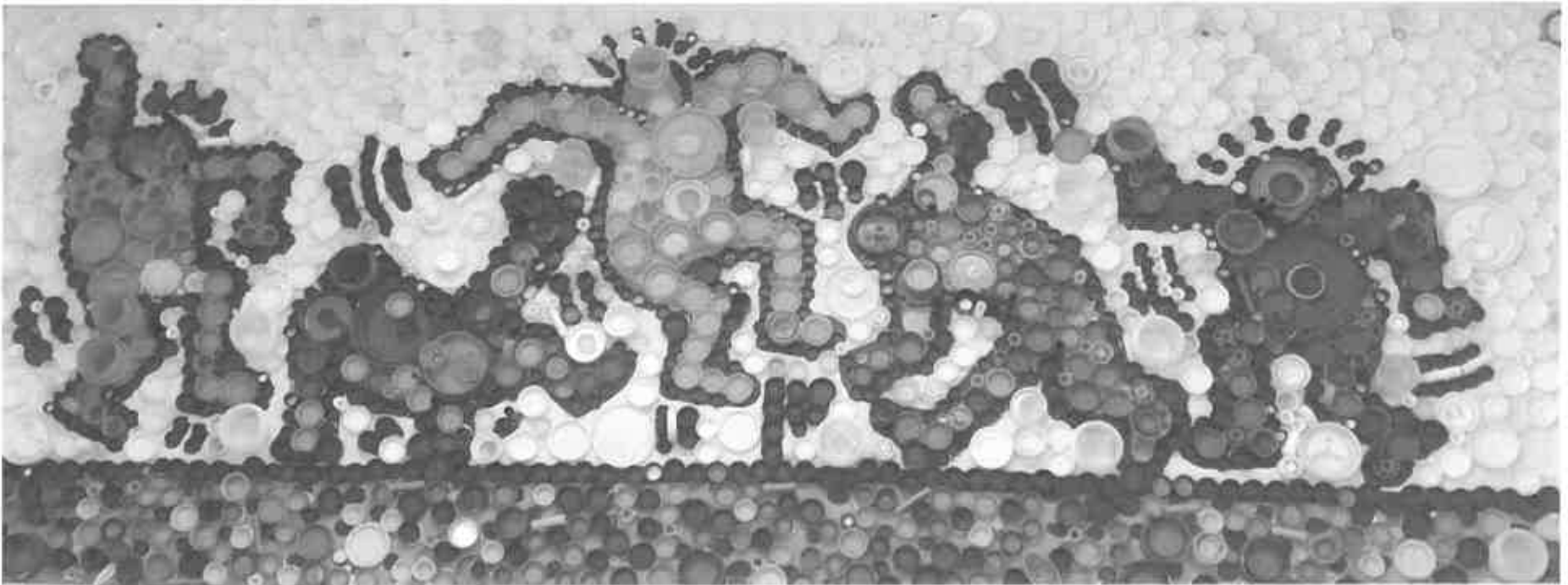


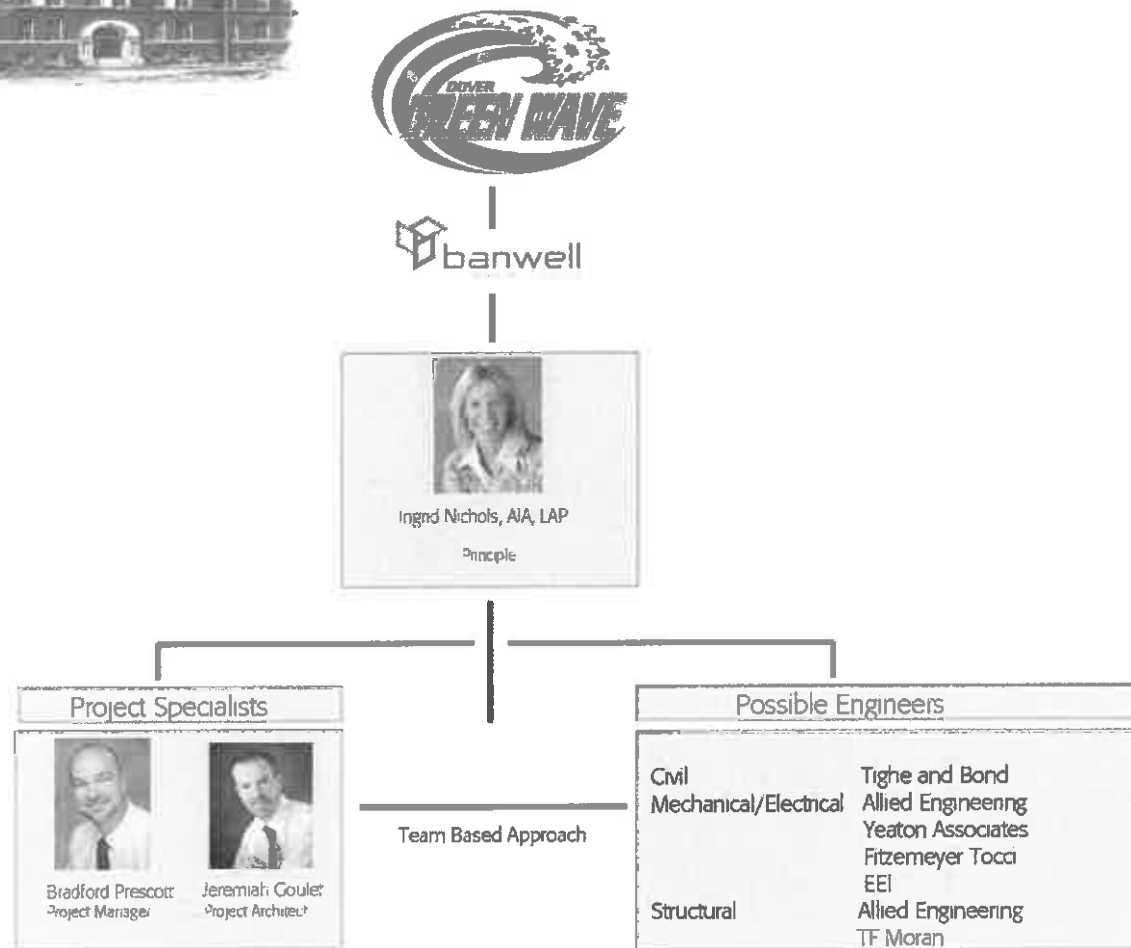
Garrison Elementary School

Dover, NH





Team Organization Chart



Feasibility Study:

1. What other feasibility studies have you done and how many carried forth into other projects? What do you wish you had looked at in previous feasibility studies that you didn't?



Projects in bold have gone on to become actual projects.

- Newmarket Jr/Sr High School (Bond Vote March 2017)
- **Spaulding Youth Center, Northfield, NH**
- **Kendal at Hanover, Hanover, NH**
- **Cardigan Mountain School, Canaan, NH**
- Town of Rollinsford, Rollinsford, NH
- **Girl Scouts of the Green and White Mountains, Statewide (NH & VT)**
- **Jay Peak Stateside, Jay, VT**
- **Lebanon Middle School, Lebanon, NH**
- **Lebanon High School, Lebanon, NH**
- **Mount Lebanon Elementary School, West Lebanon, NH**
- **Lyme Elementary School, Lyme, NH**
- **Ray Elementary School, Hanover, NH (Three projects in 40 years)**
- **Merrimack Valley High School and Middle School, Penacook, NH**
- **Stevens High School, Claremont, NH**
- **Falmouth Middle School, Falmouth ME**
- **Unity School, Unity, NH**
- **Loudon Elementary School, Loudon, NH**
- **Webster Elementary, Webster, NH**
- **Salisbury Elementary, Salisbury, NH**
- **Cornish Elementary School, Cornish, NH**
- **Gilford Middle High School, Gilford, NH**
- **Woodland Heights Elementary School, Laconia, NH**
- **Pleasant Street Elementary, Laconia, NH**
- **Elm Street Elementary, Laconia, NH**
- **Richmond Middle School, Hanover, NH**
- **Hanover High School, Hanover, NH**

Feasibility Study:

1. What do you wish you had looked at in previous feasibility studies that you didn't?

- **Other Possible Land Purchases**
- **Traffic studies**
- **Population demographics**
- **Getting student populations set from the get go**
- **Geotechnical**
- **Civil engineer and permitting schedules early on**
- **Other Town Bond votes (competition for town funds)**

Feasibility Study:

2. Describe a project similar in scope and size that you have done and how you met state standards?



Little Harbour Elementary School (Portsmouth, NH)

- 67,000sf Renovations
- \$8,000,000 Project Cost

The overall scope of work includes:

- Introduced new walls to define improved educational spaces and acoustic
- Provide specialized instruction spaces to support programs.
- Removal of asbestos ceiling tile (which is majority of ceiling tile)
- Installation of a NFPA compliant sprinkler and fire alarm system.
- Installation of a new boiler, HVAC controls, and energy recovery ventilators.
- Installation of new ceiling tiles and grid, including decorative ceiling in cafeteria.
- Installation of LED lighting system
- Replacing asbestos flooring.
- Banwell partnered with EEI for a Design Build Energy Performance Project.
- Upgrades to the Mechanical, Fire Alarm and Fire Protection upgrades.

Feasibility Study:

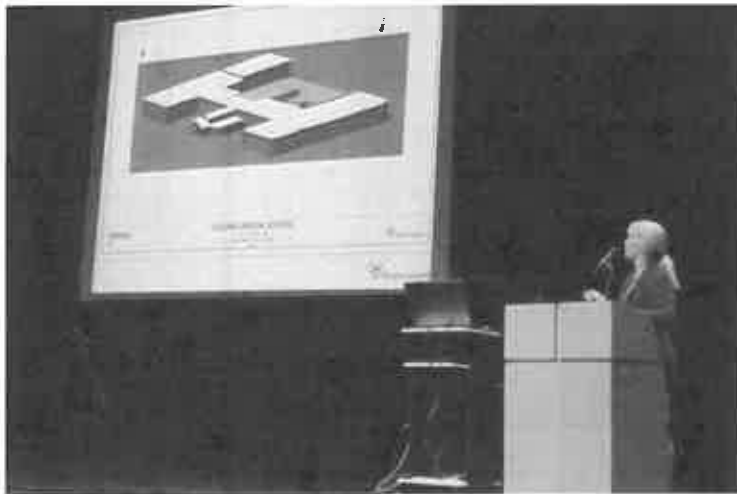
2. Describe a project similar in scope and size that you have done and how you met state standards?



- Started with a feasibility study by Banwell's
- 1,202sf New/129,147sf Renovations
- \$12,500,000 Construction Cost
- \$94/Square Foot
- New classroom and department designs to facilitate student flow.
- Clustering of department groups
- Right sizing education spaces for state standards compliance.
- 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

Feasibility Study:

3. How do you envision the role of the community in the feasibility study process, and what is your role in communicating with the public during this project?

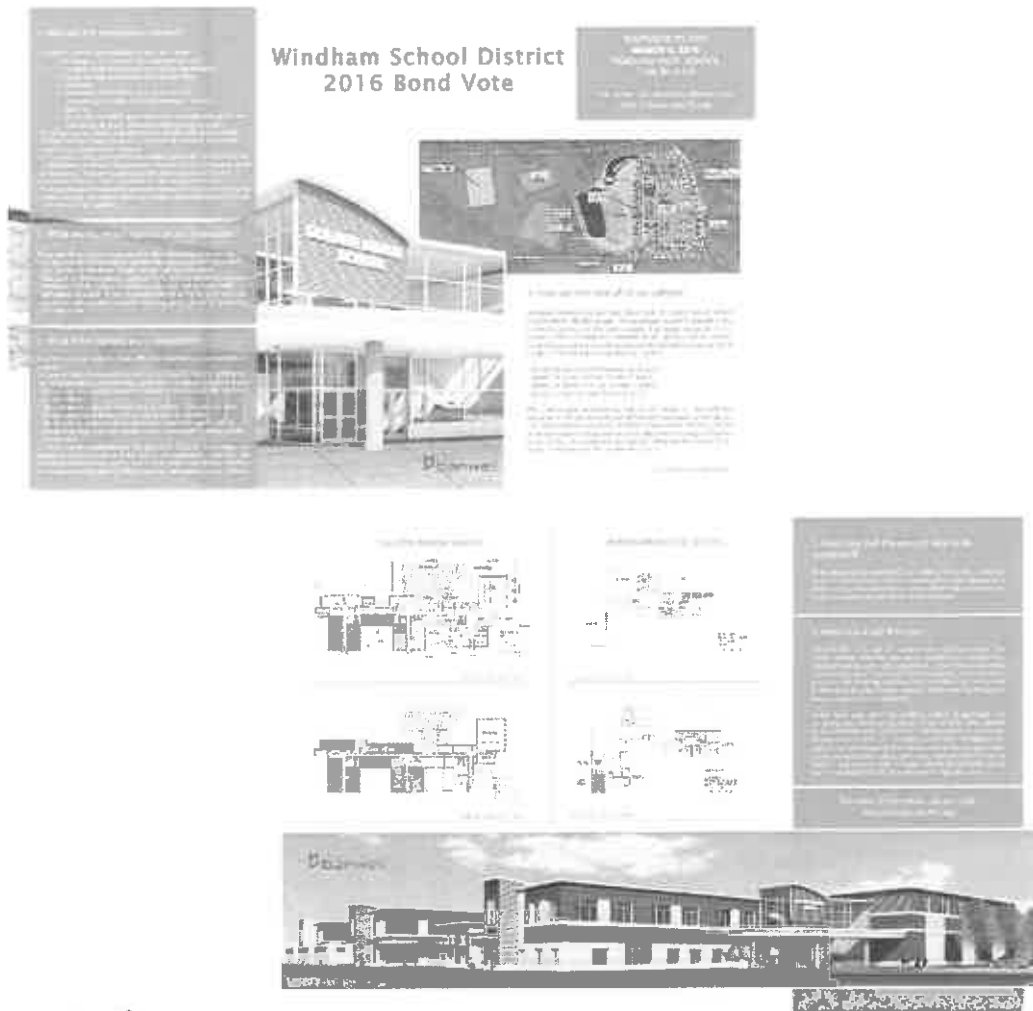


Methods for outreach include:

- **Surveys:** assisting with questions
- **Public Forums:** lead discussions and be a resource
- **Charettes:** lead
- **Website:** provide content and graphics
- **Brochures:** provide content and graphics
- **FAQ list**
- **newspaper**

Feasibility Study:

4. How would you help us filter, balance and prioritize community and other stakeholder input?



Constant and clear communication is key to processing the multiple “voices” heard throughout the process. Dialog with the committee and SAU decision makers to review stakeholder feedback and prioritize project requirements is essential.

We catalog and review feedback from:

- Public charrettes**
- Stakeholder meetings**

We structure and organize the feedback to make easier to set project requirements vs. wants.

Feasibility Study:

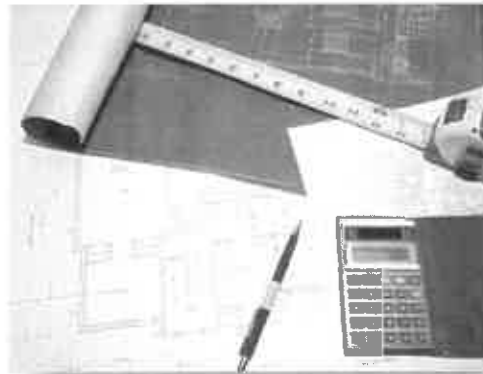
5. What information would you need from us on or before day 1 to assist you in conducting an efficient and effective feasibility study?



- Any As-built Drawings if you have for scanning
- Any CAD/Revit Files you may have from previous projects
- Any previous programs developed for the school
- Access to set up teacher/staff meetings to develop/refine the program
- Any additional previous reports
- Hazmat information
- Geotechnical Info
- Wetlands
- Enrollment Projections
- Grade restructuring plans

Project Management:

6. How do you go about determining feasibility and cost estimates for a renovation project that has many layers of unknowns and meets the specific needs of Dover?



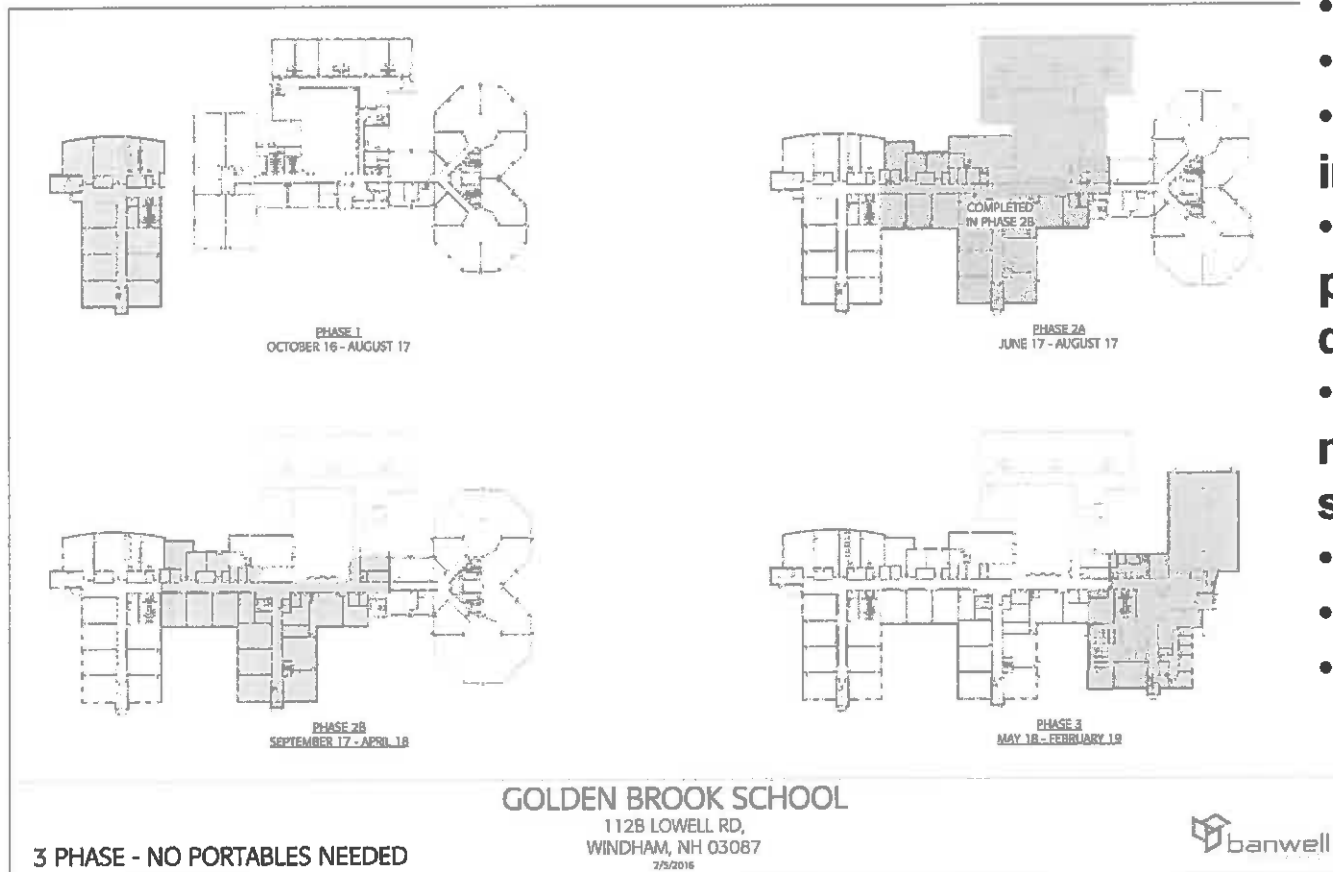
- **Provide accurate pricing for base and include site, building and soft costs (budget template)**
- **Price out features as add alternates to add to base bid.**
- **Hire a CM that has experience in school design**
- **In a large committee, you need to prioritize goals, have realistic budgets and set up a decision making process.**
- **Review paybacks of systems and set environmental goals**
- **Make sure you cover all of your bases (no surprises)**

Project Management:

7. How would you approach management of construction in and around an occupied building if you were to move from feasibility to design?

Consider:

- Budget
- Schedule
- Educational impact
- Carefully planned phasing documents
- Active mechanical systems
- Air quality
- Safety
- Communication



Project Design:

8. What is your philosophy and experience in approaching a school feasibility study and renovation that addresses the perspective of a young child, and community uses & needs?



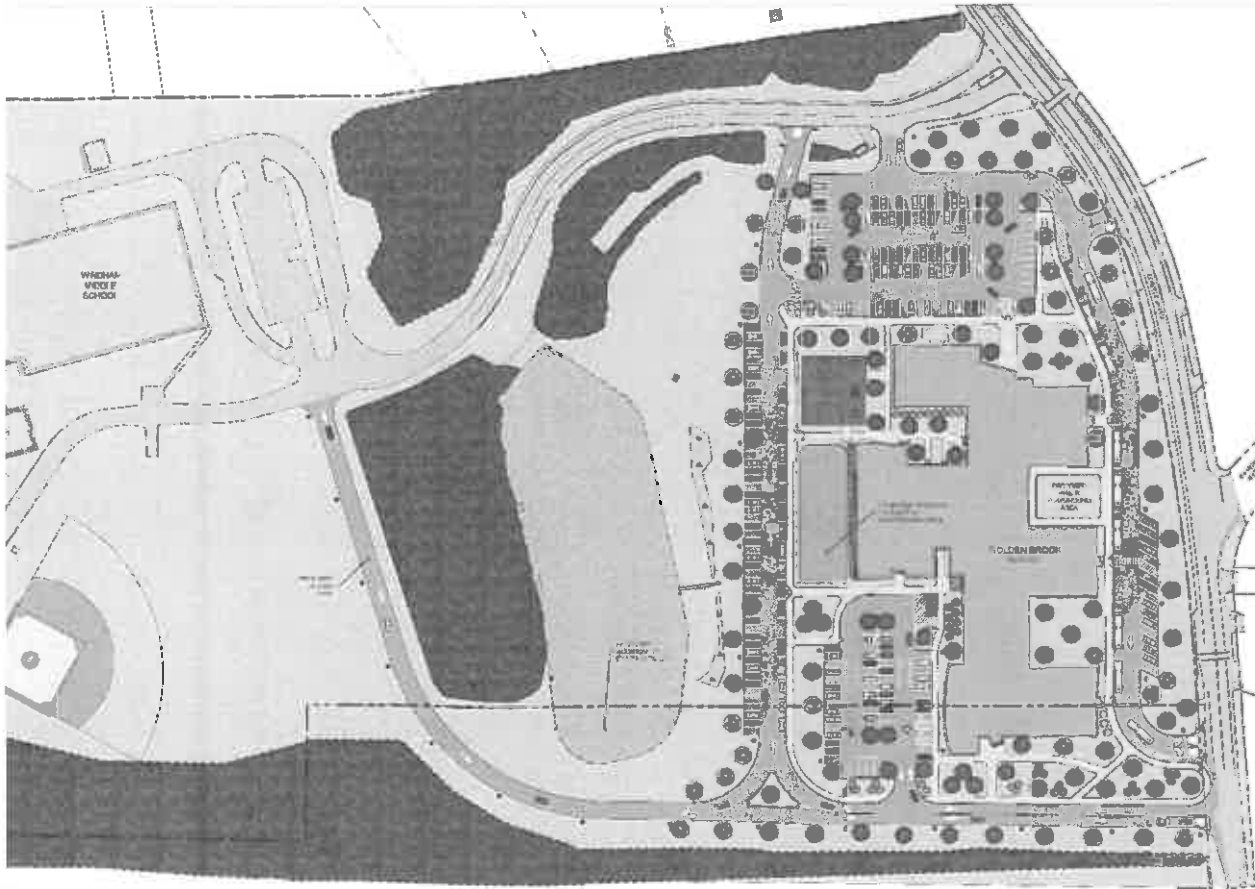
Public Schools are a community resource and are often utilized for multiple, cross functional purposes. We look for and suggest opportunities to leverage amenities as appropriate.

Balance and prioritizing is essential:

- Enhanced functions to provide use flexibility (cost/community benefit)**
- Maintaining pupil safety and educational environments through**
 - Design**
 - Time Of Use Programming**
 - Minimize disruptions during construction phase**

Project Design:

9. How do you approach the feasibility and design as the building relates to the site?



Educational needs are addressed by there development both inside and outside of the building. In site design we balance:

- **Outdoor Play and PE**
- **Building synergy with site**
- **Safety / Security**
- **Pupil / Traffic Segregation**
- **Traffic Flow and Safety**
- **Utilities**
- **Trash/recycling**
- **Services**

- 10. What role does sustainability play in your philosophy and design process?**
- a. How would you help us secure special funds to pay for sustainable features in our project?**
 - b. How much money have you helped other districts raise to support a sustainable design?**

Sustainability features can benefit the community through:

- Project long life cycle cost savings**
- Lower capital costs through Energy Efficiency Programs**
- Improve quality of educational environment**
- Provide educational devices for student awareness**
- Daylighting (increase student test scores)**

The CHPS Classroom

© 2008 CHPS, Inc.

Displacement Ventilation

Deliver 400-800 cfm of 100% outside air near the floor at a temperature of 63-68°F. Exhaust air at or near the ceiling. In colder climates provide supplemental heating at the building perimeter.

Acoustics

- Provide gypsum board surfaces on a slope behind the teacher and in the middle of the room to reflect the teachers voice
- Provide acoustic materials around the perimeter of the ceiling and above the 6" wainscot



Whiteboard Luminaire Teacher Control Center

Electric Lighting

Provide multi-scene indirect/direct lighting with two rows of pendant luminaires that use T8 lamps and electronic ballasts. Provide the teacher with controls at the teaching wall to operate the two lighting modes, general illumination and A/V. Incorporate a separately-switched whiteboard luminaire. Provide manual or automatic controls to reduce electric lighting when daylight is sufficient or the room is not occupied.

Windows

- Locate primary windows on the north or south so that solar gain into the classroom can be controlled
- Provide separate blinds or control for the daylight portion - the part above the height of the door
- If windows are not continuous, locate them in the corners to more effectively daylight the teaching surfaces
- Select fenestration that reduces heat loss and improves comfort while providing adequate for daylighting
- Provide light shelves, overhangs for south facing windows

Skylights

For classrooms that are one-story and have windows on just one side, locate two 4x8 diffusing skylights near the back wall to balance daylighting.

Ceiling Height

Provide a ceiling height of at least 10 ft.

Furnishings and Finishes

Select furnishings, casework, materials, and finishes that are non-toxic, durable, resource efficient and which provide a good acoustic environment.

Occupancy and/or Daylight Sensors

Consider installing automatic controls that adjust electric lighting to the level of daylight available and the presence of occupants in the space.

Colors

Use a white finish for the ceiling and the portion of the wall above the 6" wainscot. The ceiling and upper walls are part of the lighting system.

Classroom Layout

Provide an interior space layout that positions the principal visual tasks to reduce glare and provide good vertical illuminance on the teaching wall.



LMS HP DESIGN FEATURES

Heating/Energy:

- **Biomass:** Wood pellet plant to cover 100% of the heating load capacity without a fossil fuel backup system.
- **Solar collectors:** Alternative renewable energy source to supplement to Wood pellets for hot water needs.



SOLAR HOT WATER



VENTILATION

- Energy recovery units to supply displacement ventilation.
- Ductwork to be protected during construction to prevent airborne pollutants. Building flushed out prior to occupancy.

WATER CONSERVATION

- Rainwater collection tanks for flushing toilets. All roof drains connect to an underground 20,000 gal tank. If there is not enough rainwater, water is provided by a day tank through the municipal supply.
- Low flow plumbing fixtures, auto lav faucets, dual flush valves on toilets
- No irrigation for landscaping

BUILDING ENVELOPE

- The envelope is designed to meet specified air infiltration levels of a minimum of .25cfm/sf.
- This is achieved through the use of a continuous spray foam insulation system without thermal bridging, energy efficient windows and paying attention to the vapor and air barriers from foundation up to the roof
- First instance testing and final blower door test were completed (.10 actual results)

INDOOR ENVIRONMENT

- Exterior snow grates and interior recessed walk off mats to reduce pollutants in the building.
- Conducted building flush out before occupancy
- MERV 13 Filters installed and replaced immediately prior to occupancy

DAY LIGHTING

- Interior light shelves to reflect natural light deep into the classroom spaces.
- Skylights to improve the interior environment and to reduce electrical



SUNSHADES AT SOUTH



Exterior sunshades to keep south facing classrooms cool in the summer.

SOLO TUBES AT MEDIA CENTER



DAY LIGHTING AT GYM



LIGHTING/ELECTRICAL

- Electrical usage minimized through the use of high performance fixtures.
- Lights controlled by daylight sensors
- Lights controlled by occupancy sensors
- LED site lights
- Elec heat panels at ceiling near windows (keeps floor clear)



ROOF GARDEN IN WINTER



- a. How would you help us secure special funds to pay for sustainable features in our project?**
- b. How much money have you helped other districts raise to support a sustainable design?**

- Review federal grants
 - Review state grants
 - Interview possible partners (energy companies, biomass, solar)
 - State – advocate NECHPS
 - Utility rebates
-
- LMS- 3% in state building aid = \$600,000 (\$24m total project)
 - Merrimack Valley – initial upfront insulation add of \$167,000 saved over \$900,000 in up front MEP costs (\$18m total project), PLUS \$540,000 for NECHPS

Project Design:

11. How can the building be designed to meet our educational needs now and in the future, and how do you keep abreast of current New Hampshire standards and codes?



- Design in flexibility to adapt
- Understanding your educational needs
- DOE and State Fire Marshal review meetings
- Ingrid helped write the current DOE guidelines
- Ingrid is on a committee to review state education high performance guidelines
- 86% of our project type is public schools
- We go to national education conferences to stay current
- We regularly go to code seminars

Project Design:

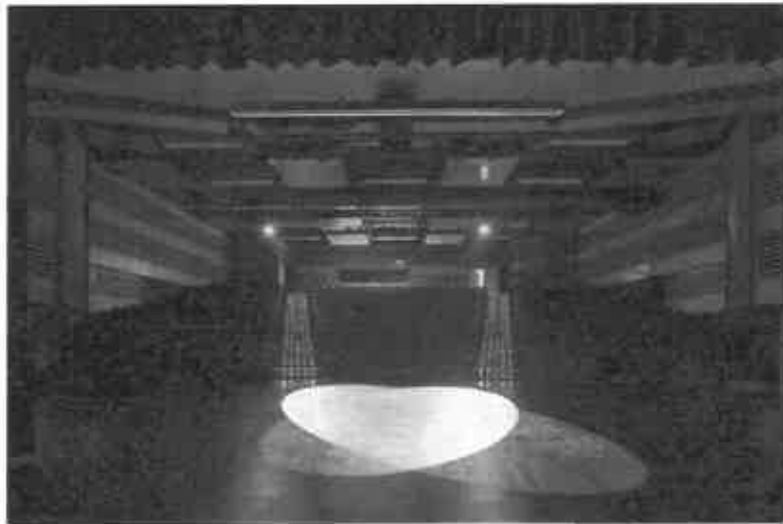
12. How can the building be designed to promote flexible community access?



- Have community conversation during the charrettes
- Designing spaces at the exterior with separate community entrances.
- Configuring the school for segregated functions that are secure.
- Educating the community during the pre bond process of the opportunities for events.
- Leave space for future expansion.

Project Design:

13. Tell us about your team's experience in the academic, arts and athletics aspects of school design.



We have done hundreds of school projects:

- renovations
- additions
- new schools
- smaller projects



General Information:

14. Can you provide a cost estimate?

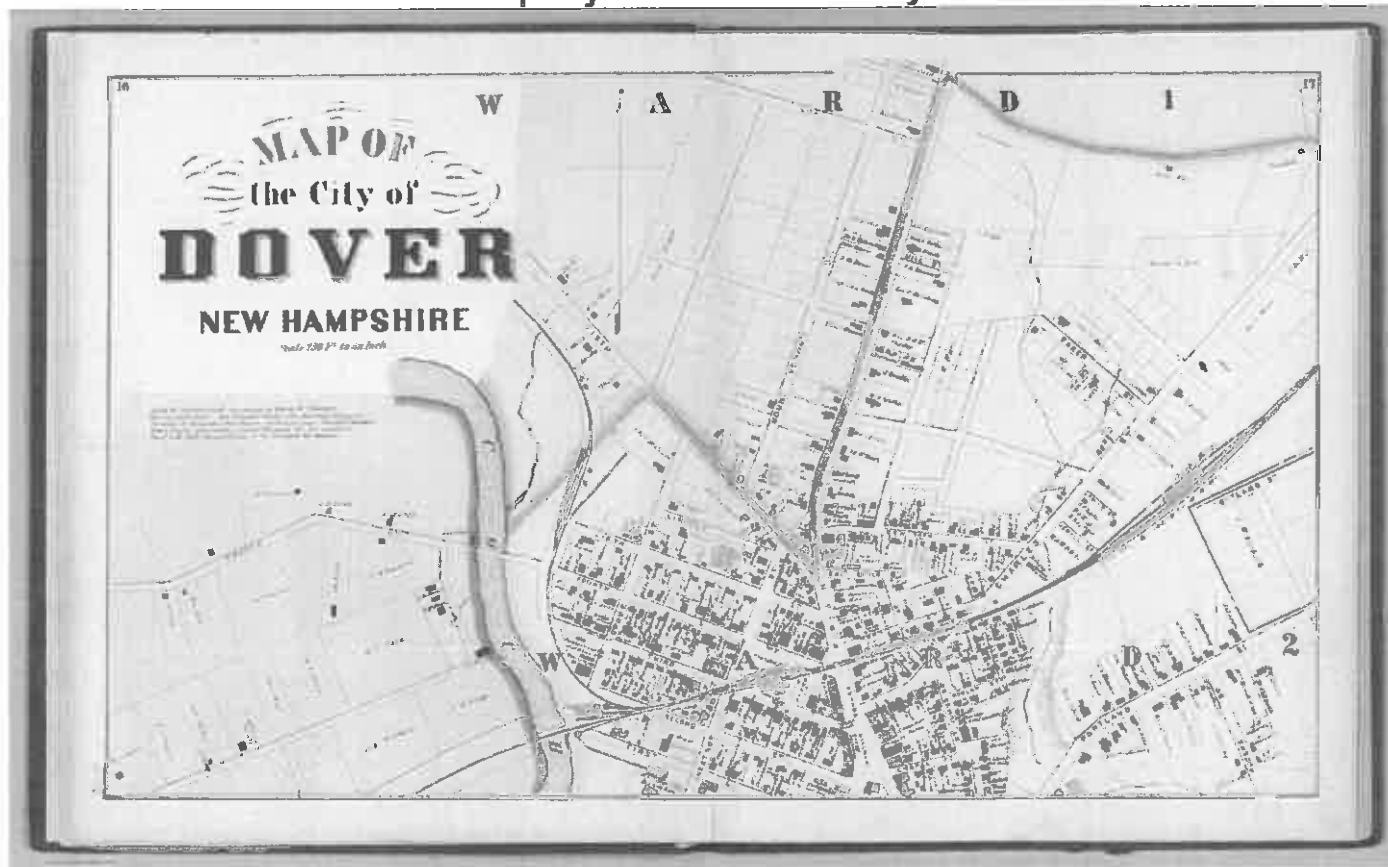


- Yes we can!
- Other alternatives include 3rd party cost estimator or hiring a construction manger for prebond or hiring a construction manager to provide a guaranteed maximum price (GMP)
- All of the schools that we have estimated for prebond have come in under the prebond amount
- We have developed a school project budget template so no items are forgotten

General Information:

15. Are you currently engaged in any other projects for the City of Dover or the Dover School District? If so, would any of your team be shared across projects?

We are not currently engaged in any other projects for the City of Dover or the Dover



General Information:

16. How many other bids do you have pending at this time?

- Soldier On (Plymouth, NH)
- State of Vermont Military (Statewide Throughout Vermont)

General Information:

17. Based on your experience, what suggestions would you recommend to us?

- **Involve the community early in the process**
- **For the study concentrate on options first without costs**
- **Establish a base program before design starts**
- **Have a strategic plan to unveil the cost**
- **Pencils down December 1st to educate for the warrant article**
- **Meet every two weeks to keep the project moving forward**
- **Use website and media to keep the public informed throughout the process**
- **Develop FAQ's as we go along**
- **Visit other area schools to see possibilities**
- **Look at energy companies for possible alternative funding sources**
- **Review Green Design priorities early on so they get in the budget**

General Information:

18. Are there questions we haven't asked that you think should be asked?

- **Are there any abutting parcels that could be bought?**
- **Politically, is there a cost number out there that the public assumes?**
- **Are there any sacred cows that shouldn't be touched?**
- **How do you engage the students to include them in the process?**
- **Are you interested in CHPS and how many CHPS schools have you done?**
- **What percentage of Banwell work is public school projects?**
- **Should there be a cost estimate of the proposed design prior to the first public forum?**
- **How far have Banwell's estimates been from the final construction cost of their projects historically?**



Review of Schedule

WHY BANWELL???

- **We have decades of experience in educational facilities and have done 100s of schools**
- **We have dozens of sustainable school projects (LEED, NECHPS, EEI, Honeywell, JCI) and are leaders in the industry**
- **NH based firm and working on several projects in your area**
- **We have competitive fees**
- **We are sure to comply with budgets and schedules and lead you through the entire process**
- **We work using an integrated approach**
- **We deal with problems head on**
- **We make sure the entire team communicates effectively**
- **We are good listeners**
- **We can meet your time schedule**
- **We have a proven track record of developing and staying on budget**



Thank You!

Questions?

