

In order to describe the Enhanced CM-at-Risk project delivery method it is necessary to review the manner in which CM-at-Risk is typically applied in the construction industry today. The review of CM-at-Risk is below and is followed on page 2 with an illustrated explanation of Enhanced CM-at-Risk.

CM-at-Risk (Construction Manager at Risk) as a construction project delivery method has grown in popularity in recent years. It is preferred by many general contractors and construction management companies as well as their sureties. CM-at-Risk can give an owner an early feeling of comfort and can be a good way to manage design and construction in the interests of the project Owner, particularly if the Owner's organization is one that is in a position to rely upon relationships in the procurement of construction. CM-at-Risk can be used for new construction as well as in both expansion and remodeling projects and may be employed for both simple and complex building types.

However, more than a few owners have had problems with a major aspect of CM-at-Risk, the "GMP" (Guaranteed Maximum Price). The GMP is often found to be difficult to enforce and sometimes proves to have been misleading to the owner.

The basic reason that a GMP issued before the design is 100% complete turns out to have an unenforceable price is that the CM or Contractor will always be able to claim that when the GMP was issued there was no way of knowing that the Owner's Architect was going to specify something with certain conditions, detail something in a particular manner, include this or that, or specify something in a particular way, even though the Owner and the Owner's Architect

were of the opinion that those things should have been reasonably expected as the drawings and specifications were completed. That position by the CM of Contractor (the "issuer") will almost always provide relief for the issuer of the GMP unless very strong relationships cause the CM or Contractor to adhere to the GMP.

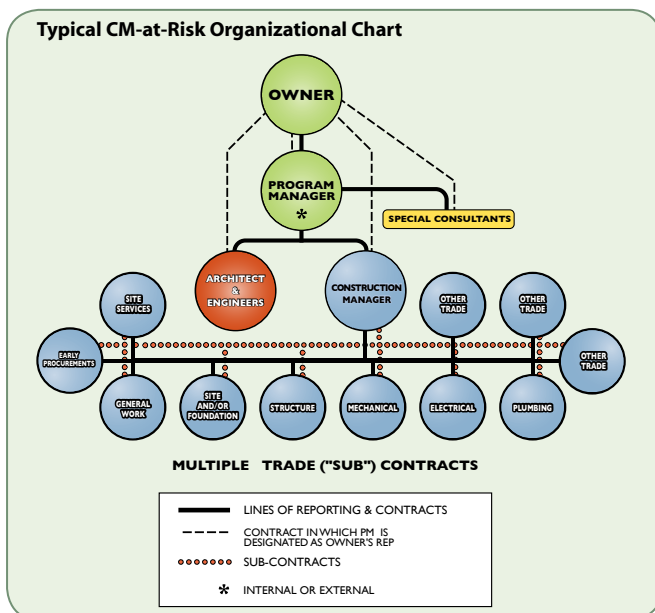
In the typical version of CM at-Risk, the Owner will either select the Architect/Engineers first so they can be involved in the selection of the CM, or the CM and the Architect/Engineers will be selected at the same time. If an external Program Manager ("PM") is to be engaged by the Owner, the PM, as the Owner's representative, should be selected first to assist the Owner in the preparation of the contracts for the CM and the Architect/Engineers as well as to assist the Owner in the selection processes.

The CM would typically assist the Owner and the Architect/Engineers with input on costs, cost effective construction materials, constructability, scheduling and sequencing issues throughout the pre-construction phases. Continuous consultation, estimating and providing input into the design and construction schedule would be the norm. In many cases, at design milestones, the CM would provide the Owner, Architect/Engineers and the PM with the most reliable possible estimate of the final total cost.

The cost statements would be issued in the form of a GMP, sometimes issued as early as the Schematic Design phase, usually around the end of Design Development, or sometimes as late as partial completion of the Contract Document drawings and specifications. Frequently the GMP is issued early and then reconfirmed at several points during the design process.

The CM is usually a general construction contractor with technical and financial capabilities appropriate to the project at hand or a professional CM organization with sufficient financial capabilities to accept the responsibilities under the contract with the Owner for the CM-at-Risk method.

The most serious concern of knowledgeable buyers of construction who are also public bodies, or other owners who cannot or should not consider buying construction on a relationship basis, is that lack of enforceability of the GMP. Many cost overruns have been experienced by these owners because they had a feeling of security with the GMP issued part way through design only to hear later that the GMP had gone up for the excuses discussed above. With time running late or in some cases construction already started because the owner had the "comfort" of the GMP, serious problems can result for the owner.



Enhanced CM-at-Risk

The Enhanced CM-at-Risk project delivery method provides much more safety for the Owner than the traditional version of CM-at-Risk. The enhancements which make the GMP more dependable can be accomplished in one of three ways:

1. Additional provisions in the Agreement between Owner and CM (Contractor).

The additional contract provisions in the Agreement would be accompanied by the attachment of a description of the complete project scope, any design documents produced to date, the Program of Requirements, and information about the site. The provision itself would state the maximum allowable amount of the GMP, a number probably taken from the Owner's authorized project budget. Further, subsequent issuances of the GMP would be classified as "GMP Confirmations". At each issuance, the GMP Confirmation would attach the most up-to-date drawings and specifications.

There would be a provision in the original agreement between the Owner and the CM that the GMP would be confirmed to be no higher than the previously approved GMP. If this could not be accomplished the CM would be required to submit proposals for changes that would be both acceptable to the Owner and in compliance with the program of requirements (unless the Owner has approved design/scope changes at approved price adjustments.)

There would be appropriate and protective termination rights for the Owner that would include repayment of any charges by the CM to date and possible reimbursement to the Owner for design costs to date. A number of other special provisions should be added with respect to subs, subs' prices and alternatives if subs' prices have had an unacceptable net increase.

An additional contractual responsibility of the CM would be continuous and thorough technical reviews of the drawings and specifications, both at the various stages of design as well as upon completion of the Construction Documents. The CM would be charged with the responsibility to

confirm to the Owner that these documents are complete for the respective phase and that they are correct, fully coordinated, in full compliance with all applicable codes and laws, and that all constructability or logistical problems have been covered in the GMP.

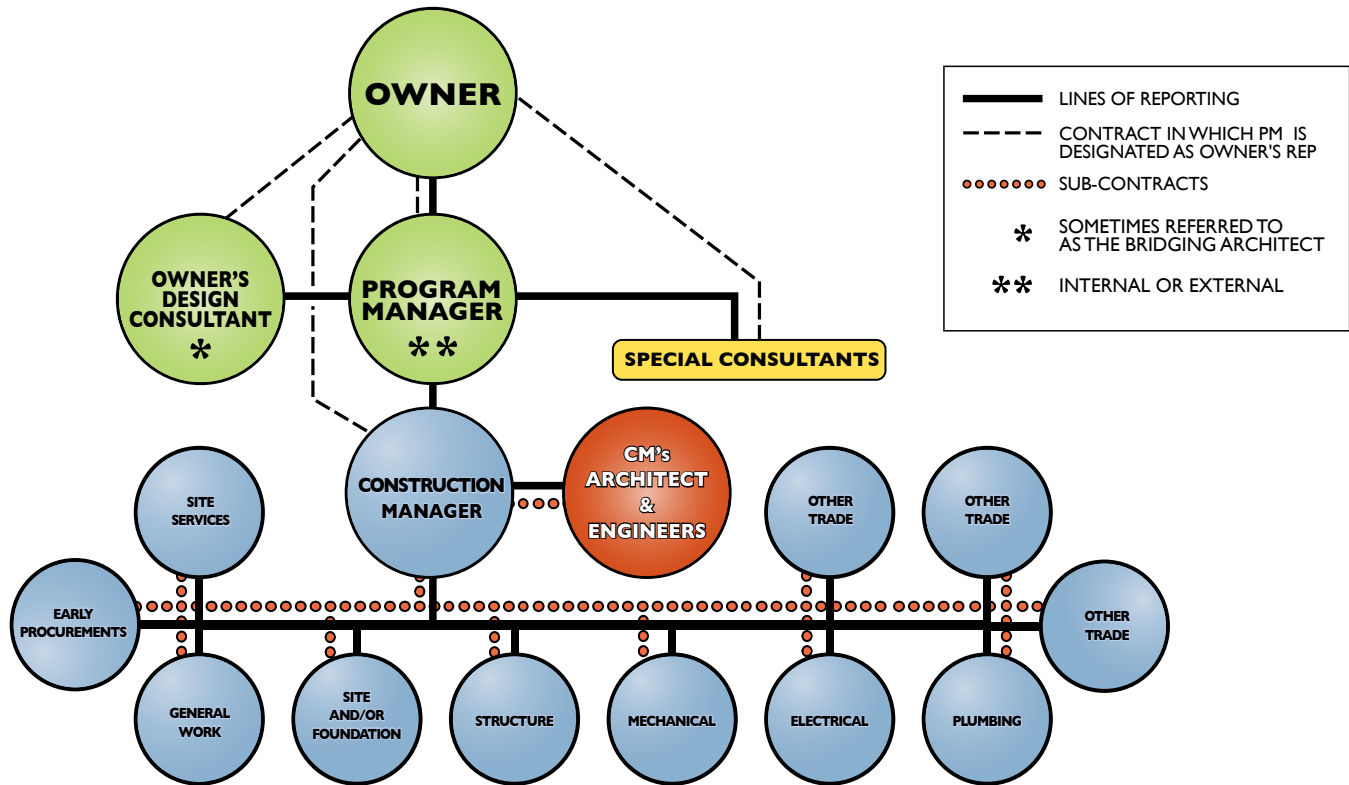
2. Expanding Responsibilities of the CM (Contractor)

By original agreement between the parties, at the end of a very full Design Development phase that is concluded with the production of documents equal to Bridging Contract Documents, (see back page) the Owner's AE would become a sub to the CM so that the CM then would have a design-build responsibility. In this approach the construction phase of the AE's services, under a contractual option retained for the Owner in the Owner-AE agreement, would be dropped and another entity retained by the Owner would act on behalf of the Owner in the administration of the design-build contract.

3. Utilizing Aspects of Bridging

In this form, sometimes called Bridging, the Owner's AE would remain in the employ of the Owner, with a reduced scope of services equivalent to the services of the Owner's Design Consultant ("ODC") services in a Bridging project. Separately, at the outset, the CM would have designated the "CM's AE". That AE would then produce the final architectural and engineering construction documents for review by the Owner's AE for compliance with the design documents prepared by the Owner's AE. The following chart shows how the procedures in this form are easily laid over the CM-at-Risk project delivery method. The CM with its separate AE comes on board early. Otherwise the project is managed as any other CM-at-Risk project would be managed. For more information on the Bridging method, go to www.bridgingmethod.com

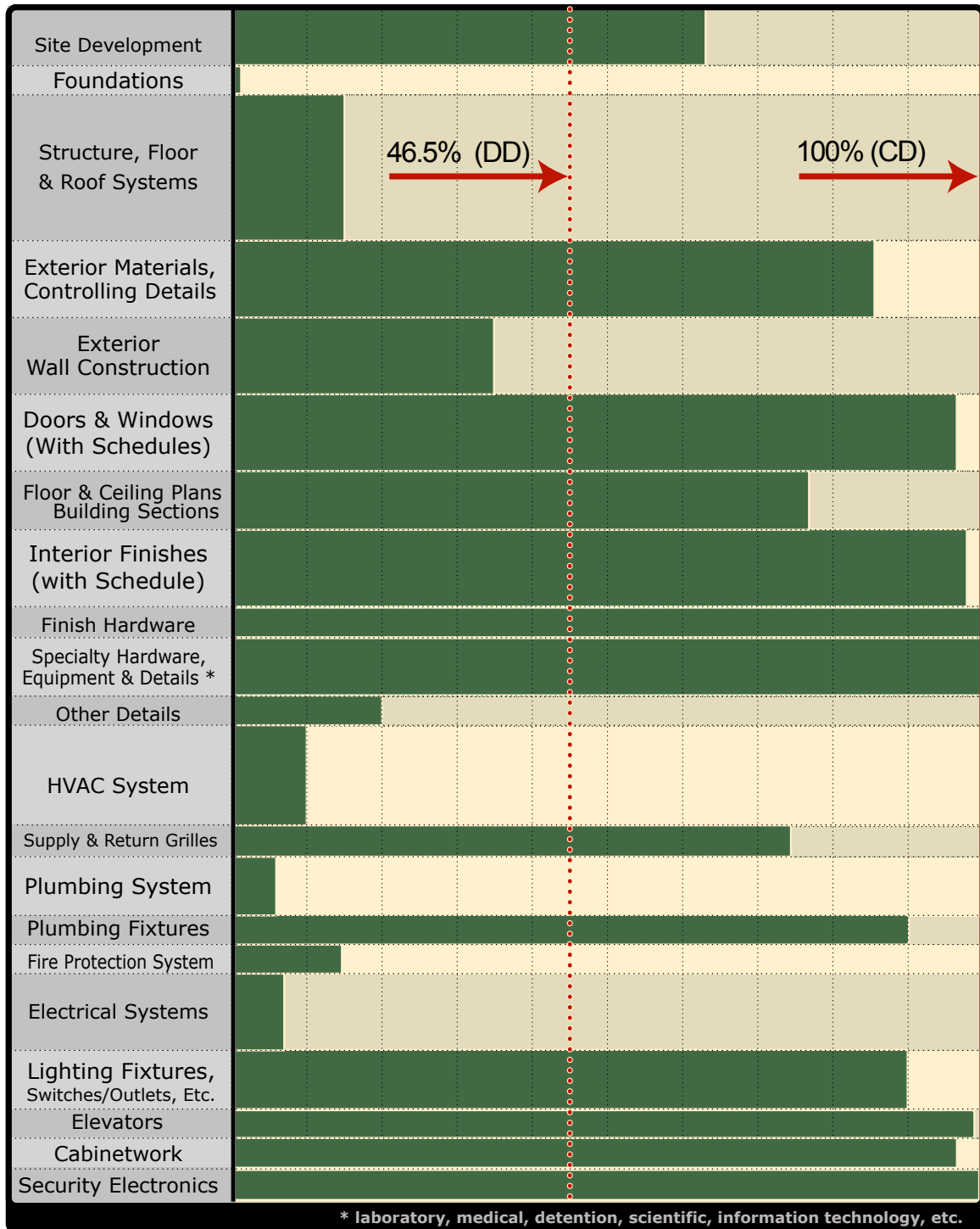
Diagram of Project Organization for Form 3 of Enhanced CM-at-Risk



The photos above are of a Student Residence and Dining Hall project for Spelman College in Atlanta, currently being carried out by a method similar to form 3 of Enhanced CM-at-Risk discussed on the opposite page.

One aspect of Enhanced CM-at-Risk and the Bridging method that may not be well understood is the method of preparation of the Bridging Contract Documents, i.e. the advanced Design Development documents that are prepared by the Owner's AE under the Enhanced CM-at-Risk, forms 2 and 3, **which is illustrated in the chart on the last page of this document.** [➤ Next Page](#)

This chart illustrates the typical level of documentation completed in typical Bridging Contract Documents. (The 46.5% point is the total of the standard 15% and 20% for Schematic Design and Design Development of the standard 75% of an architect's work that is design services.)



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