

Planning for School Construction on Occupied Sites

second of a two-part series

By Greg Stack, Jubany-NAC | Architecture

In the first part of this series we looked at planning for construction on an occupied site. In this article we will examine the far more difficult challenge of planning for construction in an occupied school building.

Planning for a construction project in an occupied school requires a different strategy than for unoccupied projects. Student safety is paramount, yet special care is required to ensure that the student educational experience is not compromised. This takes careful planning and robust communications to ensure users and contractors are cooperating for success.

A robust communications plan is essential for a successful project. The “what, when and where” for occupied school construction includes a discussion of the nature of the work, the schedule for that work, and a plan showing which parts of the school will be available to students. Robust communication builds trust and reduces surprises. During construction, school

representatives should attend construction meetings to stay abreast of the work planned for the week, and to share plans for testing, early release or other school activities.

Planning for construction is based on the phasing plan for the project. The phasing plan answers the when and where questions of the communications plan. It lets the contractor, staff and students know which parts of the school they will have available to them at any particular time. Two factors influence a phasing plan – the ability to accommodate students at all times, and the contractors’ need for an efficient workflow.

Student accommodation is best accomplished by planning where every class will be taught during every project phase. The architect should actively assist the owner in creating this plan for the occupied projects the architect designs. Part of this process is to thoughtfully consider the educational experience being created for students. On large projects students may be exposed

to construction activity for over half of their time in school, so it is important that learning is not compromised. When planning the phases of the project, noise, fumes, dust, access, and the quality of any temporary space must be considered. Usually there are choices that can be made to reduce distractions and improve quality if one puts forth the effort of thinking about this aspect of the process.

The architect should try to create phasing plans that don’t require additional relocatables. Since money spent on relocatables is often money that can’t be spent on the permanent architecture, the architect should strive to avoid their use by building any new construction first, and creating temporary accommodation in existing areas of the building. The architect might relocate a library to a gym temporarily in order to remodel the library. By laying down a plywood floor on wood sleepers over the gym floor, the architect would be able to both protect the hardwood surface and create a chase way for running power and data in the temporary facility. Using these techniques has allowed for modernizing occupied schools ranging from a 40,000-square-foot elementary school to a 360,000-square-foot high school without using a single relocatable classroom.

The phasing plan must also be based on what makes sense from a construction sequencing standpoint. The mistake many phasing plans make is to divide the work into areas with only a simple schedule and vague notes to the contractor, giving them the responsibility to figure out how to keep critical systems in operation during construction. This approach is a recipe for disaster.

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The architect's approach should be to provide detailed phasing plans that tell the contractor how much time they have to accomplish their work and which temporary connections need to be made to keep existing systems in operation prior to their eventual replacement. The overall phasing plan should be supplemented by phasing

plans in each consultant discipline. Structural might show temporary shoring; mechanical how ducts need to be temporarily re-routed; and electrical how power, communications and fire-alarm systems are to be accommodated. The plans detail where and how existing systems will need to be maintained as they pass through new construction to serve portions of the building sched-

uled for later construction. This careful planning allows contractors to bid with less contingency in their bids. More importantly, it makes the construction period more predictable and thus easier for users and contractors alike.

Even with the best laid plans, events beyond control occur. For example, one complex occupied remodel project suffered the simultaneous occurrence of an earthquake and discovery of archeological remains on site. The phasing plan has to be adaptable to uncontrollable events like these and the communications plan must allow users to quickly understand the actions that will be taken to keep the school safe and construction progressing.

In conclusion, careful planning improves the construction experience for district administrators, users and contractors. 

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C.A.S.H. Acronym Directory

Did you know that CASH has a directory of commonly used acronyms in the school facilities industry?

To access this directory, go to <http://www.cashnet.org/AcronymDirectory.pdf>

If you would like to add to the list, please send your acronym(s) to Gretchen Kocinsky at gkocinsky@m-w-h.com.

Message From The Chair

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environment, and the availability of American Recovery and Reinvestment Act (AARA) programs and funding.

Looking forward, we understand that the STO may borrow up to \$10 billion in short term bonds in the near future to even out the state general fund cash flow expenditures. The STO has not indicated when or how much more they will attempt to sell in long term state bonds to replenish state infrastructure funds. It is an open question whether or not the state will sell bonds sufficient to fund the \$400 million in apportioned projects later in the year, and when projects submitted after the current SAB approved apportionment list is cleared will be funded.

C.A.S.H. will continue to work with the Governor, the Legislature and our state partners to ensure that funding is available to build and modernize schools, as well as keep our members up-to-speed concerning the most recent developments. For this reason, this year's C.A.S.H. Fall Conference will focus on issues that are of utmost importance to the school facilities community in this time of economic turmoil to inform and equip attendees with information and techniques on how to survive this period of fiscal uncertainty. I highly encourage you to attend the C.A.S.H. Fall Conference so you are prepared for the challenges that lie ahead.

With the unyielding commitment to meeting the housing needs of California's school children as our guide, C.A.S.H., with the strength of its members, will weather this storm. 