | Phase 2 | West Newbury, MA
Fitzemeyer & Tocci provided HVAC, plumbing, fire protection and electrical engineering services for a $6,200,000, 22,000 sf renovation and addition.

Dr. John C. Page Elementary School | Boiler Replacement | West Newbury, MA
We are providing MEP engineering services for this $1,000,000 project to remove the school's existing boilers and replace them with new high-efficiency boilers.

East Rochester Elementary School | Renovation and Addition | East Rochester, NH
HVAC, plumbing, fire protection and electrical engineering services for an $8,000,000, 14,000 sf renovation and 35,000 sf, 2-story addition.

Fisk Elementary School | Salem, NH
HVAC, plumbing, fire protection and electrical engineering services for the $16,200,000, 16,500 sf expansion and renovation of Fisk Elementary School.

Greenfield High School | Greenfield, MA
Our team is providing HVAC, plumbing, fire protection and electrical engineering services for a new $54,000,000, 100,000 sf high school.

Haigh Elementary School | Salem, NH
$16,200,000 Salem schools upgrade, including minor renovations of Haigh Elementary School.

Oxford Middle School | Oxford, MA
HVAC, plumbing, and electrical engineering services for the $2,500,000 replacement of the HVAC system in the 110,420 sf Oxford Middle School.

Pentucket School District | Boiler and Water Heating Plant West Newbury, MA
MEP engineering services for a middle school's new boiler and water heating plant and associated systems within existing boiler and pump rooms

Soule Elementary School | South Grafton, MA
$16,200,000 upgrade to several elementary schools in the city, including a 12,000 sf addition and 1,900 sf renovation of the Soule Elementary School.

Spaulding High School | Front Entry and Security Office Upgrade | Rochester, NH
MEP design support for security upgrades and renovation of the high school's front entrance and exterior egress doors requiring new electronic hardware.

Bridgewater State University | South Yarmouth Branch | Bridgewater, MA
Renovation of a 10,300 sf South Yarmouth elementary school for Bridgewater State University to utilize for a classroom building

EDUCATION

Wentworth Institute of Technology
Boston, MA
AS, Electrical Engineering
AS, Architectural Engineering
BS, Architectural Engineering

REGISTRATIONS

Registered Professional Engineer:
CT, DE, MA, ME, NH, NJ, NY,
PE, VT, VA

PROFESSIONAL AFFILIATIONS

Institute of Electrical and Electronics Engineers

Society for College and University Planning

MATTHEW R. MERLI, PE, LEED AP BD+C®

Academic Market Leader | Project Officer

In his role as Market Leader, Matthew serves as the overall supervisor of the project and the primary contact to clients throughout project development. He understands all phases of a particular project, coordinating closely with the entire project team, both internal and external. As part of his position, Matt ensures that all client requirements are met by developing a strong client relationship, from project inception through construction closeout. He has extensive experience in mechanical investigation as well as the design and construction for a broad range of facilities, with a particular focus on academic facilities. Matt's focus as Market Leader is to ensure all client goals are met successfully.

RELEVANT EXPERIENCE

East Rochester Elementary School | Renovation and Addition | East Rochester, NH
HVAC, plumbing, fire protection and electrical engineering services for an $8,000,000, 14,000 sf renovation and 35,000 sf, 2-story addition.

Fisk Elementary School | Salem, NH
HVAC, plumbing, fire protection and electrical engineering services for the $16,200,000, 16,500 sf expansion and renovation of Fisk Elementary School.

Haigh Elementary School | Salem, NH
$16,200,000 Salem schools upgrade, including minor renovations of Haigh Elementary School.

Soule Elementary School | South Grafton, MA
$16,200,000 upgrade to several elementary schools in the city, including a 12,000 sf addition and 1,900 sf renovation of the Soule Elementary School.

Windham Golden Brook & Middle School |Feasbility Study | Windham, NH
Facilities assessment of the HVAC, plumbing, fire protection and electrical infrastructure of two schools in Windham, NH.

Dr. John C. Page Elementary School | Phase 2 | West Newbury, MA
Fitzemeyer & Tocci provided HVAC, plumbing, fire protection and electrical engineering services for a $6,200,000, 22,000 sf renovation and addition.

Dr. John C. Page Elementary School | Boiler Replacement | West Newbury, MA
We are providing MEP engineering services for this $1,000,000 project to remove the school's existing boilers and replace them with new high-efficiency boilers.

Greenfield High School | Greenfield, MA
Our team is providing HVAC, plumbing, fire protection and electrical engineering services for a new $54,000,000, 100,000 sf high school.

University of New Hampshire | Hamilton Smith Hall | Durham, NH
HVAC, plumbing, fire protection and electrical engineering services for the $30,000,000, 74,000 sf renovation and expansion of Hamilton Smith Hall.

Oxford Middle School | Oxford, MA
HVAC, plumbing, and electrical engineering services for the $2,500,000 replacement of the HVAC system in the 110,420 sf Oxford Middle School.

Spaulding High School | Front Entry and Security Office Upgrade | Rochester, NH
MEP design support for security upgrades and renovation of the high school's front entrance and exterior egress doors requiring new electronic hardware.

EDUCATION

University of Massachusetts
Amherst, MA
BS, Mechanical Engineering

REGISTRATIONS

Registered Professional Engineer: MA

PROFESSIONAL AFFILIATIONS

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

ABDULLAH KHALIQI, PE, CPQ
Project Manager

EDUCATION
Pennsylvania State University, University Park, PA
BS, Computer Engineering

REGISTRATIONS
Registered Professional Engineer: MA, RI

PROFESSIONAL CERTIFICATIONS
Certified Power Quality Professional

In his role as Project Manager, Abdullah serves as the overall supervisor of the project and the primary contact to clients throughout project development. He understands all phases of a particular project, coordinating closely with the entire project team, both internal and external. As part of his position, Abdullah ensures that all client requirements are met by developing a strong client relationship, from project inception through construction closeout. Abdullah's focus as Project Manager is to successfully meet all project goals while satisfying the needs and requirements of the client.

RELEVANT EXPERIENCE

Derryfield School | Athletic and Wellness Facility | Manchester, NH
F&T is providing full MEP/FP engineering services for the design and construction administration of a brand new 40,000 SF Athletic and Wellness Center.

University of New Hampshire | Hamilton Smith Hall | Durham, NH
HVAC, plumbing, fire protection and electrical engineering services for the $30,000,000, 74,000 sf renovation and expansion of Hamilton Smith Hall.

Boston College | Kostka Hall Lounge Redesign | Chestnut Hill, MA
Mechanical, electrical, plumbing, and fire protection engineering design for the renovation of the First Floor of Kostka Hall for Boston College in Boston, MA.

Boston College | 2000 Comm Ave | Boston, MA
Provided MEP/FP design and construction administration services for the renovation of an apartment building to student housing.

University of Massachusetts | Furcolo Hall | Amherst, MA
Mechanical and electrical engineering design and construction services for the renovation of various classrooms at Furcolo Hall for UMass Amherst.

Boston University | Fichot Lab Upgrades | Boston, MA
MEP/FP engineering design for the renovation of approximately 615 SF for the Fichot Laboratory and 221 SF for the Geddes Laboratory.

Manchester Community College | Technology Lab Building | Manchester, NH
MEP/FP engineering services for the design of a new 26,000 SF HVAC & Electrical Technology Laboratory Building at the Manchester Community College.

Stockbridge Library | MEP Upgrade | Stockbridge, MA
Provided HVAC, electrical, plumbing and fire protection engineering services for the design and CA associated with a renovation of the 11,300 sf Library.

Geisel School of Medicine at Dartmouth College | Remsen & Vail | Hanover, NH
MEP/FP engineering design for the renovation of existing laboratory, office and support spaces for the Geisel School of Medicine's 6th Floor of the Remsen & Vail.

Firm Biography

Year Incorporated
1973

President
Wayne G. Fillion, P.E.

Office Locations
646 Union St. Suite 200, Littleton, New Hampshire 03561
40 South River Road #36, Bedford, New Hampshire 03110

Consulting & Design Services Offered
Mechanical Engineering, Electrical Engineering, Plumbing Engineering & Sustainable Engineering

Yeaton Associates, Inc. is a well-respected MEP consulting engineering firm with a commitment to quality and an assurance that the company will deliver well-engineered, efficient and sustainable design services. Founded in 1973, Yeaton has evolved its focus to provide Mechanical, Electrical, Plumbing and Sustainable Engineering Design Services as part of its integrated, multi-disciplinary approach to engineering.

For over 45 years, Yeaton Associates, Inc. has provided and continues to provide expert, comprehensive engineering consulting and design services for healthcare, academic, commercial and public facilities. A focus on innovation and emerging technologies has allowed the company to stay at the forefront of high-performance design, while a commitment to quality and service has made Yeaton Associates, Inc. a trusted partner for those in need of engineering design services. The company's extensive client base and diverse project resume has garnered recognition throughout New England, and its commitment to quality has allowed Yeaton Associates, Inc. to earn a reputation for excellence and excel as a well-respected design leader within the industry.

Over 45 Years of Engineering Excellence

YEATON ASSOCIATES, INC.

Lenny J. Edmunds – Electrical Project Manager

Lenny is an Electrical Project Manager at Yeaton Associates, Inc. Prior to joining the company, Lenny held the position of Senior Electrical Designer at RFS Engineering in Laconia, New Hampshire, and previous to RFS, was a 23 year veteran of C & M Engineering in Manchester, New Hampshire. Lenny has extensive work experience in Educational, Healthcare, Institutional and Commercial Electrical Engineering. Lenny works out of the Bedford, New Hampshire Office and resides in Concord.

Work Experience

- Yeaton Associates, Inc. – Littleton, New Hampshire — 2014 - Present
  Electrical Project Manager
- RFS Engineering – Laconia, New Hampshire — 2009 - 2014
  Senior Electrical Designer
- C&M Engineering – Manchester, New Hampshire — 1987 - 2009
  Senior Electrical Designer

Featured Projects

- Bishop Guertin High School
- Catholic Medical Center
- Colby Sawyer College
- Concord Hospital
- Concord Schools - Concord, NH
- Daniel Webster College
- Dartmouth Hitchcock MOB - Nashua
- Derryfield Country Club
- Franklin Pierce Law School Addition
- Frisbie Memorial Hospital
- Goodall Hospital
- Keene High School
- Littleton Regional Hospital
- Manchester Boys & Girls Club
- MCC – Automotive Training Center
- Manchester Fire Department
- Manchester Police Station
- Manchester School of Technology
- Manchester-Boston Regional Airport
- Middlebury College - Field House
- Monadnock Community Hospital
- Nashua Public Library
- New Hampshire Community Technical Colleges
- New Hampshire State Prison
- New Hampshire Technical Institute
- Rivier College
- Souhegan High School
- Southern NH Medical Center
- St. Andrew's Hospital
- St. Anselm College
- St. Joseph's Medical Center
- St. Michael's College
- St. Paul's School
- St. Thomas Aquinas
- State of NH - Office Buildings & Laboratories
- Steeplegate Mall Expansion
- Timberlane Regional High School
- Tri-Town Ice Arena
- UMass Lowell - Student Center
- UNH - Cowell Stadium Lighting Project
- University of New Hampshire
- University of Vermont - Aiken Building
- Valley Regional Hospital
- Wellesley College - Field House

Wayne G. Fillion, P.E. – President

Wayne is a registered Professional Engineer who has been with Yeaton Associates, Inc. for nearly 30 years. He is the President of Yeaton Associates, Inc., a position he has held for the past 20 years. Wayne began his career as an HVAC Design Draftsman for two engineering firms based in Burlington, Vermont: Wieman-Lamphere Architects and Jennison Engineering, Inc. Prior to his role as President for Yeaton Associates, Inc., Wayne served as a Senior Project Engineer as well as Vice-President of the company.

Work Experience

- Yeaton Associates, Inc. – Littleton, New Hampshire — 1990 - Present
  President
- Yeaton Associates, Inc. – Littleton, New Hampshire — 1985 - 1990
  Vice President
- Jennison Engineering, Inc. – Burlington, Vermont — 1983 - 1985
  HVAC Design Draftsman
- Wiemann-Lamphere Architects – Burlington, Vermont — 1981 - 1983
  HVAC Design Draftsman
- Yeaton Associates, Inc. – Littleton, New Hampshire — 1976 - 1981
  HVAC Design Draftsman

Featured Projects

- Catholic Medical Center
- Christa McAuliffe–Shepard Discovery Center
- Colby-Sawyer College (LEED®)
- Community College System of New Hampshire (LEED®)
- Concord Hospital
- Dartmouth College
- Dartmouth Printing
- ECHO Lake Aquarium & Science Center - Leahy Center
- Franklin Pierce Law Center
- Holderness School (LEED®)
- Kingswood Schools (CHPS)
- Littleton Regional Career & Technical Center
- Littleton Regional Hospital
- Loon Mountain
- Lyndon State College (LEED®)
- MCC Automotive Training Center (LEED®)
- New Hampshire Community Technical Colleges (LEED®)
- New Hampshire National Guard
- New Hampshire State Prison
- New London Hospital
- NHTI – Health Education Center (LEED®)
- Rivier College
- Southern New Hampshire University
- St. Paul's School
- State of New Hampshire Office Buildings & Laboratories
- The Balsams Grand Resort Hotel
- The Mount Washington Hotel
- University of New Hampshire
- University of Vermont
- Valley Regional Hospital
- Vermont Air National Guard (LEED®)
- Vermont Army National Guard
- Veterans Administration Hospital
- Weeks Medical Center

Professional Qualifications

New Hampshire Professional Engineer (License Number 7427)
Vermont Professional Engineer (License Number 5915)
Maine Professional Engineer (License Number 6646)

Education

Plymouth State College – Plymouth, New Hampshire
New Hampshire Technical Institute – Concord, New Hampshire

Ryan C. Nealley, P.E., M.S.M.E., C.E.M. – Mechanical Engineering Manager

Ryan is a registered Professional Engineer at Yeaton Associates, Inc. Prior to joining the company, Ryan held the title of Senior Mechanical Engineer at the engineering firms of AKF Group and CES, Inc. as well as being the Mechanical Engineering Department Manager for Diversified Technology Consultants in Connecticut. Ryan has extensive experience in healthcare, academic, industrial, commercial and federal government facilities.

Work Experience

- Yeaton Associates, Inc. – Bedford, New Hampshire — 2015 - Present
  Mechanical Engineering Manager/Project Manager
- Diversified Technology Consultants – Hamden, Connecticut — 2013 - 2015
  Mechanical Engineering Department Head/ Project Manager
- AKF Group – Stamford, Connecticut — 2011 - 2013
  Senior Mechanical Engineer/Project Manager
- CES, Inc. — 2009 - 2011
  Senior Mechanical Engineer
- Di Bari Engineering, PC — 2003 - 2009
  Mechanical Engineer

Featured Projects

- American University
- Bradley International Airport
- Bridgeport Senior Housing
- Brockton VA SPD
- Burndy Corporation
- Catholic Medical Center
- City of Manchester – EPD Facility
- Eastman Activities Center
- FairPoint – Operations Buildings
- Gaylord Hospital Solar Thermal Plants
- Glen House Hotel
- Green Mountain College – Ackley Lab
- Greenwich Central Fire Station
- Hartford Yard Goats Baseball Stadium
- Hutchinson Metro Center
- Manchester WWTP
- Nashua Fire Station
- Jamaica Hotel
- Liberty Hotel
- New Haven Police Department Training Facility
- New Hampshire Army National Guard
- Norwalk Community College
- Park City Communities
- Stamford Hospital Plant
- State of NH – State Archives Building
- State of NH – New Hampshire Hospital
- Stratford Public Library
- University of New Hampshire – Thomson School Feasibility Study
- University of Vermont Medical Center – Fanny Allen
- Vermont Air National Guard
- Winston Preparatory School
- Yale University

Professional Qualifications

Connecticut Professional Engineer (License Number PEN.0028084)
Maine Professional Engineer (License Number 14174)
Massachusetts Professional Engineer (License Number 50937)
New Hampshire Professional Engineer (License Number 14881)

Education

M.E. Mechanical Engineering - University of New Haven
B.S. Mechanical Engineering - Worcester Polytechnic Institute

Overview of Services Offered

Mechanical Engineering Services

Heating, Ventilating and Air Conditioning (HVAC) System Design, Central Chiller and Heating Plant System Design, Geothermal System Design, Industrial Ventilation, Exhaust & Supply Systems for Hospitals, Laboratories and Industrial Facilities, Process Piping, Under Floor Air Distribution Systems, Radiant Heating and Cooling, Thermal Storage, Cogeneration, Building Automation Systems and Temperature Controls, Facility Assessments, HVAC System Evaluation & Master Planning, Feasibility Studies, Investigations & Energy Audits, Energy Modeling and Life-Cycle Cost/Benefit Analysis, Energy Recovery, Sustainable Design Integration and LEED® Certified Designs, Plumbing & Medical Gas, Smoke Control Systems, Fire Protection Performance Documents, Building Information Modeling (BIM)

Electrical Engineering Services

Power Distribution Systems, Emergency/Standby Power Systems, Uninterruptable Power Supply (UPS), Energy Efficient and Ergonomic Interior and Exterior Lighting Design, Lighting Controls, Grounding/Lightning Protection, Life Safety Systems , Fire Alarm Systems, Nurse Call Stations, Mission-Critical Infrastructure and Distribution, Telephone & Data Systems, Cogeneration and Distributed Generation, Facility Assessments, Electrical System Evaluation & Master Planning, Feasibility Studies, Investigations & Energy Audits, Load Analysis & Utility Rate Analysis, Energy Modeling and Life-Cycle Cost/Benefit Analysis, Sustainable Design Integration and LEED® Certified Designs, Photovoltaic Design

Plumbing Engineering Services

Plumbing System Design--including Water, Waste and Vent Systems, High-Purity Water Systems, Laboratory Piping Systems, Medical Piping Systems, Medical Gas System studies and verification for conformance with NFPA 99 (oxygen, nitrogen, nitrous oxide), Compressed Air and Vacuum Systems, Separation of Process and Non-Process Waste and Water Systems, Water Consumption Analysis, Water Conservation and Recovery Systems, Documentation & Drawings of Existing Conditions, Cross-Connection Survey and Corrected Work, Facility Assessments, Plumbing System Evaluation & Master Planning

Sustainable Engineering Services

Sustainable Design Integration and LEED® Certified Designs, Sustainable Development and LEED® Consulting, Energy Conservation Analysis, Energy Modeling and Life-Cycle Cost/Benefit Analysis, Facility Assessment, Sustainable Master Planning , Feasibility Studies & Investigations, Energy Audits & Retrofits, Energy Management Controls, Energy Code Compliance Forms, Alternate Energy System Designs (Geothermal, Biomass, Solar), Waste Heat Recovery, Thermal Energy Storage, Rain Water Reclamation Systems, Photovoltaic Design, Cogeneration, Conformance with ASHRAE 90.1 & 189 Standards

Company Profile

terrain
planning & design llc

Philosophy

"Terrain" represents the medium that we use to link the built environment with the natural world around us.

We believe that landscape architecture is a blend of art and science. Successful designs link outside spaces with inside ones. Whether working on a custom home, a school yard play area or a new commercial office building, we tackle every project with the same goal – to use a light-handed approach to create safe and enjoyable exterior spaces that meet the budgetary and programmatic needs of our client – while still maintaining the inherent beauty of the site.
Integrated Design Approach. The success of any project is achieved through the collaborative efforts of a qualified, experienced design team. In our view, the most important team member is the client. We pride ourselves on an interactive design process working hand-in-hand with our clients to achieve their goals and solve their design challenges. These collaborative efforts often result in cost savings for our clients as well as a more harmonious finished project.
Stewardship. In designing outdoor spaces, we find it's easier to work with nature than against it. Utilizing innovative storm-water management techniques, a native palette of ornamental plant material and environmental sensitivity, we are able to create sustainable designs that reflect and respect the character of any site.

Services

Recreation Planning takes into account the specific recreation needs of a given community and assists them in developing a cohesive plan for future expansion & growth.
Master Planning develops the framework for a project that will integrate phased development. It provides a vision for the development process and lays out the groundwork and details for each specific goal.
Community Design interplays the relationships between a designer and a unified group of people. In this role the landscape architect is allowed to orchestrate an open public design process within a community fabric, bringing to the table an array of design problems and answers the group can collectively develop the best creative alternative.
Project Programming develops a detailed list of activities that will embody the site. This phase creates a hierarchy of conflicting uses and deems appropriate locations and relationships for each.
Site Selection determines the potential of a site to support a given program through a series of analyses. Creative design alternatives allow for project success when initial site selection and desired outcome do not integrate.
Site Planning integrates site analysis and programming to develop design ideas for a given site location. Effective site planning often requires a multidisciplinary approach with all those involved united under a common goal.
Environmental Design an approach to design that maintains the philosophy of sustainable design. This environmentally sensitive process strives to achieve maximum output with minimal impact.
Construction Administration manages the implementation of design ideas over the period of construction. Representation on behalf of the client allows the landscape architect to protect the interest of the project owner while maintaining a professional relationship with those constructing his or her creation.
Maintenance Scheduling & Needs develops post construction requirements for the upkeep of the project once initial installation is complete. Without proper care the project may fall into disarray.
Presentation Modeling & Graphics can be created and developed through an assortment of media. They allow for design ideas and solutions to be represented in a fashion that is recognizable to all whom behold. Such graphics and models can be highly useful for fundraising and public relations initiatives.

Eric R. Buck

EDUCATION

Bachelor of Science Landscape Architecture
University of Connecticut

Bachelor of Science Ornamental Horticulture
University of Connecticut

PROFESSIONAL EXPERIENCE

Terrain Planning & Design LLC, Hopkinton, NH
Founding Partner & Principal Landscape Architect — 2006 - Present

Scott Burns' Landscaping LLC, Meredith, NH
Associate Landscape Architect in charge of all design work — 2004 - 2007

Construction Crew Foreman in charge of project management
for specific residential landscape projects — 2002 - 2004

RELEVANT PROJECTS

Woodside School, Concord, NH
Design and layout of playground, including; enhanced circulation, new play features drainage improvements, project management, and creative spatial composition

White Birch Community Center, Henniker, NH
Design and layout of playground site and landscape plan for day care center.

Winant Park, Concord, NH
Design and layout of 86 acre park, including; parking, park entry, trails, viewing areas and use of sustainable construction materials through entire park.

New Hampton School, New Hampton, NH
Design and layout of campus's circulation, entry node and storm water collection areas

McAuliffe – Shepard Discovery Center, Concord, NH
Landscape design for new museum and memorial including, planet gardens, Red Stone Rocket Plaza, Human Sun-Dial and Planet walk.

Henniker Community School, Henniker, NH
Design and layout of existing playground to include natural play features and enhanced spacial organization.

PROFESSIONAL & CIVIC ASSOCIATIONS

New Hampton School Board of Trustees, Member — 2019- Present
Granite State Landscape Architects, President — 2014 - 2016
Granite State Landscape Architects, member — 2009 - Present
American Society of Landscape Architects, Member — 2001 - Present
Bedford Conservation Commission, Member — 2010 - 2013

REGISTRATION

Licensed Landscape Architect in the State of New Hampshire, Registration # 78

T: 603.491.2322 311 East Hill road Hopkinton nh 03229 eric@terrainplanning.com

Holderness Central School
Holderness, NH
Playground Design and Campus Master Plan

Originally commissioned by the PTO to re-design the playground space, TPD was later retained by the school to develop a master plan for the entire school campus. The playground design incorporated, natural play spaces for the students to enjoy, upgrades to the outdated equipment, and introduction of native plant materials to help soften the stark play space. The master plan developed concepts for the improved vehicular circulation, better visual access to the school, outdoor classrooms and more outdoor recreation space. The plan is to be implemented in a series of phases, the first of which being a community vegetable garden for the students and teachers to use.

playground elevation
scale: 1/4" = 1'-0"

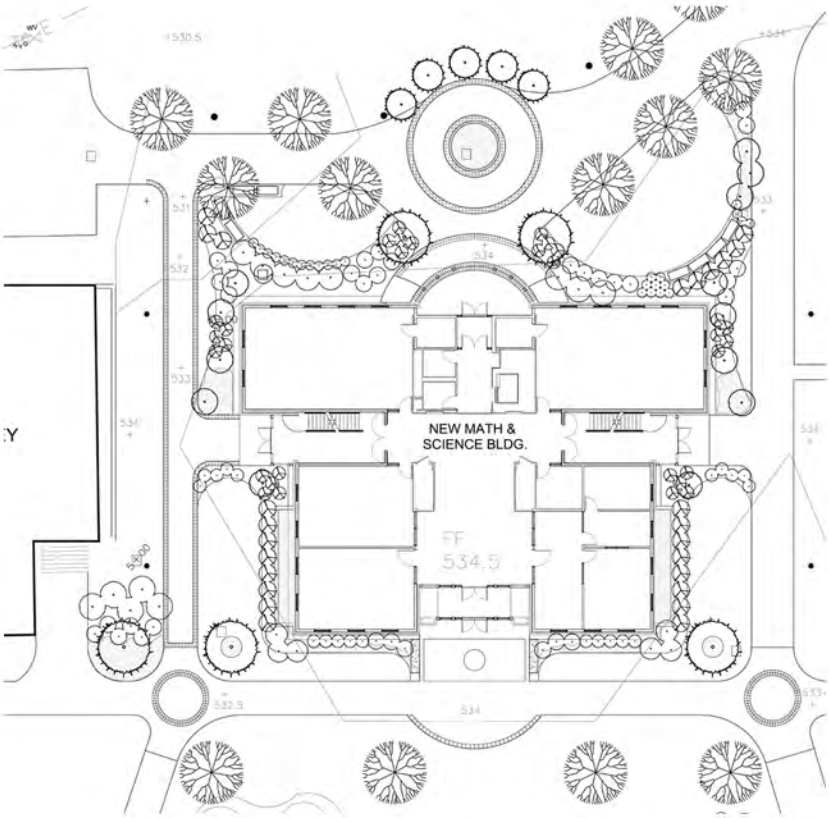
Meservey Hall: New Hampton School New Hampton, NH

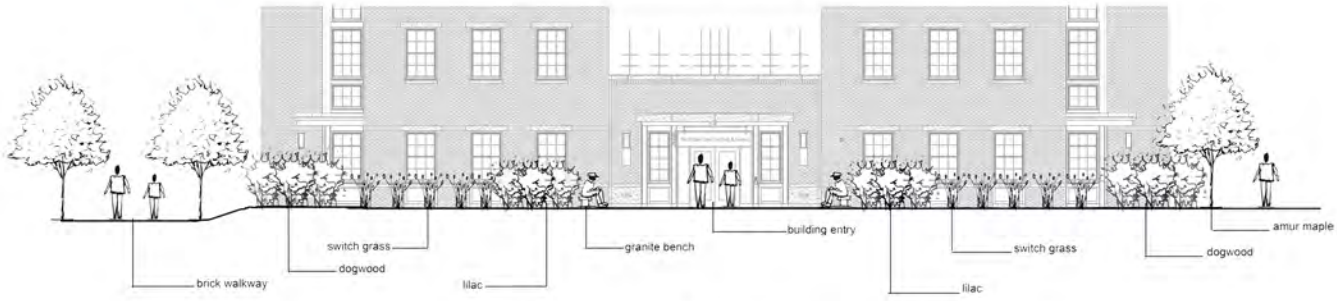
The Co-ed, boarding College preparatory school, known as New Hampton School (NHS), is located on 340 acres in the scenic lakes region of New Hampshire. NHS was founded in 1821 and offers education to grades from 9-12. NHS commissioned Terrain Planning & Design (TPD) to create an aesthetically pleasing yet sustainably functioning landscape.

The landscape design involves the use of bio-retention areas around Meservey Hall to collect and treat storm water runoff gathered from the surrounding impervious areas. The water is then filtered through an engineered soil mixture and native plant material in order to successfully drain the water accumulated on site, thus eliminating the need for offsite drainage. In addition to the Bio-retention areas, TPD re-designed the circulation paths around the building. With its use of concrete pavers which mimic the brick buildings, students are now able to easily ambulate around Meservey Hall.

Pilalas Center for Math & Science New Hampton, NH

New Hampton Prep School, commissioned TPD to design a landscape that brought in elements of education, environmental science, and a sustainable construction for the newly renovated Match and Science Building. The design includes the use of native plant species to minimize maintenance requirements. The project also incorporates recycled stone materials into the design o a series of small seating areas to be used as outdoor classrooms.

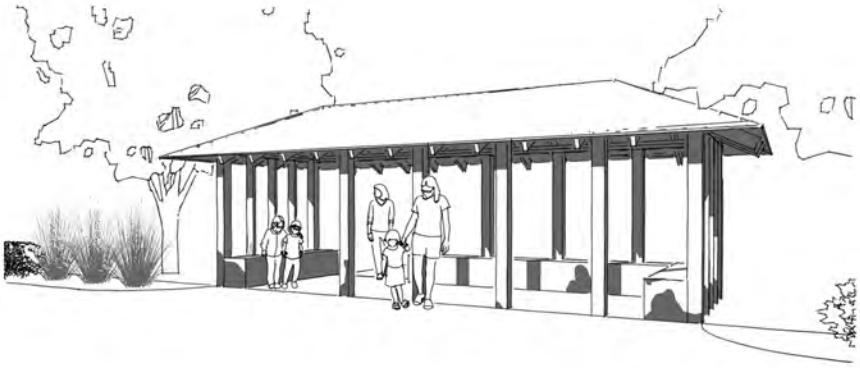




south elevation

O'Connor Dormitory
New Hampton, NH

New Hampton Prep School, commissioned TPD to re-design their landscape throughout their campus. TPD worked with a design team to improve the circulation around the dormitory. TPD also worked with an engineering team to create a storm water management plan to help treat and drain the water around the dorm. Design and implementation of rain gardens strategically placed throughout the adjoining areas assist in collecting the storm water run off and treat the water before it reaches the local aquifer. Low maintenance plants were placed around the perimeter of the dorm's foundation to help soften the hard line of the cold concrete. TPD also designed small gathering areas for the faculty and students to enjoy / repose.



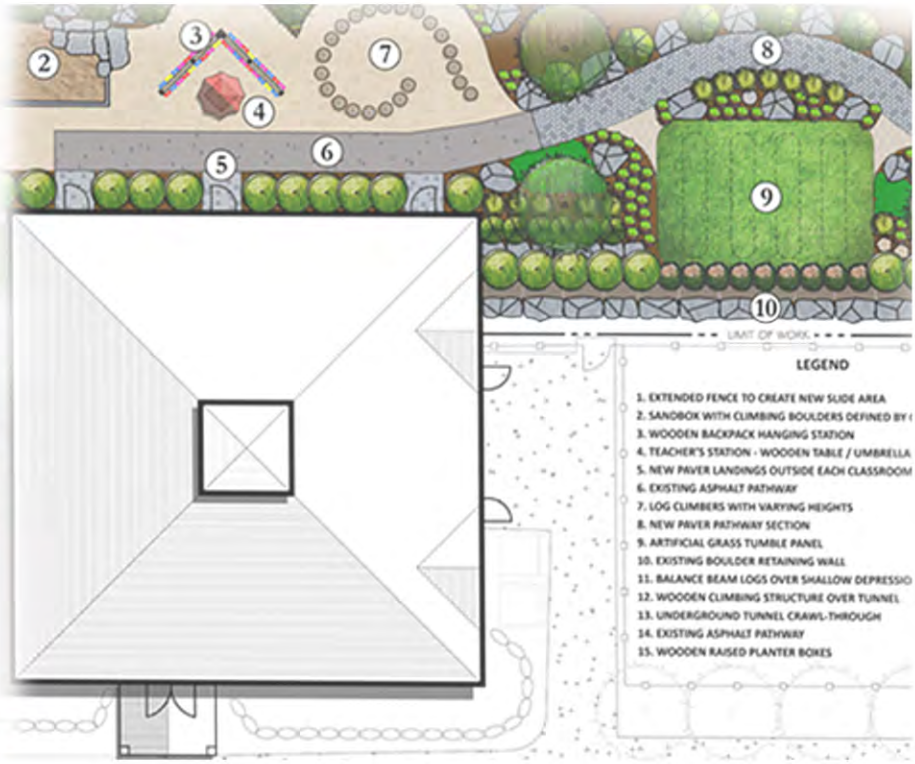
Villa Augustina
Goffstown, NH

The Villa Augustina is a private Catholic school located in Goffstown, NH that is grounded in the charism of St. Claudine Thevenet. The Villa offers a faith-inspired education with an innovative curriculum and is an NEASC accredited school which is open to families of all faiths to children in pre-school through 8th grade. Before the Villa officially closed its doors in June of 2014, after nearly 100 years of operation, Terrain Planning & Design was commissioned to develop a master plan for the school's campus. The master plan depicted a uniformly used campus with landscape elements that echoed the school's curriculum.

Henniker Community School Henniker, NH

Henniker Community School, commissioned TPD to design a landscape that brings in elements of education, interpretive play and sustainable design. The design includes the use of play equipment, sport activities and spaces of repose. A revised circulation path is incorporated into the design to tie the different elements of the playground together while simultaneously serving as historic memorabilia to the town of Henniker. The project also incorporates recycled stone materials into the design as amphitheater seating for viewing during sport activities.

WINDHAM COOPERATIVE KINDERGARTEN



White Birch Community Center Playground Renovation Henniker, NH

The design for this playground is a hybrid between natural landscape elements and strategically selected play equipment. The intent is to expose students to a wide variety of safe and enjoyable play areas that promote interpretive learning. The playground is designed to be an extension of the classroom where students can learn while enjoying the various features. Some of the elements include, slides set into the embankments, water play elements, rolling lawn panels, bird and butterfly gardens as well as a bike path through a bamboo forest.

Woodside School Concord, NH Playground Structures

The design for this playground incorporates two unique structures, each intentionally built to meet strict national playground safety guidelines. The playhouse was created to exemplify a traditional New England barn with a more suitable scale for the students. It includes an interior ladder to access the attached open concept tree house, which supports the sense of being elevated into the canopy level of a tree. Synthetic turf encompasses the ground plane providing the appearance and ability of a lawn.

The strategically located shed combines both easily accessible storage and interactive play by utilizing its elevated “worm crawl” feature. The shed was constructed using the same materials and construction technique as its neighboring playhouse giving them uniformity and anchoring them to the site. Both structures create passive and active play nurturing each child’s imagination and assuring the opportunity to play in a safe and inviting environment.

Tighe and Bond
Civil Engineers

Engineering History

In business for more than a century, Tighe & Bond is one of the most experienced, continuously operating engineering firms in the northeastern United States. Our employee owned firm provides consulting services to hundreds of public and private clients across the region.

Our full service firm has built a solid reputation upon the technical knowledge, experience and capabilities we bring to each project we undertake and the services that we provide. Seasoned project managers supported by project directors and experienced engineers, scientists and planners assure continuity, accountability, and high quality service on each project we undertake.

Tighe & Bond is staffed by over 370 dedicated professionals across the region, including professional engineers, environmental scientists, planners and hydrogeologists. Working in teams, our staff share diverse expertise to benefit our clients. Professional registrations cover a wide range of disciplines; personnel specialize in the following areas:

- Civil Engineering
- K-12 Public School Design
- Higher Education Campus Design
- Demolition Engineering & Hazardous Building Material Assessment
- Electrical Engineering
- Energy Generation and Conservation
- Environmental Permitting
- Geographic Information Systems (GIS)
- Geotechnical Engineering
- Health & Safety
- Instrumentation & Control
- Landscape Architecture
- Mechanical/HVAC Engineering
- Parking Consultancy
- Regulatory Compliance & Permitting
- Remediation
- Site Assessment & Development
- Solid Waste Management
- Structural Engineering
- Sustainable Design
- Traffic Engineering
- Transportation Planning
- Wastewater Management
- Water Resources Engineering
- Wetlands and Ecological Services

BRADLEE L. MEZQUITA, P.E., LEED AP | *Vice President*

YEARS OF EXPERIENCE

29

SPECIALTIES

Civil/Site Design

Low Impact Design & Sustainability

Athletic Fields & Track

Roadway & Drainage Improvements

LICENSES/REGISTRATIONS

Professional Engineer – MA (#42446)

Professional Engineer – NH (#8830)

Professional Engineer – ME (#9410)

Leadership in Energy and Environmental Design Accredited Professional (LEED AP)

EDUCATION

Bachelor of Science
Civil Engineering
University of New Hampshire

Leadership in Energy and Environmental Design (LEED) Accredited Professional

New Hampshire Subsurface Designer

PROFESSIONAL AFFILIATIONS

American Sports Builders Association (ASBA)

New England Water Environment Association (NEWEA)

Bradlee Mezquita is a vice president with experience in civil engineering, site design, permitting and construction. He administers all aspects of development from project initiation through construction, and is a strong advocate of sustainability as part of the overall design process.

Professional Experience

Civil/Site Design & Permitting

- **Stormwater Regulations**: Served as project manager for providing Low Impact Design regulations to the City of Somersworth, NH through the Piscataqua Region Estuaries Program. Performed similar role for stormwater ordinance work in New Durham, NH.

- **Great Bay Community College LID Improvements**: Designed and permitted site improvements for this community college in Portsmouth, NH. As part of the project, implemented sustainable design practices that included porous pavement and rain gardens.

- **University of New Hampshire:** Provided designs for numerous on-call projects with the University of New Hampshire in Durham. Projects have included a new 140-vehicle porous asphalt parking lot at the Alumni Center, a new permeable paver driveway and parking lot for Hood House, as well as various walkway, drainage and landscaping improvements throughout the campus. Also included road reconstruction and reconstruction of synthetic turf fields at Bremner Field and Memorial Field.

- **Newmarket High School:** Designed sitework and utilities for the newly updated Newmarket Jr/Sr High School. Work is currently under construction.

- **University of New Hampshire Stadium:** Managed design services, as part of a design/build team, for the construction of a new stadium across from an existing fieldhouse with seating for approximately 10,000 spectators. Engineering services for this project included all utilities, service/emergency access, and pedestrian access associated with this new facility.

- **Windham Elementary:** Performed site design, permitting, and construction services for a new elementary school. The design included a new parent drop off and bus loop, a sewer pump station, and a leachfield.

- **Windham High School**: Designed and permitted a new $50 million high school for the Windham, NH School District. The project required the design of a new ¾ mile roadway to access the site, including the avoidance of a historically significant bridge structure.

- **Exeter High School**: Provided site design for a new $45 million high school for Exeter, NH. Site design included nine ball fields, a running track and an athletic stadium with synthetic turf.

- **Somersworth Elementary School:** Designed and permitted an elementary school in Somersworth, NH. The project required the widening of ½ mile of roadway that included revised signal timing and pedestrian access. Sustainable elements incorporated into the design include a stormwater wetland and multiple rain gardens.

- **Somersworth School District:** Provided civil engineering, permitting, and construction administration services for various schools within the Somersworth, NH School District. Projects involved stormwater management design, traffic engineering, traffic circulation, as well as pedestrian access and circulation.

- **Hooksett Middle School:** Oversaw the site design for the Hooksett Middle School in Hooksett, NH. The Middle School required road widening along NH Route 27, a water booster station, four athletic fields and parking for more than 200 vehicles.

- **Athletic Facilities:** Designed dozens of athletic facilities for numerous schools and colleges that include football, baseball, softball, lacrosse, soccer fields, running tracks, and synthetic turf fields. The designs incorporate solar orientation, drainage design and predominant wind direction into the site layout.

- **Rochester City Engineer:** Served as interim city engineer for Rochester, NH until a permanent engineer was hired. Assisted the Department of Public Works with site inspections, permitting and planning board submission review.

- **Epping Review Engineer**: Currently serving as the Town of Epping, NH review engineer. Duties include third party review for the planning board and design review for the town sewer department.

- **Medway Retail Center**: Designed a 130,000-square foot mixed use retail center in Medway, MA. The project incorporated sustainable stormwater treatment practices, construction of more than 3,000 lineal feet of sidewalk and a public park area within the plaza.

- **BJ's Wholesale Club**: Designed and permitted a BJ's Wholesale Club in Revere, MA. The project was part of a redevelopment site that was previously a salvage yard. Coordination with the MassDEP was required for impacts within the Area of Critical Environmental Concern (ACEC).

- **Northeast Rehabilitation Hospital**: Managed project and acted as lead designer for a new rehabilitation hospital in Portsmouth, NH. The project required multiple redesigns to minimize the removal of ledge and maximize the useable acreage. Stormwater is treated and detained by one of the first gravel wetlands in the state. Included construction of a new two-story, 26,175 square foot building with associated utilities, parking and landscaping on a 7.4 acre lot.

- **McGrath Park**: Served as project manager for the redesign, permitting and construction oversight of the $1 million overhaul of McGrath Park in Salem, MA. The project included reconstruction of the stormwater drainage system, and the construction of a new parking area to increase parking capacity from 60 to 130 spaces.

- **Dartmouth Solar Energy**: Served as project manager for the new solar array on the former Dartmouth landfill in Dartmouth, MA. Working with Borrego Solar Systems, provided design of the system, as well as permitting through the Town of Dartmouth and the MassDEP. Also provided construction oversight and project closeout.

- **Supermarket Sites**: Designed and permitted several supermarket sites throughout New England. Responsible for conceptual layout, design, permitting and construction oversight.

- **Dartmouth Shaw's:** Served as the project manager for the Shaw's supermarket design, permitting, and construction administration for the Shaw's Supermarket on Route 6 in Dartmouth, MA. Worked closely with both planning and engineering staff to work through complex environmental and abutter issues.

- **Tobey Building Renovation**: Served as project manager of civil engineering services for a building renovation project in Concord, NH that included a new parking deck over a surface lot. Project included grading and utilities adjacent to area (drainage, water, sewer, and gas).

- **Anna Philbrook Improvements**: Served as project manager for civil engineering services associated with a new 160 car parking area related to the renovations to the Anna Philbrook Building in Concord, NH. The site is currently occupied by the existing retirement facility. Prepared site plan review package including site layout, landscaping, drainage improvements, and utilities for the proposed project. Following approval, preparing construction documents and providing construction administration services.

LEADING EDGE DESIGN GROUP

LEADING EDGE DESIGN GROUP
Firm Profile

Leading Edge Design Group provides solutions that shape the way we live, work, learn, and heal. We plan, design, and build data centers and technology systems for the built environment that help our customers deliver services with speed, resiliency, and scale. We are a diverse team of subject matter experts committed to listening and collaborating to create an authentic client partnership.

Since 2007, Leading Edge Design group has worked with high-performing organizations in the education, healthcare, life sciences, manufacturing, commercial real estate, high-tech, and public sector industries from our offices in New England, Philadelphia, PA, and Atlanta, GA. LEDG is a committed leader in the data center and smart building community, serving on critical standards and certification develop committees that are educating and informing the design and construction community on how technology will transform the built environment. With extensive work in the educational environment, LEDG specializes in creating technology-rich learning environments and infrastructure capable of supporting continued technology adoption over the lifecycle of the school facility.

RELEVANT PROJECT WORK

Wilbur H Palmer Career & Technical Education Center
Hudson, NH

The Wilbur H. Palmer Career Technical Center (Palmer CTE), is a comprehensive Career and Technical Education Center that features programs of study in Finance, Accounting, Heavy Duty Mechanics, Pre-engineering (Project Lead the Way), Computer Science, Drafting & Design, Digital Media, Building Trades, Culinary Arts, Careers in Education, Health Science, Marketing, and more. To meet program needs, the Palmer CTE is undergoing a major renovation and expansion with upgrades to technology systems that will better provide a digital learning experience for their students. Leading Edge Design Group is providing technology design services to support the renovation and expansion including structured cabling, wireless, security, audio visual, and public address systems that will provide an engaging,

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Nashua School District
Nashua, NH

To improve safety, energy efficiency, and to reduce maintenance expenditures across the district, Nashua School District worked with Leading Edge Design Group to create a connected lighting solution. In addition to a significant reduction in energy usage, the network-connected lighting provided greater control of light output in classroom and shared spaces and created the infrastructure for new technologies (like circadian rhythm tuning in the classroom) to be implemented in the future.

East Rochester Elementary School
Rochester, NH

East Rochester Elementary School recently completed a 52,000 square foot addition and renovation to an on-campus preschool. As part of the Superintendent's technology vision for the District, Leading Edge Design Group provided a technology design capable of supporting high-density wireless usage demands such as streaming video to a classroom where each student is using an individual Ipad. LEDG's design for the renovation included public address, audio visual, security, and structured cabling infrastructure

Conval High School
Peterborough, NH

As part of a renovation initiative to the aging infratrcuture in ConVal High School, Leading Edge Design Group assisted the District with a strategic plan to modernize their technology infrastructure, including reconfiguration of critical spaces, upgrades to pathways and backbone infrastructures, and scalable structured cabling and security systems to support classrooms, auditorium spaces, and administrative offices.

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New Balance Boston Landing
Boston, MA

Leading Edge Design Group served as the owner's data center and technology consultant for the New Balance on the award-winning Boston Landing project. The 250,000 square foot property includes a data center, open office floor plan, collaboration spaces, digital signage, large video displays, a network operations centers, and other technology rich building features. The Boston Landing property was awarded "Building of the Year" by the Boston Chapter of the International Facilities Management Association.

Springfield Union Station
Springfield, MA

The renovation to the Springfield Union Station in Springfield, MA began in 2014 and opened in 2017. While the historic features of the facility were preserved and updated, Leading Edge Design Group provided upgraded and integrated technology systems design to transform the facility into a modern-day transportation hub. This included network capacity and resiliency planning, complex digital signage and video systems for train and bus scheduling, security systems, and high-density wireless systems. The mixed-use development also included technology systems for retail and corporate tenants.

Tom Tom North American Headquarters
Lebanon, NH

At their North American headquarters, TomTom undertook an initiative to create the 'office of the future,' seeking to transform their built environment to attract and retain talent, foster collaboration, provide a flexible work environment, and meaningfully use technology to engage their workforce. Leading Edge Design Group provided strategic planning and design to support technology solutions evaluation and selection, systems integration, and data center upgrades.

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PROJECT RESUMES

Todd Boucher, RCDD, DCEP, Principal Designer – Todd Boucher is the Principal and Founder of Leading Edge Design Group and holds Bachelors of Science degrees in Business Administration and Management of Information Systems from the University of New Hampshire. Todd has extensive experience leading the strategy and design development efforts for complex technology and data center projects in the public and private sector. Since founding Leading Edge Design Group, Todd has helped shape how organizations leverage computing and technology systems to deliver services to their users with speed, resiliency, and scale. He has worked with clients like New Balance, Harvard University, Massachusetts Department of Transportation, AstraZeneca, Carbonite, UPenn, Boston Red Sox, Fidelity, Boston Children's Hospital, Woods Hole Oceanographic Institution and many more.

Mr. Boucher is a Registered Communications Distribution Designer (RCDD) and certified by the United States Department of Energy as a Data Center Certified Energy Practitioner (DCEP). He is a member of the BICSI Intelligent Building Standard Committee and one of the contributing authors of the ANSI-BICSI 007-2017 *Intelligent Building Standard*. He also serves on the Telecommunications Industry Association's (TIA) Smart Building Committee and is a contributing author to the forthcoming *Smart Building Certification* to be released in 2019.

Todd has been a featured presenter at national industry conferences, published in national industry magazines, and is a frequent contributor to data center and technology industry blogs. He serves on the Board of Directors for the Paul School of Business at the University of New Hampshire, the Grafton Regional Development Corporation, and Live Free & Start.

John Tabb, RCDD, Lead Telecommunications Engineer - John Tabb is a veteran of the Information and Communications Technology industry and has been designing telecommunications, security, audio visual, wireless, fiber-optic systems, and digital building systems for over 18 years. John holds a Bachelors of Science Degree from the University of Maine and is a Registered Communications Distribution Designer (RCDD), which designates expertise in the design, implementation and integration of information technology systems and related infrastructure. John specializes in developing scalable, next-generation ICT infrastructure designs that balance up-front investment with the capacity to scale into technology rich built environments.

Mr. Tabb has a long project history as a Lead Engineer and Project Manager for Information and Communications Technology systems, including work with the a number of New England K-12 Districts, Department of Veteran's Affairs, Jackson Labs, Yale New Haven Health, Boston Children's Hospital, Massachusetts Department of Transportation, and more. John is an active community member and serves on the Board of Directors for the Maine Down Syndrome Network.

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William Crane, LEED AP, Manager of Design Build Services – Bill Crane is a LEED Accredited Professional and holds a Bachelors of Science degree in Business Administration from the University of New Hampshire. Bill has extensive project management and construction management experience and serves as an integral resource to identifying risks, dependencies, timelines, and budgeting associated with the execution of data center projects. Mr. Crane's depth of project experience enables him to effectively estimate cost expectations for complex data center projects and he is an integral resource for the planning and budgeting processes on Leading Edge Design Group's projects.

Mr. Crane has rich Project Management experience as both a designer and a Construction Manager. This unique perspective is extremely valuable during the planning, cost estimation, and construction phases of data center projects and enables Bill to proactively anticipate risk during planning and construction activities. Mr. Crane has managed multi-million dollar projects in the public and private sector for clients like the Harvard University, Dartmouth College, Emory University, University of Pennsylvania, the United States Army Corps of Engineers, Fairpoint Communications, the University of New Hampshire, New Balance, Suffolk University, and many more.

Laura Polas, Director of Client Success & Engagement – Laura Polas has worked in the high-tech and professional services industry for over 25 years providing strategic consulting, project management, and communications services. She works with leadership and project teams to create and implement successful, value-based communications strategies for enterprises and end-users to adopt new technology and manage change. For the digital building sector, Laura serves on the Telecommunications Industry Association's (TIA) Smart Building Committee and is a contributing author to the forthcoming Smart Building Certification to be released in 2019. She recently served on the Board of Directors for the Massachusetts Worksite Wellness Council dedicated to promoting healthier environments for all Massachusetts employees and worked on a state grant initiative that provided funding for small to medium size businesses to improve their workplace environment to enhance employee experience and retention. She also helped lead statewide efforts for Massachusetts healthcare facilities to adopt and use technology as mandated by the U.S. Department of Health and Human Services and provided communications support for the Governor's Mass Digital Health initiative to build the state's digital health ecosystem. Laura holds a Bachelor of Science degree from the Williamson School of Business, Youngstown State University, with a concentration in public relations, advertising, and economics.

Tab 4- Project Sheets

Lebanon Middle School

Lebanon, NH

Size: 100,000sf New

Project Cost: $24,900,000

Completion: 2011

Northeast Collaborative for High Performance Schools Protocol (NECHPS)
Winner of Plan New Hampshire Award

Project Description:
Lebanon Middle School hired Banwell with an immediate need to determine whether they should renovate their beloved historic school building or build new. Banwell hosted a series of public meetings to tease out community pressure points, field questions, and clarify pricing options. The final decision was to build new.

Features of the new building include:

- High Performance design for efficiency and savings
- Descending steps integrated with sloped terrain
- Sweeping administration area to signify main entry
- Transition areas that spill comfortably outdoors
- Lighting engineered for specific usage
- 7/8th and 5/6th pods defined by color and design
- Rooms located optimally for lighting, public access, etc.
- Materials, patterns designed to blend with furniture

Children, faculty, and community members benefit from more cheerful and comfortable surroundings at the new school. The new biomass and high performance design position the community for millions in savings in operational costs over the lifetime of the building.

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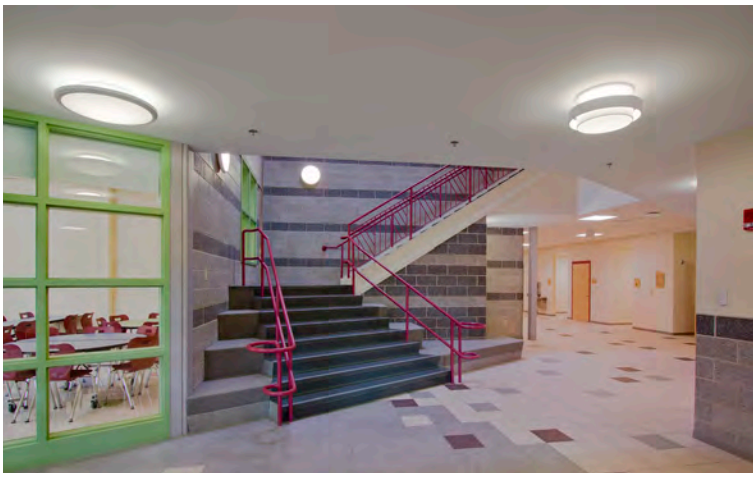

Lebanon Middle School

Lebanon, NH

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Newmarket Junior/Senior High School & Elementary School

Newmarket, NH

size

ES: 23,000sf new 18,000sf reno

Jr/Sr HS: 53,000sf new 33,000sf reno

Project Cost

$38,000,000

Completion

2019

Project Description

The Newmarket Elementary School is adding onto and renovating its school, including 23,000sf of new space and 18,000sf of renovations. The additions and renovations at the elementary school are intended to "right size" the school for its existing and projected populations. Additions include a 5th grade wing, eliminating modular classrooms, and full sized gymnasium to accommodate the schools population of 540 students with an expanded core capacity of 650. Renovations to the interior will improve space for the delivery of support services, an updated main office and nurse's office, and enlarged cafeteria and kitchen space. Site improvements include expanded parking and a separate bus entry loop. Infrastructure upgrades including a new boiler are also planned.

The Newmarket Junior-Senior High School will receive significant additions encompassing nearly 53,000 sf of new space and 33,000sf of renovations to meet the space needs of the existing and projected student population and program. Substantial renovations to the remaining space are also planned including mechanical, electrical and plumbing upgrades.

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Newmarket Junior/Senior High School & Elementary School

Newmarket, NH

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Windham Golden Brook & Middle School

Windham, NH

Size

Golden Brook Elementary School
19,664 sf renovation
109,021 sf new

Windham Middle School Renovation
19,000 sf renovation

Project Estimated Cost:
$38, 950

Completion: Design- 2017
Construction: 2019

Project Description

In the fall of 2015 the Windham School District asked Banwell Architects to provide an expedited study and design which would address all the urgent building issues across the district within a restrained budget. In partnership with the Administration, Banwell Architects gathered input with all stakeholders, adjusted the design program, and evaluated the existing Golden Brook and Middle School buildings. This validated the design requirements and provided a strong foundation to explore multiple design options. The open and cooperative approach allowed the stakeholders to form a consensus as to the most cost effective option that provided optimal educational facilities that meets the school community's needs for the foreseeable future.

The design features for Golden Brook Elementary School include:

•Unified building appearance with specialty treatments to reinforce entrance individuality
•Open and sunny main lobby and front end administration areas
•Clustered class "houses" or "pods" to reinforce community by age groups
•Natural day lighting at all instructional spaces
•Creative arts and media/ computer lab grouped for optimal access and mutual support
•Play area diversity with age appropriate segregation
•Improved traffic design relieving congestion in both schools

Windham Middle School design features include:

•Updated spaces that support the curriculum without the expense of a new building addition
•New Tech Ed and Family Consumer Science Labs
•New Science Labs
•Existing code deficiency corrections

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Envelope:
•Will be blower door tested to meet a max air leakage rate of .30 cfm/sf at 50 PA.
•Air Barrier Association of America (ABAA) certified air barrier.
•Thermal performance exceeds IECC 2009:
-Walls are R21.5 continuous vs R7.5 continuous & R13 in stud cavity(R12 effective). Exceeds 45%
-Roofs are R34 continuous vs R20. Exceeds 41%
-Fiberglass windows are U.28 vs U.35. Exceeds 20%
-Aluminum windows are U.36 vs U.45. Exceeds 20%
-Skylights are R4.3 vs R1.65. Exceeds 62%

Natural lighting: Skylights dispersed throughout, particularly in gym to reduce lighting loads/healthy indoor environment

Low maintenance/durable materials: Linoleum flooring which is low maintenance/ no stripping and waxing.

Low VOC paints

HVAC
-Energy recovery units (ERU's) for ventilation, increasing energy efficiency by having enthalpy wheel.
-Variable frequency drives (VFD's) on fans.
-MERV-13 filter specified for ventilation supply air.
-Building Management System (BMS) was specified for scheduling, trending, controllability, alarms, etc.
-Designed the boiler plant in 2012 to have expandability capability, knowing an addition was coming on this project, thus the boiler plant is being maintained.
-Ashrae 62.1- designed better than code requires.
-Dedicated exhaust from all copy rooms, janitor closets to separate air contaminants
-Ducted returns
-Building energy performance- designed to be x% better than code requirements
Electrical
-LED lighting fixtures
-Lighting controls (occupancy sensors, dimmer switches).
Plumbing
-Low flow fixtures
-Designed cistern for sprinkler to be above grade so it could be gravity fed to the pump

Windham Golden Brook & Middle School

Windham, NH

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Bernice A Ray Elementary School

Hanover, NH

Size
6,430 sf New
74,825 sf Renovation
Project Cost

$5,798,532

Completion
2015

Project Description

By 2014, the Bernice A. Ray Elementary School had outgrown its facility, which was originally built in 1965 and designed by Banwell's and renovated in 1996. The school hired Banwell Architects to update the facility and help them educate the community about the proposed changes.

Features of the project include:
•New buzz-in security devices to secure entryways
•Natural lighting fixtures to improve interior lighting and reduce energy use and cost
•Performance Contract
•New materials to update 1990s-era décor
•Direct egress to outside to facilitate student evacuation and use of grounds
•Energy efficient construction to improve energy use and lower annual energy cost

Over the course of the project, Banwell Architects helped the school educate the public by leading multiple community forums and developing a pre-bond marketing package with 3-D computerized renderings and animations. By working closely with school administrators and staff members and integrating their schedule with the educational calendar, Banwell Architects was able to transform the outdated space to satisfy the needs of the school's contemporary population and community.

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Bernice A Ray Elementary School

Hanover, NH

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Lyme Elementary School

Lyme, NH

Size
11,478sf New
41,392 sf Renovation

Project Cost
$3,200,000

Completion
2015

Project Description

In March of 2014, the classrooms at Lyme Elementary School were not meeting the needs of staff and students. Many were portable classrooms, built for smaller class sizes and antiquated teaching practices. The school hired Banwell Architects to update the building and improve its learning facilities. Features of the new facility include:

•Small group instruction spaces to support elementary school teaching practices
•Security upgrades and enlarged rooms to satisfy state regulations
•A biomass wood pellet boiler to reduce financial and environmental impacts
•Space renovations and reconfigurations for greater functionality of offices and classrooms
•A new elevator to provide Americans with Disabilities Act (ADA) accessibility
•Larger cafeteria windows to welcome in natural sunlight

Thenew school is designed to meet the needs of its current population, creating a better learning environment for students and a more comfortable work space for teachers and staff. The school meets state regulations and, with a new energy efficient heating source, saves annually on heating costs.

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Lyme Elementary School

Lyme, NH

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Richmond Middle School

Hanover, NH

Size
105,000 sf new

Project Cost
$13,200,000

Completion
2005

Project Description

In 2004, the Dresden School District conducted an analysis of their middle school and high school properties. They determined that their middle school students were not well served by the current structure, which was designed for a high school curriculum. The district hired Banwell Architects to design a new facility that would provide updated, expanded, and tailored space for middle school students.

Features of the project include:

•Biomass heating plant and high efficiency design to save money and resources

•Grade appropriate elements for the gym, assembly area, labs, and teaching classrooms

•Dedicated lanes for buses and vehicles for safer student drop off and pick up

•Sited outside of the downtown area to improve safety and increase space for play and parking

Banwell Architects worked closely with the New Hampshire Department of Education to ensure that the building met standards for the school district. The biomass heating plant, which was partly funded by state grants, saved the district $45,000 during the first heating season and continues to save the district thousands of dollars annually.

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Richmond Middle School

Hanover, NH

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Merrimack Valley Middle School

Penacook, NH

Size
13,000sf New/Minor Renovations

Project Cost
$2,046,686

Completion
2008

Project Description

In 2007, the Merrimack Valley School District's aging buildings were facing space shortages and security challenges. The district hired Banwell Architects to assess the buildings and provide design solutions for four district schools, including Merrimack Valley Middle School. Features of the project include:

•Biomass heating systems to replace expensive electric heat for high school and middle school

•Sun screens to protect cafeteria and library from heat transfer through windows

•Energy management system to provide control over building energy use

•Construction waste management plan for recycling/reusing building materials

•Local building materials used when feasible to support local economy. Super tight envelope assembly to minimize size of heating equipment

•Walk-off grills/mats at major entrances to reduce floor damage and maintenance costs

•Tower element to emphasize main entry and complement design of adjacent high school

The new energy efficient technology and systems provide a comfortable setting for children to learn. Since completion, the district has saved hundreds of thousands in annual heating and electricity costs. (Payback of biomass was 3.1 years).

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Merrimack Valley Middle School

Penacook, NH

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Merrimack Valley High School

Penacook, NH

Size
25,640sf New
113,000sf Renovation

Project Cost
$9,404,546

Completion
2008

Project Description
In 2007, the Merrimack Valley School District was facing multiple challenges throughout its district school buildings. The district hired Banwell Architects to assess and provide design solutions for four district schools, including Merrimack Valley High School.
Features of the project include:
•Integrated green design that saved over one million dollars in up-front costs
•High R-value materials that replace the metal panel facade
•Tight envelope construction to reduce the size of mechanical heating equipment
•Low volatile organic compound (VOC) materials, low-flow plumbing, and energy efficient lighting
•New entry with tower element to complement design of adjacent middle school
•Meets building code and Americans with Disabilities Act (ADA) requirements
•New state of the art science labs
•New delighted cafeteria and outdoor patio
Banwell Architects worked with the New Hampshire Department of Education to develop the New England Collaborative for High Performance Schools (NE-CHPS). Merrimack Valley High School is the first school in the country to follow NE-CHPS. The school district saves millions annually in heating and energy costs. Children and staff enjoy a more comfortable, safe, and cheerful learning environment.

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Merrimack Valley High School

Penacook, NH

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Stevens High School
Claremont, NH

Size
1,202 s.f. New

Project Cost
$12,500,000/$94/sf Construction

Completion
2015

Project Description:
In 2014, the Stevens High School facility was in disrepair had fallen out of code. They hired Banwell Architects to design upgrades that would help them meet the requirements of the Americans with Disabilities Act (ADA) and the New England Association of Schools and Colleges (NEASC) & NH State Board of Education.

Features of the project include:
•New classroom and department designs to facilitate student flow
•Additional parking and separated bus loop that streamline drop off and pick up
•Salvaged historic entry stone pillars and ornamental stone that beautify the new at-grade main entryway
•Upgrades to mechanical and electrical systems, fire sprinkler and alarms to improve safety
•Upgrades to building envelope and low-flow plumbing to improve comfort and energy efficiency
•New exterior masonry windows cleaning and upgrades that rehabilitate the building's historic integrity Stevens High School has undergone a complete transformation. With a cleaner exterior that harkens back to its historic roots, intuitively organization departments and classrooms, and an energy efficient structure, the school is designed to provide students greater comfort and easier access to learning services.

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Stevens High School

Claremont, NH

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Gilford Middle High School

Education
Gilford, NH

Size
89,532 sf new MS
10,949 sf new HS
130,730 sf renovation

Project Cost
$17,400,000/$75/sf Construction

Completion
2004

Project Description

Program development and full design services of additions and renovations to an existing open-concept middle and high school.

Following a successful bond vote in 2002, the existing Middle-High School was fully renovated and converted into a 650-student high school, with an 8,000 sf addition for new high school classrooms.

A new 450-student Middle School was built as a connected addition to the existing school. Shared spaces include kitchen, service & loading, and media staff room.

Woodstock Elementary School

Educational
Woodstock, VT

Size: 1,200sf

Project Cost: $250,000

Completion: 2015

Project Description:
Banwell Architect assisted in the design of a new STEM (science, technology, engineering, math) lab at Woodstock Elementary School one of the first of its kind in the area. The goal was for students to be able to learn basic construction and engineering skills, using tools like a new 3-D printer to design products, robotics and even less expensive ones, like hammers and nails. The teachers at Woodstock Elementary School were instrumental in the process traveling to Connecticut to visit an elementary school STEM lab there to get an idea of how to design one at WES. A key piece of the lab is extending engineering learning opportunities for children.

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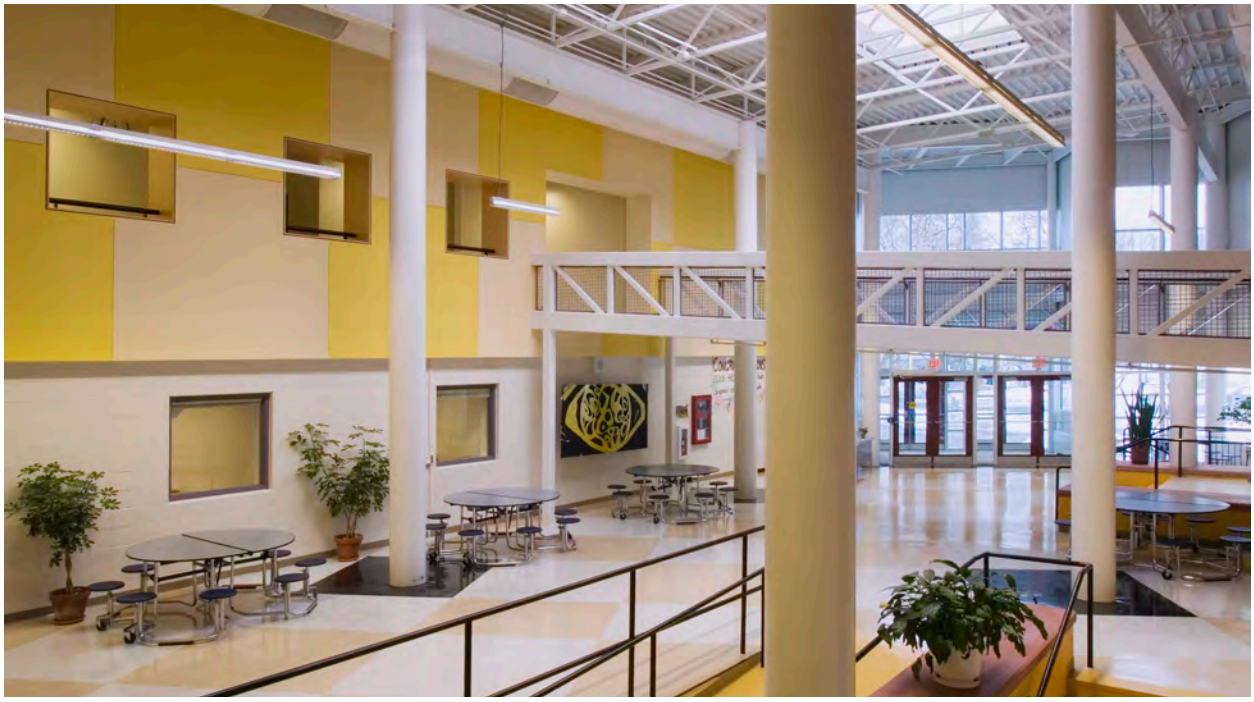
Hanover High School

Educational
Hanover, NH



Size
144,500sf Renovations 30,000sf New

Project Cost
$19,000,000

Completion
2007

Project Description

The Dresden Schools serve the communities of Hanover, NH and Norwich, VT with Middle School and High School facilities in Hanover. Options were developed which compared middle school and high school programs, sites, and costs to facilitate the selection of a single option. A successful bond vote in May of 2003 funded a new Middle School on new site, and complete renovation and additions to existing Hanover High School. We worked closely with the high school to create a phasing construction plan as the school was functioning during the time of construction. The existing building was completely renovated, brought up to building codes, revised spaces due to current educational needs and completed energy upgrades including new roofs, new building envelope, windows, mechanical and electrical systems.

Contoocook Valley High School

Education
Peterborough, NH

Size
27,000sf Renovation
9,700sf new

Project Cost
$3,245,000

Completion
2013

Project Description

After completing comprehensive Facility Analysis in 2008, Banwell Architects was hired to design Gym Wing Improvements in 2012. These included additions for locker and team rooms, new accessible public entry, new classrooms, athletic department offices as well as extensive renovation existing locker rooms and of the Gymnasium itself.

Kennett High School & Mount Washington Career & Technical Center

Educational
Conway, NH

Size
200,000sf New

Project Cost
$38,000,000

Completion
2007

Project Description
In the late 1990s, the student populations in School Administrative Unit #9 expanded quickly, overcrowding the district's regional middle school/high school facility. Due to the school's downtown location, outdoor space for parking and athletic fields was not able to grow to meet the increased demand. The district hired Banwell Architects to evaluate the district and suggest solutions. The adopted solution included a new, separate high school building and an expanded regional vocational center.
Features of the new facility include:
•A prominent library that doubles as a community resource
•Exposed timber frame and deck to acknowledge Conway's commitment to forestry
•High-performance envelope to reduce heat loss and operating costs
•Distinctive theater facility to host live events for the school and community
•Combined departments to support the school's team teaching model
•Expanded outdoor parking and athletic fields for safer circulation on campus
The new building's streamlined design has improved communication within departments and traffic throughout the building. The school has become more valuable in the district, integrating elements of its Conway location and providing expanded resources to the community at large.

Champlain Valley Union High School

Educational
Hinesburg, Vermont

Size
63,000 sf New
157,000sf Renovation

Project Cost
$15,200,000

Completion
2005

Project Description
In 2004, the student body at Champlain Valley Union High School (CVUHS) had grown too large for the facility. The district hired Banwell Architects to develop a phased master plan that would upgrade the building over multiple vacation breaks to minimize disruption during the school year. Banwell Architects recommended a series of projects that would improve parking safety and access and provide new playing fields, a synthetic running track, and outbuildings for emergency power and concessions. Features of the new facility include:

•A self-contained ninth-grade wing to facilitate transition to secondary school
•New windows, insulation, ventilation, and biomass heating system to reduce energy costs
•Enclosed media center and library for student engagement at heart of the school
•Reduced number of entryways to improve campus safety and reduce heating costs
•Security upgrades at entryway for greater safety and school security
•Energy efficient light fixtures that qualified for Efficiency Vermont rebates for energy savings

The new CVUHS facility was entered into Efficiency Vermont's Better Buildings by Design competition to earn the Best of the Best Award in 2006. By implementing greater efficiency measures and biomass heating systems, the building is estimated to provide the school combined annual savings of $180,000.

Dondero Elementary School

Education
Portsmouth, NH

Size
56,000sf renovation
6,000sf addition

Project Cost
$8,000,000

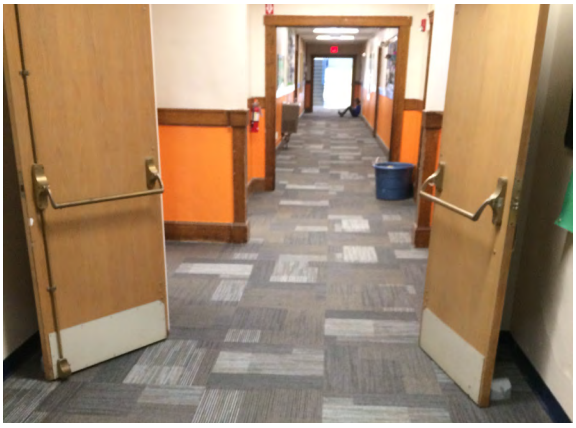
Completion
2018

Project Description

Banwell developed architectural and structural designs to renovate the existing elementary school to meet today's educational program. We are adding new dedicated Kindergarten rooms, updating existing classrooms to more modern layouts, creating a special education suite, designed a new computer lab to be adjacent to the learning center. The art room and music room will have dedicated classroom space and the kitchen will be renovated. All existing finishes including flooring, ceilings and paint will be updated.

Symonds Elementary School

Educational
Keene, NH



Size
52,300

Project Cost
$3,000,000

Completion
2017

Project Description

Banwell developed architectural and structural designs to renovate the existing elementary school to meet today's life safety requirements including the replacement of a non-compliant egress stair and an automatic fire sprinkler system. Additionally, the heating, ventilation and lighting were upgraded to improve operational efficiencies. The building envelope was improved by re-roofing the building with additional insulation. As a result of this work, opportunities to paint and replace acoustical ceilings were taken to enhance the existing character of the school.

Little Harbour School

Educational
Portsmouth, NH

Size
67,000sf

Project Cost
$8,000,000

Completion
September 2016

Project Description

Banwell Architects teamed with EEI on a design build energy performance project to make energy and mechanical improvements for the Portsmouth School District. Upgrades to the Mechanical, Fire Alarm and Fire Protection system were completed during the summers of 2015 and 2016 to the Little Harbour School.

The overall scope of work included:
1. Removal of asbestos ceiling tile (which is majority of ceiling tile in Little Harbour school).
2. Installation of a NFPA compliant sprinkler and fire alarm system.
3. Installation of a new boiler, HVAC controls, and energy recovery ventilators.
4. Installation of new ceiling tiles and grid, including decorative ceiling in cafeteria.
5. Installation of LED lighting system.
6. Replacing asbestos flooring.

Laconia Elementary Schools

Pleasant Street, Woodland Heights and Elm Street School
Laconia NH

Size

Elm Street School: 10,500 sf new/27,000 reno
Pleasant Street School: 10,100 new/27,000reno
Woodland Heights Elementary: 52,000 reno

Project Cost

Elm Street School: $3,849,542
Pleasant Street School: $3,780,492
Woodland Heights Elementary: $4,000,000

Completion

Elm Street School: 2002
Pleasant Street School: 2002
Woodland Heights Elementary: 2003

Project Description

Following a comprehensive analysis by Banwell Architects of 18 municipal buildings, multiple additions and renovations were designed for Pleasant Street School. Pleasant Street School was an existing 27,000 sf school originally built in 1960. Additions included 6,300 sf of classroom space, 2,400 sf of administration and multi-purpose room, 1,400 sf new kitchen and mechanical addition. The new Kindergarten Wing is located at the end of a classroom wing and is at the front of the building so it is highly visible. The addition was constructed of concrete masonry units with brick accents to tie it into the existing brick building. Woodland Heights School was an existing 52,000 sf open-concept school that was divided into five separate pod spaces. The project consisted of additions and a complete renovation to the existing structure.

Facility and Needs Assessment Studies

Banwell Architects has completed numerous facilities and needs assessment studies. Building types include educational facilities, recreational facilities, municipal buildings, museums, theaters and churches. Our reports may include assessment of our client's needs, program requirements, existing conditions assessment, analysis of potential sites, schematic design of planning options, budget estimates and/or schedule recommendations.

Clients use our Assessment reports to provide a basis for bond votes, master planning, planning additions and/or renovations to existing facilities, or to establish priorities for phased improvements as budgets allow.

Experience Includes:

Town of Rollinsford (Rollinsford, NH)
Municipal Facilities Space Planning Assessment

Spaulding Youth Center Master Plan
(Northfield, NH)

Jay Peak (Jay, Vermont)
New Base Community Master Plan

Kendal Continuing Care Retirement Community
(Hanover, NH)
Campus Mater Plan

Girl Scouts of the Green and White Mountains
(NH and VT Statewide)
Current Facilities Assessment Report

Cardigan Mountain School (Canaan, NH)
Campus Master Plan

Villa Augustina (Goffstown, NH)
Educational Facility Analysis

Blackstone Valley Technology Center
(Upton, MA)
Campus Master Plan

Keene Middle School (Keene, NH)
Facilities Analysis

Barre Elementary Schools (Barre, VT)
Facilities Analysis
Claremont School District (Claremont, NH)
Facilities Analysis

Gilford Police Department & Town Hall Facility (Gilford, NH)
Facilities Analysis

Laconia Municipal Facilities (Laconia, NH)

Berlin Municipal Offices (Berlin, VT)
Facilities Analysis

Town Office/Police Dept (Chesterfield, NH)
Facilities Analysis

Tab 5- Appendix

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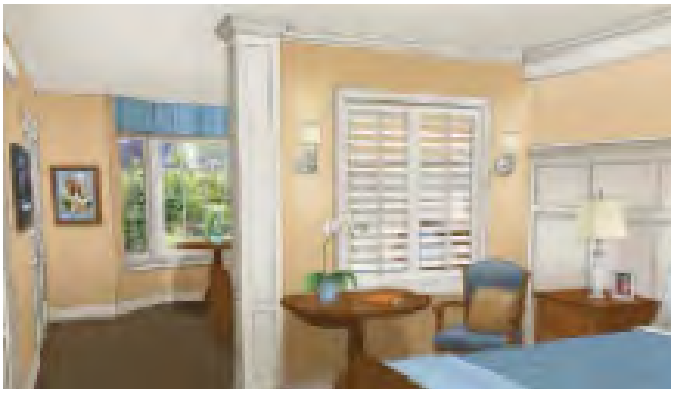
Revit Coordination



At Banwell, Architects we recognize the importance and benefit of investing in design technology and software, and its impact on the design process. As such, we ensure that our entire staff is fully trained on the most current version of Revit, our computers are continually upgraded to ensure that they can meet the demands of the software.

Revit is software that incorporates BIM (Building Information Modeling), which is described as a process for creating and managing information on a construction project across the project lifecycle. One of the key outputs of this process is the Building Information Model, the digital description of every aspect of the built asset. This model draws on information assembled collaboratively and updated at key stages of a project. Creating a digital Building Information Model enables those who interact with the building to optimize their actions, resulting in a greater whole life value for the asset.

The software allows us to build a model of the building in the computer, allowing everything from structure to HVAC components to Architectural details and finishes to be coordinated in a true 3-Dimensional environment. Most of the engineers we work with use Revit. This allows us to "import" their models directly into our Architectural model, resulting in a seamless coordination between all trades: the most important benefit being recognition of conflicts early in the design process, thereby minimizing problems during construction.

Benefits of Revit include:
- Live "working" Design Meetings
- Ease of client visualization (3d)
- Conflicts identified with Engineering Design Team
- Streamlines coordination with design and construction
- Minimizes Change Orders
- Provides client with accurate as-builts

Virtual Reality

Virtual Reality (VR), is the newest tool in the A/E industry. VR is the simulation of and physical interaction with a fully immersive environment in three dimensions (3D).
The specific software Banwell uses is called Enscape and is designed as an add-in for Revit. Those in the building trades have a good sense of spatial analysis that is both learned from experience and the way in which they cognitively think about space. Many clients and building users think more analytically. By using Revit and Enscape we are able to quickly provide 3D imagery that will help clients and users understand the space before it is constructed. Revit/ Enscape creates a harmonious flow between the work that is already being done and (almost) photo realistic rendering. Any changes in the Revit model are reflected instantly in VR as real-time updates. Banwell uses VR as both a design tool (internally) and for client/engineering coordination: never before has it been so easy for a client to experience their project before any shovel has hit the ground.

Benefits of Enscape include:
- Provides exceptional clarity of the design during client meetings.
- VR is used a design tool by the architect
- The project can be exported as a standalone file and emailed to clients where they can walk around and explore the architecture at their leisure.
- High quality renderings now take seconds to produce rather than hours
- Can be viewed on a TV screen/ computer monitor or via VR goggles for the true Virtual Reality experience.

LEED, NECHPS Efficiency & Sustainability

Sustainable Design

Banwell Architects has maintained a leadership role in environmental architecture for over four decades. In recognizing the huge role that advanced building technologies play in edging us toward sustainability, we believe that good design begins with a broad understanding of environmental issues and the ability to apply them to specific, local conditions. Through our work in many innovative projects, we have demonstrated that, when green building concerns are creatively addressed, everyone benefits - the inhabitants, present and future, and the community at large.

We have learned the importance of a team approach in achieving Green Building goals, and we pursue an integrated design process involving all the players - owners, architects, engineers, special consultants, and often the builder - from the earliest design stages, as we explore together the goals, issues, and options. The integration of architectural, engineering, and construction components with the owner's needs and aspirations is vital to the realization of a truly "High Performance" building. Over the years, we have developed valuable relationships with experienced consultants who share our commitment to the larger goals and play a major role in helping them to become realities.

We have successfully implemented strategies for solar heating, energy conservation, controlled daylighting, and biomass heating systems in many projects. Efficient re-use and adaptation of existing buildings for improved energy performance is an important aspect of sustainable design and construction. Our firm designed the French Wing at the NH Forest Society in Concord, the first Leadership in Energy and Environmental Design (LEED™) certified building in New England and, at the time, one of only 12 gold level LEED™ projects in the country. Banwell Architects is a member of United States Green Building Council, the organization that developed and administers LEED™ certification. We have presented to the profession on New England Collaborative for High Performance Schools (NE CHPS).

Banwell Architects has completed many LEED™ Certified Buildings

- Society for the Protection of New Hampshire's Forest - LEED GOLD
- AVA Gallery and Art Center - LEED GOLD
- VTC Campus Center - LEED SILVER
- DPW Admin Building - LEED CERTIFIED
- Belleayre Ski Lodge - Designed to LEED GOLD
- Green Woodlands - LEED PLATINUM
- World Learning Lowey Center - Designed to LEED Silver
- Colby-Sawyer College – Windy Hill School - LEED SILVER
- Lebanon Wastewater - Designed to LEED Certified
- Barre City Place - Designed to LEED Silver

Banwell has completed the following NECHPS Schools:
-Merrimack Valley High School (first NHCHPS school in the country)
-Lebanon Middle School
-Stevens High School

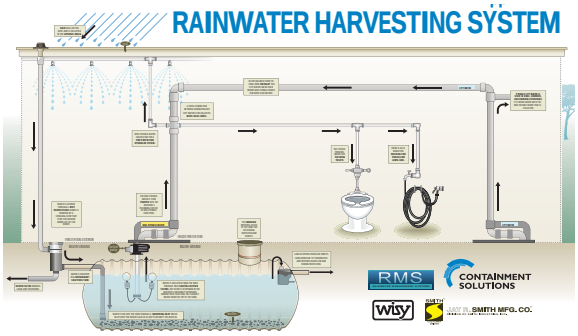
Building Systems & Sustainability

Integral to the space we inhabit are the systems providing heat/cooling, light & comfort. At Banwell we recognize the necessity for our collective future and projects financial success that we explore an economical, sustainable building system design for our clients. Incorporated into nearly all of our projects we look to seamlessly integrate sustainable building systems as a unified design. As regional leaders in the incorporation of many sustainable practices we have built a team of expert consultants and designers who will draw upon many of the sustainable practices below to provide you with the best possible building system design for your project.

Solar Hot Water - Lebanon Middle School

Wood Chip Boiler - Lebanon Middle School

Woodchip Auger - Merrimack Valley



Rainwater Collection - Lebanon Middle School

Biomass – The Wood Pellet Plant provides 100% of the buildings heating needs. We have completed dozens of wood chip and pellet heating plants throughout New England.

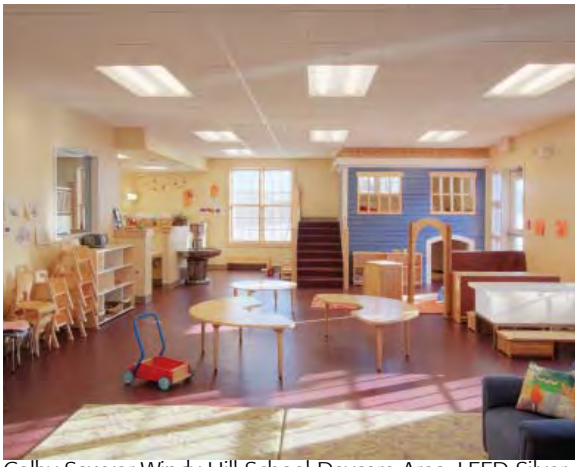
Ventilation – Energy recovery units save energy by using the heat from building exhaust to pre-heat incoming fresh air. High efficiency air filters are used in all air handling equipment.

Solar Hot Water – South facing solar hot water collectors supply hot water for year round use in restrooms and kitchens.

Commissioning – A process was used during construction to verify that all building subsystems achieve the project requirements as intended by the building owner and as specified by the design team. Upon completion, all systems performed to their high efficiency levels as specified.

Rainwater Reclamation – Storm water is collected via roof drains to an underground tank. Water is reused to flush toilets.

Plumbing Fixtures – High efficiency faucets, toilets, urinals and showers conserve water. Faucets have an automatic shut off to reduce water usage. Toilets have a dual flush for solid/liquids.



Colby Sawyer Windy Hill School Daycare Area, LEED Silver

Interior Sustainability

Enhancing the space we inhabit, efficient sustainable design is fundamental in our practice. The elements below detail how we achieve the best possible indoor environment for the patrons of the buildings we design.

Sunshades – Exterior Sunshades are strategically located on the south side of the building. The shades are sized so they shade the windows in the summer months and allow the sunlight to enter the building in the winter months

Light shelves – Interior light shelves reflect natural light deep into the building reducing electrical demands

Prismatic Skylights – light diffusing lenses deliver comfortable natural light to the interior space reducing electrical demand.

Solar Tubes – Light lenses on the roof deliver natural light throughout the space by way of highly reflective tubular skylights.

Building Envelope – Spray foam insulation blankets the exterior walls to for a continuous air barrier. High performance fiberglass windows reduce energy loss. The results of a blower door test resulted in air infiltration levels of .14fms/sf, an energy efficiency level which surpasses even the most technologically advanced buildings.

Interior Environment – Pollutants inside the building are minimized through the use of multi stage walk of mats at all entries. All paints used are low in VOC's.

Acoustics – High sound absorbing acoustic wall panels and ceilings help to reduce reverberation.

Roof Garden – Reduces impervious surfaces on the site and is used in educational programs.

Materials – Utilizes building materials located within 500 miles of the project site. Materials contain recycled materials.

Waste – During construction building materials were recycled to minimize the impact to local landfills.

Interior Light Shelf - AVA Gallery and Art Center, LEED GOLD

Exterior Sunshade- AVA Gallery and Art Center, LEED GOLD

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Recent Honors & Awards

2016 Business NH Top 5 Woman-Led Businesses

2014 Best of the Best Business Award

2014 Efficiency Vermont Merit Award for
Windsor Village Apartments (Windsor, VT)

2013 Lebanon Middle School Northeast CHPS Certified

2012 Plan NH Award Lebanon Middle School
(Lebanon, NH)

2012 Windy Hill School at Colby Sawyer College
(New London, NH)
Awarded LEED Silver

2012 Lebanon Administration Building (Lebanon, NH)
LEED Certified

2009 VTC Campus Center (Randolph, VT)
LEED Gold

2009 NH AIA 25 Year Award
"Project of Enduring Significance"
Conservation Center, SPNHF (Concord, NH)

2008 Merrimack Valley High School
(Penacook, NH)
Northeast CHPS Certified

2008 AVA Art Gallery (Lebanon, NH)
LEED Gold

2008 VT AIA Citation Award for
Historic Preservation/Restoration
AVA Gallery and Art Center
(Lebanon, NH)

2008 Plan NH Merit Award for Excellence in Planning,
Design and Development AVA Gallery and Art Center
(Lebanon, NH)

2008 Award for Renovation & Retrofit Better Buildings By
Design 2008 Efficiency Vermont
Vermont Technical College Campus Center
(Randolph, VT)

2006 Award for Innovation in Integrated Design
Better Buildings By Design 2006 Efficiency Vermont
Community College of Vermont
(Wilder, VT)

2006 Award for Innovation in Integrated Design
Better Buildings By Design 2006 Efficiency Vermont
Champlain Valley Union High School (Hinesburg, VT)

BANWE-2 OP ID: BC

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 08/03/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER 800-371-1063 Poole Professional Ltd.-TM 107 Audubon Rd. #2, Ste. 305 Wakefield, MA 01880 Cameron W. Poole	CONTACT NAME: Cameron W. Poole PHONE (A/C, No, Ext): 800-371-1063 FAX (A/C, No): E-MAIL ADDRESS:
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A : Travelers Casualty and Surety — 19038
INSURED Banwell NH Inc. 6 South Park Street Lebanon, NH 03766	INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT 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. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	Arch/Engrs			106772159	07/16/2018	07/16/2019	Per Claim	2,000,000
	Prof Liability						Aggregate	2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

For professional liability coverage, the aggregate limit is the total insurance available for all covered claims presented within the policy period. The limit will be reduced by payments of indemnity and expense.

CERTIFICATE HOLDER

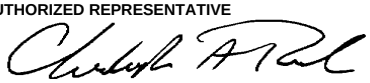
PROPO-1

For Proposal Use Only

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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