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# Reading, Writing & Renovating

## Top Considerations When Taking on a Major Renovation Project

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### Student Safety

Most renovations require more than 12 weeks during a summer and require “construction and instruction” occurring simultaneously. Barricades to separate construction zones from the school community, reviewed by the local building inspector, are a must since all life safety systems, such as fire and sprinkler, need to be maintained during the construction phase.

Even with physical barricades, there will be times during the project where workers have tasks in occupied areas of the building. ID badges and background checks can be required by the contractor when it is written into the construction documents. This is an effective way to identify construction workers and keep potentially dangerous individuals off school property.

### Phasing Plan

A major renovation project is complicated, so a detailed phasing plan is the best way for projects to proceed successfully while school is in session.

Major projects with detailed phasing plans in the construction documents confer multiple benefits. Contractors understand both expectations and limitations during the process, and all parties understand these parameters up front. For example, there may be work that can only be allowed after the normal school day, so the contractor understands that a second shift of workers is required, and nightly clean up expected before the next school day. If all parties know the phasing parameters before the project bids, a lot of guesswork is eliminated, and bids will better reflect an understanding of the school's expectations.

### Life Safety / Code Compliance

A detailed building audit up front that deals with existing issues can go a long way in preventing costly change orders and delays during construction. When conducted prior to completing construction documents an audit will reveal where legacy systems are out of date with code changes and will avoid surprises later in the renovation. For example, the allowable area contained by a firewall has changed over the years, so an existing wall could be required to move, or even a new wall added to meet current fire safety codes.

In many instances a building is not constructed exactly as drawings indicate or changes made during construction were not documented. Older buildings rarely meet ADA (American Disabilities Act) requirements, and ADA compliance is required for any major renovation project. This is particularly true for interior level changes such as elevators and ramps that take up floor area not planned for the original facility.

### Building Performance Benchmark

Improved energy efficiency needs to be benchmarked and strategies discussed. Data on existing energy usage is as simple as reviewing last year's monthly energy bills and understanding what's using energy in your building. Let's say a school has an EUI (Energy Use Intensity) of 68. An aggressive but attainable energy reduction might be 34, or a 50% reduction. With a measurable goal established, the design team can explore strategies and systems to determine their effectiveness in meeting your benchmark through an energy model. This computer model will take into account building insulation, HVAC systems, etc. to predict the energy usage for all inputted decisions, and establish a measurable goal for the project after completion.

One area where big efficiencies can be achieved is in the kitchen. Replacing deep fryers and tilting skillets with steam kettles and convection ovens eliminates the code requirement of a Type I hood, dramatically reducing energy use.

### Re-Imaging Existing Spaces

Successful renovations can extend a school's value by 30 years or more. But teaching techniques and especially developing technology will continue to change during the typical life cycle of a school. Today we design and build flexibility into the classroom and beyond to accommodate changing uses. Examples include:

- An “old” school library can be re-imagined as a series of resource centers distributed throughout a building.
- A traditional home economics/sewing lab converted to a commercial kitchen/culinary arts program, a popular high school career pathway.
- A design team can identify non-load bearing walls throughout a building that are far less costly to move to accommodate changing classroom and equipment requirements.
- Hallways and stairwells can be converted into small group study areas with wireless technology,
- Any space, indoor or outside, can become a computer lab.

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>>> **Kenny Stanfield, AIA, LEED AP**, is a Principal of Sherman Carter Barnhart's Education Studio. Mr. Stanfield leads the firm's innovative, development and application of sustainable design strategies in schools. Nationally recognized as a leader of high performance, energy efficient designs, he is credited with the planning and design of the first NET ZERO energy public school in the United States.