

Part 1: What Is Bridging?

By Michael F. Drewry and Lynn A. Toops

This DSV Special Newsletter series focuses on the legal issues and marketing trends raised by the use of the bridging method in conjunction with the design-build project delivery system. This newsletter is being furnished to you in three parts. In Part I, we will answer the question – what is bridging? Part II of this Newsletter Series will discuss the liability considerations arising out the use of the bridging method. Finally, Part III will speak to the hot topics developing from the use of the bridging method in the design-build project delivery system.

Design-Build Delivery Review

The most important decision in the early stages of planning a construction project is the determination of the delivery method for a construction project. In today's construction environment there are many different delivery methods for a construction project and the type of delivery method an Owner may wish to utilize depends on the nature and particular circumstances of each project. One of the options available to an Owner is the design-build project delivery method, which increasingly has become more popular during the past decade. In fact, according to the Design-Build Institute of America ("DBIA"), as of 2005, approximately 40% of all nonresidential construction projects in both the public and private sector use this project delivery method as opposed to the fewer than 10% two decades ago.ⁱ In fact, DBIA predicts design-build will overtake design-bid-build as the preferred project delivery method for nonresidential construction projects by 2015.ⁱⁱ The popularity of this process is due in large part to the fact the design-build method is estimated to save 6% on construction costs and delivers the project 33% faster than the traditional design-bid-build process.ⁱⁱⁱ

In this contracting method the Owner contracts with one entity to design and construct the project. The Owner has one entity to look to for responsibility for the successful completion of the entire project. The Design-Builder agrees to take all of the risk for design and construction of the project. Often the Design-Builder is a traditional general contractor who usually contracts with an Architect or Engineer to perform the design related services for the project. However, the Design-Build Team may also be a project-specific joint venture between an architecture firm

and a contracting company, a single company with both designers and builders on staff, or an individual developer or architect who subcontracts the other necessary expertise and skills for a project.

The Owner initially selects the Design-Build team and sets the project parameters such as performance criteria, time constraints and budgets. Typically, the Owner will request proposals from various Design-Build teams, and will provide to them basic performance information communicating the desired product. The Design-Builder will perform some preliminary design and cost estimating for the proposal. The proposal is submitted to the Owner with some design drawings, performance criteria, and a lump sum cost proposal. The Owner then chooses to award the contract to the entity they deem best.

What is "Bridging"?

In utilizing design-build the Owner gives up some direct control over the design process in exchange for a collaborative role. The Design-Builder either contracts with a designer or has a professional architect or engineer on staff to perform the design work. Regardless, the designer answers to the Design-Builder and contractually acts in its interest. This approach can lead to a concern the designer may not necessarily act in the interest of the Owner. This arrangement usually imparts the potential for some adversarial aspect in the Design-Builder and Owner relationship. If the Owner desires a certain aspect of the project be designed or constructed in a certain way, the Design-Builder may refuse or request additional compensation,

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ⁱ Nancy B. Solomon, *The Hopes and Fears of Design Build*, *Architectural Record*, Nov. 2005.

ⁱⁱ Joanna Masterson, *Innovation Action*, *Construction Executive*, at p. 26 (Nov. 2007).

ⁱⁱⁱ Hubble Smith, *Design-Build Lauded as Better Approach*, available at <http://www.builderonline.com> (March 31, 2007).

assuming the matter was not addressed in the contract. As a result, the use of bridging, as discussed below, has developed as a way for the Owner to include specific or detailed requirements in a Request For Proposal (“RFP”). Project criteria can range in types from performance to prescriptive. True performance requirements define functionality and expectations without restrictions on the solution. Prescriptive requirements call out products, model numbers, or are detailed in plans and specifications, thereby delineating and necessarily limiting the solution options. The Owner exerts more design control the more prescriptive the RFP criteria become. In doing so, the Owner concomitantly assumes more of the design risk. As a result, the bridging documents must be carefully prepared to balance these design elements and the risk the Owner desires.

One of the Design-Builder’s goals is to provide the Owner with construction that meets the performance requirements of the contract for as little cost as possible. Because of the potential relationship difficulties described above, it is important to have a detailed set of performance criteria defining the Owner’s perspective included in both the RFP and the contract with the Design-Builder, and to contract with a Design-Builder who is reputable and trustworthy.

This same dynamic is at play with the Design-Builder and its design-build subcontractors, such as the MEP trades and the structural steel and fireproofing trades. For those subcontracts, the Design-Builder requires certain portions of the design to be developed by those trades in their specialty. The design professionals that they utilize will have the same loyalties and contractual commitments *vis-à-vis* the Design-Builder that the Design-Builder’s Architect will have towards the Owner. For this reason it is important for both the Owner’s qualification evaluation process of the Design-Builders under consideration and that of the Design-Builder in putting together its own team to include a thorough review of each member of the design-build team’s experience and capability.

In addition, the Design-Builder’s Architect contractually is just one among many subcontractors. This is a new role for the design professional, who is used to being in direct contract with the Owner. Moreover, to the extent that there are design components that the Design-Build team is providing but which are being designed by the specialty design-build subcontract trades such as those mentioned above, the Design-Builder’s Architect will not have these trades under its design umbrella, as may otherwise be the case with traditional design where the Architect would be contracting with engineering consultants.

Because on design-build projects the Design Professional is directly under contract with the Design-Builder; the Owner does not have an “independent” design professional acting as its agent. Additionally, the cost of preparing designs sufficient to submit cost proposals in a design-build competition may limit the field of interested design-build teams. One approach to address these issues, and to help ease the Owner into the design-build process, is for the Owner to retain an independent Architect or Engineer to prepare preliminary designs, and stay on board during the construction phase to review pay applications, review the work, and certify the completion date. This process is known as “bridging”.^{iv}

Bridging is a hybrid of traditional design-bid-build and design-build. The Owner hires a design consultant who will be in direct contractual privity with the Owner. The role of that consultant in bridging is to do more than just prepare performance criteria. An Owner selects an Architect or Engineer to develop a project design through design development (approximately 30% - 50% of the design work) and to prepare scope of work documents which form the basis for competitive selection of the project delivery team. This design consultant is referred to as the design criteria consultant (“DCC”). The DCC specifies the projects’ functional and aesthetic requirements but leaves the details of construction technology up to the Contractor. Construction technology is specified with performance specifications. The project delivery team then has single-point responsibility for final design in constructing the project.^v While the level of design done by a DCC varies, in the best uses of bridging, there is a great amount of design left to the discretion of the Design-Builder who can be creative in developing the design.

The Bridging Method: Six Steps to Bridging^{vi}

- 1. Schematic Design.** The Owner engages a DCC to carry out the schematic design after the program of requirements and budget are set and the site is identified. Consultation between the DCC and engineers will occur. However, few engineering drawings typically will be made a part of the DCC’s drawings at this stage of the design process.
- 2. Design Development + RFP.** The DCC carries out the preparation of the bridging contract documents which form the basis for the agreement between the Owner and Design-Builder. This requires an effort by the DCC at least as extensive as an architect’s traditional design development services, however, the resulting docu-

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^{iv} The bridging concept was conceived by George Heery, FAIA, RIBA, a principal of the Brookwood Group in Atlanta, Georgia. The Brookwood Group has carried out several hundred bridging method projects over the last dozen years, and out of those projects, there have been fewer than ten contractor initiated changed orders and no successful claims against the owner. Moreover, there have been no costs to owners for correction of post-construction problems that were the result of design or construction faults.

^v AIA/AGC *Recommended Guidelines for Procurement of Design-Build Projects in the Public Sector*, at p. 5 (Jan. 1995).

^{vi} As outlined by George Heery at the February 2002 AIA design-build conference. G. William Quatman, *Design-Build for the Design-Professional* §6.06 (2004).



ments are very different as there will be much more architectural design completed. The DCC and its consulting engineers will prepare a combination of performance and design specifications. The DCC's drawings and specifications together with other legal documents make up the bridging contract documents, which also serve as the Request for Proposal. The guiding criteria is that everything should be fully designed and/or specified by the DCC and incorporated into the DCC's design documents in order to protect the Owner, the design, and the quality of the construction. On the flip side, nothing should be fully designed and/or specified that can be adequately covered by code and/or performance specifications (i.e. foundation and structural system, expansion joints, etc.).

- 3. Bid/Negotiation Phase.** Firm bids are received from the Design-Builder or a firm price is negotiated with a selected Design-Builder. The Design-Builder will use the services of an approved, separate design professional as a Subcontractor or the Design-Builder may be a design-build company. Once satisfactory prices are obtained, the notice to proceed is given for the Design-Builder's design professional to prepare final detailed Construction Documents.

Note: From the Design-Builder's perspective, an alternative to this process is to have the Design-Builder give an early estimate of the cost but reserve establishing the final cost, or GMP, until after the design is more fully developed. Then, the contract price is locked in through a change order, to be either a lump sum or a Guaranteed Maximum Price ("GMP") is established, with sufficient scope detail so that all parties have a full understanding of what is being built and included in the GMP.

- 4. Construction Documents.** Construction Documents are prepared by the Design-Builder's design professional with the DCC monitoring their preparation. These are the traditional type of documents identified as construction documents. The DCC reviews these documents and reports to the Owner who deals with any issues arising out of this review. However, the DCC does not approve these documents. The Construction Documents prepared by the Design-Builder's design professional will supplement but not replace the Contract Documents. If a conflict is later discovered the Contract Documents shall prevail over the Construction Documents.

Note: The AIA's standard A141 Agreement between Owner and Design-Builder (2004 ed.) has replaced the customary term "Contract Documents" with the phrase "Design-Build Documents" which consist of the contracts, exhibits, supplementary conditions, the design-builder's proposal, and other listed documents. The phrase "Contract Documents" remains in the AIA A142

Agreement between Design-Builder and Contractor (2004 ed.).

Note: The scope of the DCC's services during this phase of the Project may create a situation of potential contractual liability for the DCC, and therefore the Owner vis-à-vis the Design-Builder, akin to the liability exposure to the Architect from the shop drawing submittal process. The issue arises as to whether this liability exposure can be adequately disclaimed. It certainly requires careful contract drafting of terms to narrow, if not eliminate outright, this risk.

- 5. Second Step Award.** One option to consider from the Owner's perspective is to provide the Owner with the right to terminate the contract for convenience at the conclusion of the Construction Documents Phase by paying a previously stipulated sum for the Construction Documents (with the Owner then owning the documents). This is an important protective provision as it helps retain the Owner's leverage through this point. It also requires compliance with contract requirements by the Design-Builder and the Design-Builder's design professional.

Note: The AIA A141 Agreement provides that the Owner must proceed with the project and with the Design-Builder unless the Owner elects to terminate the contract for convenience. If such a termination precedes the start of construction, the Owner pays for design services performed, costs due to termination and overhead and profit on design services not completed. If termination occurs after construction starts, the Owner must pay for work performed, termination costs and overhead and profit on work not performed (lost profits). If the Owner makes these payments, then the Owner is permitted to use the design and documents to complete the project with another Design-Builder.

From the Design-Builder's perspective, an agreement that is terminated for convenience by the Owner before construction commences is viewed with disfavor. The Design-Builder has lost the benefit of its bargain in the form of lost anticipated profit on the bulk of the contractual work. It wants to recover something to offset the lost anticipated profit when a termination for convenience occurs. Contractually, the recovery of lost anticipated profit on unperformed work can be provided. However, this may be too steep of a price for an Owner to pay. An alternative is to agree on a lump sum fee or dollar amount for the lost anticipated profit that is less than the full anticipated profit but is of substantial enough amount to give the Design-Builder some recovery for its lost opportunity. This payment prospect also has the benefit of making the Owner think through

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any decision to exercise an early termination for convenience option.

6. Construction Phase. The Owner administers the design-build contract with the DCC or other independent inspectors or testing firms observing the work in progress and reporting to the Owner. The Design-Builder's design professional checks shop drawings and files them regularly with the Owner. Progress payments to the Contractor and retained amounts are the results of the DCC's reports to the Owner.

Note: This role is not dissimilar to that of the Architect during the construction phase of any project, except that it will be more limited because of the Design-Builder's Architect being there also. This role can be and should be carefully defined and spelled out contractually in the Contract Documents.

“Mini-Bridging” or “Design-Assist” (Within the Design-Build Team)

Key design-build subcontractors such as the MEP, structural steel and fireproofing trades, typically are required to design their own systems or components. When a trade subcontractor is hired to design-build its portion of the work for a construction project, it is often not known by the Design-Builder and Owner who will do the actual design. Will the trade contractor's portion of the work be done in-house or subcontracted out? What are the qualifications and experience of that subcontractor's designer? Are they licensed or insured?

As an alternative to having the subcontractor take on that role alone, some design firms have been utilizing “mini-bridging” or “design-assist” which is a process where the design-build lead design firm hires engineering consultants to prepare design criteria and performance specifications. These designs are given to trade subcontractors who act as design-build subcontractors for their respective portions of the project.

The benefit to this approach is that the architect can select trusted engineering consultants to prepare design criteria that the architect knows will meet the project needs. This provides comfort to an architect working with design-build trade subcontractors for the first time or those in whom the prime design-builder does not have complete confidence due to the nature of the project.

On the other hand, sophisticated design-build subcontractors have specialized systems and products and employ in house engineering expertise that often is equal to or superior to the knowledge that the Architect may possess. The argument can be made that these subcontractors' engineers, or select outsourced engineering firms, are best equipped to design the details of the systems and components in question. This frequently is the practice with the shop drawing process. By requiring stamped shop drawings prepared by a professional engineer, the

Architect of Record can and does rely upon the particular trade's expertise. It also has an advantage to the Design-Builder by shifting more of the design risk down to those trades best equipped to address it and prevent design problems in the first place.

The trade subcontractors must prepare designs that meet the performance criteria. Architect-led design build teams often require performance bonds from these trade subcontractors. Requiring professional liability insurance from these subcontractors is recommended since the surety bond may only guarantee that the work will be completed if the subcontractor defaults, but it will not pay damages due to design errors or omissions by the subcontractor.

Advantage and Disadvantages to Bridging

In determining whether bridging makes sense to utilize on a particular project, there are both advantages and disadvantages to consider. Below are some of the more notable issues:

Advantages

1. Because the project's program and design-build selection are important to success, Owners may need help transitioning to design-build since they have more responsibility for defining and procuring than in traditional construction where a design professional firm traditionally helps with programming and Contractor selection. This poses opportunities for a new type of Owner consultant, such as program managers or new roles for traditional design or construction management firms.
2. Modest stipends, if any, can be awarded to the unsuccessful design-build teams but it does not cover the entire cost of the actual design competition. Only larger firms can afford to regularly write off uncompensated design efforts. With bridging, the design-build teams do not have to incur a costly design fee just to compete and can use the preliminary design prepared by the bridging firm. This allows for more qualified firms to participate.
3. Owners familiar with the design-bid-build process are accustomed to having a design professional with whom to discuss the project, to advise them and to oversee the Contractor. Design-build without a DCC requires the Owner to place a lot of trust with the design-build team. Owners who are not willing to do so may use bridging as a transition into design-build.
4. An Owner choosing to use a DCC, may do so for whatever purposes the Owner desires. It is creating a direct contractual privity pathway with a design professional that otherwise will be absent in the Design-Build relationship, where the Design-Builder's design profes-

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sional will be in privity with it, not the Owner.

5. The Design-Builder may wait until receipt of the Owner's criteria package before choosing the design team. For example, if the Owner wants a curtain wall building, the Design-Builder may select the Architect based on prior experience with such systems or components. The same may be true of other consultants, such as structural, mechanical or electrical. Thus, the Design-Builder's negotiation with the design team may be more realistic and efficient as the Design-Builder will know the level of development of the project criteria actually provided by the Owner.
6. With the use of bridging, a more enforceable fixed price or cost plus fee with a GMP contract can be obtained sooner and at less pre-construction cost as compared with any other method.
7. There may be net overall construction cost savings for a fully equal product over the Design-Builder furnished design because the DCC has a greater impact and role and there is less guesswork in trying to meet the Owner's expectations or criteria that are not as clearly spelled out otherwise. Likewise, to the extent that more of the design and construction details and criteria are set out by the DCC, it makes sense that tighter bidding and pricing will be achieved.
8. There may be significant reduction in exposure to claims against the Owner in terms of Contractor-initiated change orders.
9. The presence of a DCC throughout the design-build process should aid the Owner (and the Design-Builder) in addressing proposed value engineering concepts, thereby improving final project delivery costs.

Disadvantages

1. Bridging potentially limits the design-build team from significant creativity to the extent that basic solutions and concepts are determined before the design-build team begins.
2. Work performed in the DCC performance development phase determines many of the design and functional aspects of the project for which the design-build team has to take responsibility (and liability), without any real input, leading to greater potential for disputes.
3. True design-build permits fast-track construction with the ability to procure long lead time items and begin field operations well before a project is at the 30% plus point of design.
4. By utilizing the DCC to develop a more detailed set of bridging documents initially, the Owner will retain more design liability risk notwithstanding the use of the Design-Build delivery system.

Conclusion

The bridging method has its opponents due to its potential to limit the creativity of the design-build team. However, bridging does help ease the traditional Owner into the design-build project delivery system by providing an "independent" DCC and a comfortable level of scope definition. Such a method can lead the Owner into full utilization of the design-build project delivery system as it gains experience working with the dynamics of the design-build process.

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Part 2: Legal Issues and Liability Considerations

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This DSV Special Newsletter focuses on the legal issues raised by the use of the bridging method in conjunction with the design-build project delivery system. Part I of this Newsletter Series answered the question – What is bridging? In Part II of the Newsletter Series we are discussing the legal issues and liability considerations arising out of the use of the bridging method. Finally, Part III will speak to the marketing trends and hot topics developing from the use of the bridging method in the design-build project delivery system.¹

Legal Issues and Liability Considerations

1. Use of Design-Build on Public Projects

Traditionally, there has been a conflict between Design-Build and Competitive Bidding Laws in Indiana and other states, based upon a Design-Bid-Build Project Delivery System. The prospect of departing from the traditional price-based “low-bid” system by consolidating design and construction responsibilities into a single contracting entity is understandably intriguing to some public owners, design professionals and contractors. In general, public works projects undertaken by governmental bodies in Indiana are subject to a competitive bidding system in which a public owner is expected to conduct design and construction procurement in a sequential manner, beginning with the owner’s employment of a design professional who designs the project to meet the owner’s criteria and requirements.

Upon approving the design, the owner makes it available to prospective bidders in the form of plans and specifications, and each bidder then submits a bid offering to build the job, as specified, for a stated price that can be compared quantitatively with bids received from other bidders. The contract is then awarded to the qualified bidder who submits the lowest bid. In this fashion, a pre-existing design serves as a unifying standard or common denominator for establishing cost, selecting a contractor and bringing the completed project to fruition.

In the context of a public works project, design-build operates in a fundamentally different way, by repositioning

project design at the end of the procurement sequence instead of the beginning, by assigning design responsibility to the bidders themselves. The owner, on its own or by engaging a design criteria consultant (“DCC”), develops design criteria, layout, performance standards and other information describing the general characteristics being sought for the project. This is much like the information an owner would provide a design professional hired to prepare a final design on a traditional job.

Each competing design-build entity then uses that information as a focal point to develop and produce its own design and set of plans and specifications. The design-build price proposal is then submitted, consisting of two elements, a design and a price based on that design. The lack of a pre-established final design applicable to all prospective bidders is the defining characteristic of design-build that sets it apart from the traditional design-bid-build model. But it is also the very feature that puts design-build at odds with long-standing views expressed by Indiana courts as to how competitive bidding is intended to operate.

In Indiana, this conflict has been resolved by the Indiana legislature, which passed a new law in 2005 allowing the design-build project delivery system as well as the bridging method on public projects in the State of Indiana. The new statutory provisions authorizing design-build contracts on public works projects are altering the landscape of public construction contracts and warrant further review and consideration.

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¹ As discussed in Part I of this Newsletter series, the bridging method is a hybrid of traditional design-bid-build and design-build wherein the owner hires a design consultant or DCC who will be in direct contractual privity with the owner. The DCC develops a project design through design development (approximately 30% - 50% of the design work) and to prepare scope of work documents which form the basis for competitive selection of the project delivery team.

With the 2005 creation of the new Indiana Design-Build Public Works Projects Law (“Design-Build Statute”) public owners in Indiana may now use the design-build delivery system in conjunction with the bridging method as an option on publicly funded projects. This new law, which became effective July 1, 2005, is codified as Title 5 of the Indiana Code, and specifically at Ind. Code §5-30.

The following is a summary of the key provisions of the Indiana Design Build Statute:

Applicable entities: A public agency that can use the design-build delivery system includes the department of administration, state educational institutions, cities, towns, school corporations and school building corporations, and a body corporate and politic created by state statute. This statute, however, specifically does not include the Indiana Department of Transportation.

The Design-Build Statute makes \$833 million in annual schools projects and \$70 million in annual public works projects eligible for the design-build project delivery method.

Initial agency resolution: The first step which must be undertaken by a public agency which desires to use the design-build delivery system as well as the bridging method is to adopt a resolution authorizing the use of the design-build contracting method. This must be done at a public meeting. The resolution must contain a statement that the agency intends to procure construction projects using design-build as a delivery system. The resolution must also contain the names of the Technical Review Committee to be created by the agency.

Technical Review Committee (“TRC”): A key component of the design build process under the Design Build Statute is the role of the Technical Review Committee (“TRC”). In essence the TRC is responsible for rating prospective design-build contractors and their qualitative proposals. The TRC must include a representative of the public agency and at least two of the following: a registered architect, a professional engineer and/or a qualified contractor. Additionally, the design criteria developer (i.e., an architect or engineer who is responsible for preparing the design criteria package) or DCC may serve as a full member or a nonvoting advisor of the TRC.

In terms of conflicts of interest, a member of the TRC is prohibited from submitting a proposal for or furnishing design or construction services under a design build contract and the design-builder can not subcontract any service back to any member of the TRC.

The TRC has considerable influence in the selection of the design-builder. First, it qualifies potential design-builders using the Request for Qualification procedure proscribed by Ind. Code §5-30-5 et seq. The Committee

members are allowed to interview offerors but otherwise must conduct its business in open public meetings.

Request for Qualifications (“RFQ”): The public agency next must publish a RFQ from the prospective design-build offerors. The notice requesting qualifications must generally include an overview of the project and selection process, the general qualifications for prospective offerors, the project specification qualifications for prospective offerors, and a description of the qualifications statement evaluation process.

Statement of Qualifications: The potential design-builder must respond to the RFQ by submitting a verified Statement of Qualifications setting forth its qualifications. The statute defines what must be included in the RFQ.

TRC rates Statement of Qualifications: After the design-build offerors have submitted their respective Statements of Qualifications, the TRC next must rate the potential design-builders responding to the RFQ based on the rating system described in the RFQ. The rating system may include consideration of any of the following: experience; financial and bonding capacity; managerial resources and management plan; safety record; past performance and capacity to perform; ability to complete the work in a timely and satisfactory manner; and other criteria set forth or verified in the RFQ.

The TRC cannot consider cost or price related factors at this point. Based on the Qualification Statements the TRC selects at least three potential design-builders considered to be the most highly qualified to perform the required services based on the rankings. If only two potential design-builders respond to the RFQ the committee may report that the two responders are qualified. However, if only one potential design-builder responds to the RFQ or only one of the potential design-builders responding to the RFQ is qualified to perform the required services, the public agency may not use the design-build contracting method unless the governing body of the agency adopts a resolution authorizing the agency to send the one potential design-builder a request for proposal.

Request for Proposals (“RFP”): After the RFQ process has been completed the agency issues an RFP to the design-builders determined to be qualified by the RFQ process. Each RFP must include a design criteria package that is the heart of the procurement. The design criteria are developed by the “design criteria developer” who is defined to be a registered architect or a professional engineer. While the detail of the design criteria is not defined the design criteria package may include: legal descriptions and surveys; interior space requirements;

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material quality standards; preliminary design criteria; special equipment requirements; cost or budget estimates; quality assurance and quality control requirements; site development requirements; compliance with applicable codes and ordinances; permits and connections to utilities; requirements for storm water and roads; parking requirements; soil borings and geotechnical information or performance specifications; life cycle costing and energy consumption requirements; performance specifications, including warranties; and project schedule.

Additionally, the design criteria package *must* include: instructions; proposal forms and schedules; general and special conditions; the basis for evaluation of the proposals, including a description of the selection criteria with the weight assigned to each criteria; a determination of the common construction wage; and any other instructions, documents or information the agency considers relevant.

Note: the RFP must include the requirement that a proposal be submitted in two packages - one being the *qualitative* proposal, the other being the price proposal. Both the qualitative and price proposals must be submitted simultaneously in separately sealed and identified packages. The agency may also provide a stipend to a non successful *bidder* to encourage competition. The price proposal must remain sealed until opened in a public meeting. The price proposal must (1) contain one lump sum cost for the design, construction engineering, inspection and construction costs of the proposed project; or (2) establish a maximum cost of the design-build contract that will not be exceeded *if the proposal is accepted without change*. The qualitative proposal must identify each person with whom the offeror proposes to enter into subcontracts for primary design services and primary construction services including any subcontracts. It must also include all documents, information and data requested in the RFP.

Conflicts of Interest: The design-build offerors' proposals must identify each entity with whom the offeror proposes to enter into subcontracts with for primary design services and primary construction services, including any subcontractors, under the design-build contract. Therefore, the design-build team is established prior to the award. Moreover, those identified in the proposal may not be replaced without the approval of the public agency and a written determination by the public agency that a legitimate reason exists for the replacement. The Design-Build Statute also prohibits an individual from being a part of the TRC where there may be a conflict of interest so that each member of the TRC must certify for each RFP there is not a conflict of interest between the TRC member and the design-builder responding to the RFP. If a conflict exists, the TRC member must be replaced prior to the scoring of the proposals.

Scoring the Proposals: The TRC next reviews the qualitative proposals, but not until after the design criteria developer provides its professional opinion that the proposal conforms to the design criteria. The TRC then reviews the qualitative proposal and establishes a written composite score for each proposal based on the factors weighting and process identified in the RFP. After the qualitative proposals are scored the agency opens the price proposals at a public meeting and the prices are publicly read. Each price proposal is then divided by the offeror's composite score to obtain an adjusted price. The agency accepts the price proposal that provides the agency with the lowest adjusted price providing the best value to the taxpayer. It is clear, however, that the agency does not have to accept the lowest price proposal. It is the adjusted price that is the determining factor.

Awarding the Contract: Once the agency accepts a particular proposal, the agency may negotiate any contract term with the offeror except any term identified in the RFP as nonnegotiable. If the agency is unable to negotiate a contract with the first selection, the agency may terminate negotiations with that offeror and negotiate with the next lowest adjusted price offeror. The negotiations continue until a contract is reached.

A design-build contract may be conditional upon subsequent refinements in the scope and price and may permit the agency to make changes in the scope of the project. Any person identified as a person with whom the design-builder proposes to enter into a subcontract may not be replaced without the approval of the agency, and if a design-builder violates this requirement the agency may cancel the award or terminate the design-build contract. Performance and payment bonds are still required for the construction portion of the project.

With the award of the contract and the negotiation of the terms, the contract is executed and the work is ready to proceed using the design build delivery system.

2. Design Liability - The Spearin Doctrine

There is a large body of state and federal case law which holds the owner or the preparer of the plans and specifications liable for any deficiencies therein. The basis of liability is an implied warranty of the fitness of the specifications that if they are followed a satisfactory product will result. If the specifications prove to be defective, unworkable, or incomplete the contractor is entitled to recover additional compensation for the extra work required in attempting to perform under the defective specifications, or to do corrective work necessitated by the defects.

The landmark decision on this principle, and the doctrine

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by which it is known, is the United States Supreme Court case of *United States v. Spearin*, 248 U.S. 132 (1918). In *Spearin*, the federal government was held to warrant that the project could be satisfactorily completed by following the specifications, so that the breach of this implied warranty entitled the contractor to recover all costs resulting from its attempt to comply with the defective specifications. The implied warranty allowed the contractor to use standard industry means and methods of construction.

A number of federal court decisions have followed *Spearin*. The *Spearin* doctrine has been followed in most state jurisdictions in which the issue has been raised. These state courts have held that in the absence of obvious or patent defects which are so apparent that they summon forth a duty on the part of the contractor to alert the owner, the owner impliedly warrants the adequacy of the plans and specifications to be fit for their intended purpose. As such, the risk of loss due to defective plans and specifications falls on the owner or the preparer of the plans and specifications, and a contractor who subsequently performs in accordance with those defective plans and specifications is entitled to recover for extra work. *Miller v. Guy H. James Constr. Co.*, 653 P.2d 221 (Okla. Ct. App. 1982); *W. H. Lyman Constr. Co. v. Village of Gurnee v. Sordoni Constr. Co.*, 403 N.E.2d 1325 (Ill. Ct. App. 1980), *appeal after remand*, 475 N.E.2d 273 (1985).

Indiana has recognized the doctrine, though not explicitly by name. In *Connersville Country Club v. F. N. Bunzendahl, Inc.*, 222 N.E.2d 417 (Ind. Ct. App. 1966), the project could not be constructed in accordance with the plans and specifications as originally furnished, and the owner made changes in the plans. The court held the changes were of the magnitude of deviation which does not normally arise in construction, thereby granting judgment in favor of the contractor for recovery of its extra work that was unforeseen and unanticipated. In *Allied Structural Steel Co. v. State*, 265 N.E.2d 49 (Ind. Ct. App. 1971), the contractor attempted to recover for its extra work performed under its contract with the state on the basis of the implied warranty of adequacy of the specifications. Although the court held that there was no breach of the warranty under the facts of the case, the importance of the decision is that the court expressly adopted the rule, citing *Connersville Country Club*, that recovery of additional compensation for breach of warranty in Indiana is possible where the necessity for extra work resulted from the acts, errors or mistakes of the owner's engineers, or where the structure could not be constructed according to furnished plans and specifications.

Greenhaven Corp. v. Hutchcraft & Assoc., Inc., 463 N.E.2d 283 (Ind. Ct. App. 1984), involved an architect suing on account for recovery of its architectural services.

The owner counterclaimed for negligent preparation of the plans. The architect prepared preliminary plans requiring two building exits, in conformance with the fire marshal's code. However, the owner, knowing that the code required two exits from the top floor, requested and directed the architect to change the plans to provide for only one exit. The architect did so, construction commenced, the architect attempted to secure approval for the modified plans or to obtain a variance from the fire code, but was unable to do so, and construction ultimately was stopped, with no approval being obtained from the fire marshal. The Court of Appeals expressly adopted the implied warranty of the specifications:

"There is implied in every contract between an architect and his employer an agreement that plans and specifications prepared by the architect will be suitable for the purpose for which they are prepared."

Finally, the most significant *Spearin* case in Indiana is *The Trustees of Indiana Univ. v. The Aetna Casualty & Surety Co.*, 920 F.2d 429 (7th Cir. 1990). An action was brought by the owner against the contractor's performance bond surety for breach of contract for the costs of repairs to defective brick work done by the surety's principal on four separate buildings at an IU regional campus. One of the surety's defenses was that by the owner specifying the brick to be used by manufacturer and trade name, the owner impliedly warranted that the brick was suitable for the particular purpose for which it was intended, citing the *Spearin* doctrine. The 7th Circuit agreed with the application of the *Spearin* doctrine to the facts of the case in upholding the lower court trial instructions and judgment in favor of the surety.

These cases illustrate the following principles:

- Detailed specifications imply a warranty.
- If the contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be responsible for the consequences of defects in the plans and specifications (based upon *Spearin*).
- The owner warrants to the contractor that if the contractor follows the owner's plans and specifications, then the owner impliedly warrants that the resulting structure and its component parts will be suitable for the particular purpose for which they are intended.
- If an owner specifies in a construction contract that a particular material is to be used, then the contractor is released from any promise or warranty as to the suitability of such material for use as intended in the contract.

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In two subsequent cases dealing with defective plans and specifications Indiana courts have addressed this implied warranty again without specifically identifying the *Spearin* Doctrine by name. These cases involve disputes between owners and contractors over defective construction and its causes. In each case, the defective plans and specifications were either owner-generated or contractor-generated. There were no third party architects or engineers involved.

In *Millner v. Mumby* (Ind. App. 1992), 599 N.E. 2d 627 a contractor built a 16 foot concrete retaining walls according to plans and specifications furnished by the owner. The wall was defective and had to be repaired. The contractor was entitled to recovery of its costs in doing so because the defective plans were furnished by the owner. In *Bee Window, Inc. v. Stough Enterprises, Inc.* (Ind. App. 1998), 698 N.E. 2d 328 the issue again was who was responsible for defective construction, this time involving windows that were installed pursuant to the specifications of the manufacturer under the contractor. Since the defective specifications were from the constructor side, and not the owner, there was no relief for the contractor from the costs of the defective windows.

What is bridging's effect on the *Spearin* Doctrine? Bridging's effect on the doctrine depends upon the level of design detail provided by the DCC and the amount of design discretion given to the design-build team. The Veterans Administration Board of Contract Appeals elaborated on this concept as follows: "A properly written and administered design build contract transfers the risk of design and sufficiencies from the [owner] to the design builder. The owner is shielded when the design results in cost over-runs or does not work. . . . Specifications included in a design-build contract, however, to the extent that specific requirements, quantities, and sizes are set forth in the specifications, place the risk of design deficiencies on the owner." *Appeal of Donahue Electric, Inc.*, 2002 WL 319, 27907 (VABCA No. 6618).

Therefore, once the Owner provides detailed specifications via its DCC the Owner will likely carry the risk that comes along with that substituted discretion under the *Spearin* doctrine. If the Owner provides erroneous or faulty information, the Owner will likely bear liability under an implied warranty.

An Owner providing preliminary design data through its DCC may not be able to disavow responsibility for the accuracy of the data by stating in an RFP that the Design-BUILDER is responsible for verifying and validating the accuracy of the design information when submitting complete design documents. In *Appeal of M.A. Mortenson Co.*, 1993 WL 261019 (A.S.B.C.A. 1993), the government issued an RFP for the design and construction of a proj-

ect and incorporated preliminary design documentation representing approximately 35% complete working drawings. The drawings stated the minimum requirements for the project and were provided to proposers for use in pricing their proposals. The work scope required the successful proposer to verify and validate the accuracy of the preliminary design information as part of its responsibility to prepare complete construction documents and to construct the project pursuant to such documents. The preliminary design documents were inaccurate, causing the design-builder to estimate or take off inadequate quantities of structural steel and concrete. Relief was afforded despite the design-builders' responsibility for verifying the accuracy of the preliminary documentation and preparing complete design documents. The Administrative Judge distinguished between the design-builder's responsibility as a contractor performing the work from that of its role as a proposer relying upon government-furnished information in the preparation of its proposal.

Additionally, ambiguous data provided by the Owner through its DCC will be construed against the Owner. In *Record Steel & Constr., Inc. v. United States*, 62 Fed. Cl. 508 (2004), the United States Army Corps of Engineers provided limited information regarding soils testing to a design-builder as part of a RFP. The soils information provided recommended over-excavation of the soil supporting the building's foundation. As part of its response to the RFP the design-builder informed the Corps that it intended to retain a geotechnical engineer to further determine whether over-excavation was necessary. After completing its testing, the engineer concluded that it was not necessary, however, the contracting officer directed the design-builder to comply with the RFP and over-excavate the foundation soil. After complying with the Corps' directive, the design-builder submitted a claim seeking to recover additional costs incurred in connection with the over-excavation. The United States Court of Federal Claims determined that the recommendations contained in the government's soil reports were ambiguous and that the ambiguity should be construed against the Corps. Thus, the court granted summary judgment in favor of the design-builder holding the RFP did not require over-excavation.

May the DCC be held liable to the Design-BUILDER for problems with the initial design data? In *Glacier Tennis Club at the Summit v. Treweek Constr. Co.*, 87 P.3d 431 (Mont. 2004), the Montana Supreme Court was presented with this question. The owner retained an architect to furnish preliminary design parameters and specifications for a tennis facility. The architect periodically reviewed the design-builder's plans. Upon completion, the building's

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exterior walls leaked and the floors bulged. The owner sued the design-builder who sought indemnification from the architect alleging it had negligently prepared the preliminary design and approved the design-builder's plans. The court ruled against the design-builder finding that the architect owed no duty to it and could not be held responsible for the construction and design defects. The design-builder failed to offer evidence that the architect communicated professional information to the design-builder with the intention that it rely on the information. Additionally, the architect's review of the design-builder's plans was limited to determining interim payments and did not extend to conveying professional information.

In Indiana, there is a published case that, while not involving bridging, does address the liability of a design professional that followed owner furnished criteria. In *Strauss Veal Feeds, Inc. v. Mead and Hunt, Inc.*, 538 N.E.2d 299 (Ind. Ct. App. 1989), an architect was engaged by the owner to design a plant suitable for the processing of liquid veal feed. The owner used a new process which was found to be in violation of state environmental laws. The plant was designed in compliance with codes and in compliance with the owner's process. The architect was found not to have breached its contract or to be negligent because it did not have a duty to provide sanitary engineering services with respect to waste treatment and disposal. Likewise, the architect did not breach its implied warranty that the plans and specifications would be suitable for the purpose for which they were prepared when the architect designed the plant in compliance with applicable building and zoning codes, designed the facility suitable for the process of veal feed, as that process was described by the owner, even though the facility violated state environmental laws when in operation.

By logical extension, if the architect was that of the Design-Builder, would the same result be achieved? The Design-Builder would make the same reliance argument as the architect made in *Strauss Veal*. To avoid such a result, the Owner should clearly define the Design-Builder's entitlement to rely upon the DCC's performance criteria. Regardless, the Spearin Doctrine may still come into play.

3. Performance v. Design Specifications

Does the presence of a performance or design specification impact whether the *Spearin* Doctrine implied warranty would apply? In a performance specification, the focus is on the end result desired, and the contractor has greater discretion. A pure performance specification will simply state the end result desired and leave to the contractor's discretion and expertise the methods and means, as well as to the materials and equipment needed to produce that end result.

In a design specification, the technical requirements for the work are set forth in great detail and little is left to the discretion of the contractor. A design specification includes the exact dimensions, the exact materials to be utilized, the specific type of services to be performed, and all structural and engineering design. There is little discretion left to the contractor. The contractor must perform in accordance with the design and dimensions spelled out in the technical requirements of the specifications.

As a general rule, when an owner adopts design specifications, he assumes the responsibility that the design is suitable for achieving the end result. If the owner uses a performance specification, he places the responsibility for the end results on the contractor. See *J. L. Simmons Co. v. United States*, 412 F.2d 1360 (Ct. Cl. 1969). Design specifications are subject to the implied warranty of the adequacy of the specifications. The implied warranty applies to specifications which prescribe the character, dimensions, and location of the construction work. *J. L. Simmons Co. v. United States*, 412 F.2d 1360 (Ct. Cl. 1969); *United States v. Spearin*; *J. D. Hedin Const. Co.; Laburnum Const. Corp. v. United States*, 325 F.2d 451 (Ct. Cl. 1963).

Even if the specifications are not design specifications, but are performance specifications, if they are absolutely impossible to perform, and the contractor did not assume that risk of impossibility, the contractor is still entitled to recover his increased costs of attempted performance. Even if the specifications appear to be a blend of design-performance specifications, or even a pure performance specification, if the end result required is impossible to meet, then a contractor may still be able to escape liability for failure to perform or may be able to recover his increased costs for attempting to perform. *Foster Wheeler Corp. v. United States*, 513 F.2d 588 (Ct. Cl. 1975).

It is common for a contract to contain both design and performance specifications. In this situation, the implied warranty of specification suitability will hold the Owner responsible for his or her specifications, but not for those created by the design-build team. Moreover, in cases where it is difficult to determine whether the specification is design or performance, other factors and contract interpretation devices can be utilized to determine the intention of the parties regarding allocation of design liability. These include the completeness of the contract plans; the circumstances surrounding the bidding; the amount of development and testing the contractor is expected to perform; the contractor's representations regarding its expertise; the terms of the contract; and the knowledge regarding design information that each party brings into the contract.

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On a design-build project the Owner usually provides general design criteria and desired performance standards (performance specifications) and the detailed construction plans and specifications are authored by the design-build team, not the DCC. Thus, the implied warranty of specifications will likely not run from the Owner to the Design-Builder and the Design-Builder bears the risk of non-performance. However, bridging may change this result. The more detail and prescription contained in a set of bridging documents the more likely the Owner will be deemed to warrant the adequacy of its documents.

4. A/E of Record

Another potential issue arising out of the bridging method is to see how design professionals will determine who is the A/E of record when one firm does preliminary design and another serves as the architect of the design-build team. Numerous AIA ethical complaints relate to one firm not giving proper credit to another firm. The label has no legal meaning or definition in standard contracts, but it causes confusion with the involvement of multiple design professionals.

AIA Ethical Rule 4.201 requires members “to accurately state the scope and nature of their responsibilities in connection with work for which they are claiming credit.” The commentary to this rule states that its intent is to prevent members from claiming credit for work they did not do and “denying other participants in a project their proper share of credit.”

Contractually, the Design-Builder has the responsibility for preparation and finalization of the Construction Plans and Specifications. This includes having those documents stamped by the Architect and Engineer of Record. Stamped drawings are required to obtain the requisite agency approvals to construct the project. Therefore, from the Owner and Design-Builder perspectives, the Architect and Engineer of Record should be the Design-Build Architect, and not the DCC.

Conclusion

The legal issues and liability ramifications of the use of design-build and the bridging method in public works projects have yet to be fully developed. In this newsletter the focus has been on the use of bridging in not only the private sector, but in the public sector as well, where the new Indiana Design Build Statute envisions the use of a DCC for the owner entity undertaking the project. Apart from this usage, there are legal issues and liability considerations for the Owner who wants to use a bridging consultant, or DCC. Liability for deficiencies in the DCC prepared portions of the design may result. Issues over project responsibility for the designer of record also must be addressed. Regardless, given design-build’s success in the private industry, it is likely that the public sector as well will reap the benefits of the design-build delivery system and so bridging’s role in this process will expand.

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Part III – Developing Issues Arising from Bridging

By Michael F. Drewry and Lynn A. Toops

The DSV Special Newsletter focuses on the legal issues and marketing trends raised by the use of the bridging method in conjunction with the design-build project delivery system. Part I of this Newsletter Series answered the question – What is bridging? Part II discussed the liability considerations arising out the use of the bridging method. Finally, this Part III will address developing issues arising from the use of the bridging method in the design-build project delivery system. Specifically, this Newsletter will address issues relating to ownership of the design and copyrights, design professional conflicts of interest, E&O insurance and the bridging consultant's fee structure.

Ownership and Copyrights

An important issue in design-build is who owns the copyrights to the Instruments of Service prepared in connection with the Project. The design-builder in a contractor led design-build team will want to retain ownership and provide the Owner with a license to use the design documents or Instruments of Service. The project architect, under a Subcontract with the design-builder, in turn, will want to retain ownership or copyright to its work product. This is resolved as a matter of contract negotiation between the architect and the design-builder.

Generally, with respect to design-build, the AIA Contract Documents are not entirely clear as to who owns the copyrights. The AIA seems to imply co-ownership in the A141 Standard Form of Agreement Between Owner and Design-Builder. Specifically, ¶ A.1.6.1 of the A141 Exhibit A Terms and Conditions states that the "Design-Builder, Design-Builder's Architect, and other providers of professional services individually shall retain" the copyrights to the design documents "furnished by them". With this language, it is not clear if the design-builder has ownership rights in documents it "furnishes" to the owner. As stated above, the prudent design-builder should include such rights.

The subcontract between the design-builder and architect, AIA Document B143, ¶ 3.2.1, however, provides that the architect and its consultants are the authors and owners of all copyrights in their work and that the design-builder's right to utilize the documents terminates if the architect's

services are terminated unless the termination was for cause. In the event of termination for cause, the design-builder can give the documents to another professional in an effort to complete the project. Finally, pursuant to ¶ 3.2.5 of the B143, the design-builder is explicitly prohibited from using the architect's design documents on other projects unless the architect gives prior written consent.

Under the AIA design-build documents, the owner holds a nonexclusive license to reproduce the documents for the project and the design-builder may receive such a license from its architect and other professionals. Additionally, pursuant to ¶ A.1.6.4 of the A141 Exhibit A Terms and Conditions, the owner is granted a license by all of the design professionals upon termination of the design-builder to use the documents for completion of the project, provided that the owner assumes the design-builder's duties to the design professional and pays all amounts due the design professional and its consultants. If, however, the owner does not agree to assume said duties, it can still use the documents to finish the project, provided the owner indemnifies and holds harmless the design professional from claims, expenses and attorney's fees incurred as a result.

DBIA's policy is that the design-builder should retain ownership of the design documents. DBIA's official position is as follows: "As to the ownership of the completed construction documents once the project is built by the design-builder, DBIA believes that the documents are

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instruments of service and that the design-builder should retain ownership thereof. The owner, however, is permitted to make and retain copies of the documents and use them in connection with the use and occupancy of the project. . . . [W]ith the design-builder being afforded appropriate consideration, the documents should not be used for alterations to either the project or on another project. Any reuse without verification or adaptation by the design-builder for the specific purpose intended must be at owner's risk and without liability to the design-builder." The owner can only use the document without the design-builder's permission in the event of a termination for default, although it can use them in connection with owner's occupancy of the project once the design-builder is paid in full and indemnified.

Apart from the DBIA position, one recommendation for the design-builder, as a proposed modification, is to amend the AIA A141 Exhibit A Terms and Conditions to provide that the design-builder, in exchange for the payment in full for performance of the work, may grant the owner a limited license to use the project's design documents, subject to the following:

- If the design-builder terminates the agreement, upon payment of the monies the design-builder is entitled to, the owner has the right to use the design documents to complete the project. If, however, the agreement is terminated for cause (i.e., design-builder uncured default in performance), the owner is entitled to a limited license to use the design documents.
- Pursuant to the limited license, the owner may use the design documents for subsequent renovation and remodeling of the project, but not for other projects without the express written consent of the design-builder. Moreover, the owner's use of the design document is at its sole risk.
- The design-builder obtains from its subcontractors property rights and rights of use that correspond to those extended to the owner from the design-builder.
- The design-builder and architect may utilize the project information in promotional and marketing materials except that distinctive architectural components of the design shall not be utilized without the owner's written consent.

What happens to the ownership of the design documents under the design-build delivery system when there also is involved a bridging consultant? Design criteria consultants ("DCC") are aware that another design professional will use their preliminary design to complete the project; thus, the DCC must authorize the successful design-build team to reproduce and use its design. The DCC, however, may want to restrict the use of the design to this one project so that a successful design could be used again under the control of the DCC.

What the DCC may do is to modify the Design Criteria to specifically address this ownership and copyright to the DCC work product. It may provide that the Design Criteria and other documents prepared by the DCC constitute the DCC's Instruments of Service and therefore ownership and copyright to those Instruments of Service remain in the DCC. When the successful design-build proposal is accepted by the owner, the DCC agrees to furnish a limited or restricted license to utilize the Design Criteria and other DCC Instruments of Service, in similar fashion to what an architect would do under a standard arrangement with the owner for design services. In other words, the existence of the bridging role serves to narrow or limit the scope of the design documents from the DCC rather than to differently define the ownership of those documents.

What is the effect of bridging under the AIA's provisions as to who owns the copyrights? There is nothing specific that would change the above result under the AIA documents. The AIA's B142 Owner-Consultant Agreement states in ¶ 3.2.1 that "Drawings, specifications, and other documents, including those in electronic form, prepared by the Consultant and its sub-consultants are Instruments of Service for use solely with respect to the Project. The Consultant and its sub-consultants shall be deemed the authors and owners of their respective Instruments of Service and shall retain all common law, statutory and other reserved rights, including copyrights." If the owner and DCC were to execute a B142 Agreement, pursuant thereto, the DCC grants the owner only a license to reproduce and use the documents in connection with the project "including the Project's further development by the Owner and others retained by the Owner for such purposes, including the Design-Build and the Design-Build's design professionals." The license extends specifically to the design-builder and its design professionals.

From the owner's perspective, it may seek to alter this arrangement and to secure a more broad-sweeping license or even outright ownership of the DCC Instruments of Service just as an owner may seek to secure ownership of the design documents under traditional design-bid-build project delivery systems. It becomes a matter of contractual negotiation.

1. The Effect of Paying a Stipend on Ownership and Copyrights

Use of stipends paid to unsuccessful design-build proposers is intended, in part, to encourage proposers to make the effort and investment in time to put together design-build proposals so that the owner can actually have alternatives or options from which it can select its team and design. By payment of a stipend, if provided for in the Design Criteria, the owner also may be able to gain rights of ownership, including the right to use ideas

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and concepts presented by the unsuccessful design-build proposers.

An owner that wants to use the design concepts of an unsuccessful design-build proposer can essentially “buy” the unsuccessful proposer’s work product through the use of stipends paid to all proposers. In this regard, the owner paying a stipend to the unsuccessful proposer can structure the payment as consideration for delivery of the work product as opposed to just structuring that payment as a small recompense for the costs of putting together the design-build proposal. This may cause concern for those design-build teams that want to accept the stipend simply to offset the costs of submitting a proposal to the owner, but wish to maintain ownership of their team’s work product. Where minimal stipends are awarded to unsuccessful proposers, the amount received typically does not come close to covering the cost of the design services. Only large firms are financially capable of participating in expensive design competitions. Therefore, if the Design Criteria provide for the obtaining of usage rights in the unsuccessful design-build proposer’s design, either in the form of outright ownership or license, the design-build team needs to carefully weigh the true cost of obtaining such a stipend. At the very least, restrictions on the owner’s subsequent use of the design-build team’s work product needs to be carefully defined and limited, if possible.

The question arises as to whether design liability exists for an unsuccessful proposer who “sold” its design to the owner for payment of a stipend? In this regard, it is advisable to enter into a formal agreement whereby in exchange for the owner securing use of the work product in consideration for the stipend (which grants the owner a limited license) the owner agrees to indemnify the unsuccessful proposer against any changes or alterations in the proposer’s design documents as well as indemnity against the owner’s use of those documents. Such an agreement should reflect the types of terms that control owner usage and ownership of design documents when there has been a termination of the design-builder during the actual construction of the project.

However, the argument can be made that these terms and conditions probably should go even further because at the proposal stage, the design concepts are just that – concepts, as opposed to fully developed design documents from which the project can be constructed. In the latter case, it seems only reasonable to still look to the owner regarding the adequacy of the ultimate design when the owner’s ultimate designer (including the DCC in conjunction with the design-builder’s architect) has had the time and effort to fully develop the documents for construction. This is a very different situation from the more limited, and necessarily schematic nature of the design documents associated with putting together a proposal for a

design-build project. An owner that takes an unsuccessful proposer’s design concepts, and through others, develops them into a full set of design and construction documents should take on the design liability that accompanies such a task. The unsuccessful design-build proposer should be indemnified by the owner in such a situation from any liability associated with the owner’s subsequent use of the proposer’s design concepts since the control over and input into that ultimate design passes to the owner and either the DCC or the successful design-builder’s team, including the team’s designers.

2. Building Information Modeling

The use of BIM also raises copyright and licensing issues. With multiple parties contributing to the project design, sharing information and adding to the design, who owns the copyright? An owner that pays for the design may feel entitled to own the copyright; however, the design-build team members are responsible for providing the proprietary information for use on the project. Such proprietary information should be protected. This issue needs to be addressed in the Contract Documents to avoid disputes if certain design elements are used on later projects. Further, this issue needs to be addressed in the event liability arises out of the design elements.

The parties are encouraged to address this issue at the outset with the best solution being setting forth in the Contract Documents ownership rights and responsibilities. An older example is provided by the AIA Document 511-2001, Guide for Amendments to AIA Owner-Architect Agreements, ¶ 10. This particular AIA Document sets forth model language containing an indemnification running from the Owner to the Architect for claims arising out of the “unauthorized reuse of Drawings, Specifications, electronic data or other Instruments of Service.” The DCC should negotiate such that it may benefit from such indemnification language as well. Further, the DCC needs to ensure the term “electronic data” is included in the contractual provisions relating to ownership and copyrights.

The new AIA 2007 Documents also attempt to address the issue of ownership and licensing in the context of BIM in their forms. The 2007 AIA A201 General Conditions place an increased emphasis on use of electronic documents. First, there is a new definition of Instruments of Services which includes electronic documents and media in the paragraph designated at ¶1.1.7 as Instruments of Service (formerly the “Project Manual”). Second, the provisions of ¶¶1.5.1 and 1.5.2 deal with ownership and licensing and use of the Instruments of Service. Section 1.5.1 has been modified to now be consistent with the definition of Instruments of Service found in ¶1.1.7. The Architect and its consultants own the Instruments of Service and the constructors shall have the ability to use them but not own

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them. The following provision, ¶1.5.2, expands on this concept by establishing that the constructors shall have limited licenses to use the electronic data, or Instruments of Service. This license also shall be limited to exclusive usage with the work on the particular project. Third, there is a new provision, ¶1.6, on transmission of data in digital form. This represents a major change and effort to try and deal with electronic documents. This provision references establishing protocols governing electronic transmissions.

To further carry out these licensing and protocol concepts for electronic data and its usage, the AIA has established two new forms with the 2007 documents to address establishing relationships when sharing digital data and protocol for digital transmissions. The first of these new documents is the C106 – 2007 Digital Data Licensing Agreement. This is a document that is intended to create a licensing arrangement between the sender and receiving party on electronically transmitted data. In other words, it is to be used in conjunction with the type of electronic data discussed above in the A201 General Conditions. Second, there is the E201 – 2007 Digital Data Protocol Exhibit. This is a document that is intended to be attached to a multitude of contracts on a construction project, including the contracts with the general contractor and various subcontractors as well as those on the design side. It is a companion document to the C106 Digital Data Licensing Agreement and it also is to be used in conjunction with the type of electronic data discussed above and the general conditions requirement for establishing project protocols as specified in ¶1.6 of the A201 General Conditions.

While these two forms are not targeted specifically toward BIM or integrated practice, we understand that the AIA is working towards a set of integrated practice documents that will specifically address joint ownership, liability and control when using Building Information Modeling. These forms likewise are not designed exclusively for design-build delivery systems but they have promise of working with design-build because of their emphasis on interactive participation in the design and its development. Thus, it is not a far stretch to seeing those documents and their concepts also being utilized on a design-build project on which bridging is utilized.

Conflicts of Interest

Several states have statutes that write the role of the DCC into the state's design-build procurement law. Further, in many states, the DCC preparing the design criteria is prohibited from participating on the design-build team competing for the project. This prohibition is based on the theory that it would give an unfair advantage to that firm as it would be most familiar with the design. Moreover, allowing the DCC to participate on the design-build team would create a conflict of interest if the owner retained the DCC to assist in construction administration.

With respect to conflicts of interest, the AIA Code states that "Members should avoid conflicts of interest in their professional practices and fully disclose all unavoidable conflicts as they arise. . . . A Member shall not render professional services if the Member's professional judgment could be affected by responsibilities to another project or person, or by the Member's own interests, unless all those who rely on the Member's judgment consent after full disclosure." The Department of Transportation's Federal Highway Administration regulations state that consultants who assist the owner in preparing the RFP will not be allowed to participate on a design-build team, unless the involvement is minimal.

A DCC that participates on a competing design-build team would likely give that team an advantage as no other team could match the level of familiarity that the developer of the scope of work would have with the project. Additionally, it would prohibit the owner from using that same design consultant for construction administration services during construction. It would defeat the purpose of having an "independent" architect/engineer if the bridge firm could prepare the design criteria package and then link up with a design-build team competing for the project. The better approach is to bar the bridge firm from participating on any of the design-build teams.

Under Indiana's Design Build Statute, codified at Indiana Code, §5-30 et seq., due to the Technical Review Committee's ("TRC") considerable influence in the selection of the design-builder, a member of the TRC is prohibited from submitting a proposal for or furnishing design or construction services under a design-build contract and the selected design-builder cannot subcontract any service back to any member of the TRC. A similar statutory prohibition is not found for the "design criteria developer". However, the nature of the DCC's ongoing obligations to work with the TRC throughout the procurement of the design-build proposal and contract has the practical effect of preventing such an affiliation.

Several other states also have laws that prohibit architects and engineers from bidding on plans they prepare. South Carolina law bars architects and engineers who perform design services from performing any work on the same project as a contractor, either directly or through a business in which the architect or his or her firm has "greater than a 5% interest." Florida makes it clear that a "design criteria professional" who has been selected to prepare the design criteria package is not eligible to render services under a design-build contract executed pursuant to the design-criteria package.

One federal case has ruled that the bridge firm cannot be part of a contractor's design-build team. In *Matter of SSR Engineers, Inc.*, 1999 U.S. Comp. Gen. Lexis 139

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(June 18, 1999), the Navy awarded a contract to SSR Engineers. The government issued an RFP for a design-build contract to perform a portion of the work, taking the statement of work directly from the SSR Engineers' master plan. SSR was contacted by several contractors to be part of their design-build teams, but the Navy said the firm was ineligible due to a conflict of interest. SSR protested the decision but the Comptroller General denied SSR's protest holding that Federal Acquisition Regulations barred such participation and that with SSR's participation, that team would have an unfair competitive advantage and an organizational conflict of interest.

The regulation at issue in *Matter of SSR Engineers, Inc.* was FAR, part 9.505-2 states, "[i]f a contractor prepares, or assists in preparing, a work statement to be used in competitively acquiring a system or services – or provides material leading directly, predictably, and without delay to such a work statement – that contractor may not supply the system, major components of the system or the services." The regulation provides for certain exceptions. SSR argued that a different regulation specifically addresses design-build projects and use of consultants to develop a scope of work and that the regulation does not expressly preclude the firm developing the scope of work from being part of a design-build team. SSR further argued that it had not obtained any competitive advantage based on its prior work on the project. The Comptroller General rejected these arguments and found that organizational conflict precluded SSR from participating on any of the teams due to an unfair advantage.

FAR 9.502 states that an organization conflict of interest may result when there are factors that create "an actual or potential conflict of interest on an instant contract, or when the nature of the work to be performed on the instant contract creates an actual or potential conflict of interest on a future acquisition." Participating on a competing team may give that team an advantage in terms of qualifications since no other team could match the level of familiarity that the developer of the scope of work would have with the project. It would also effectively prohibit the owner from using that same design consultant for construction administration services during construction, to the owner's disadvantage.

In sum, it is generally agreed, in both the public and private sectors, that the DCC should not participate on the design-build team, especially if the DCC is providing construction administration services to the owner. However, this is not to say that such a practice is prohibited in the private sector and many private owners have established relationships with the DCC such that the owner is comfortable with a DCC participating on the design-build team and providing the construction administration services.

Errors & Omissions Insurance

The design-build delivery process changes the way in which insurance will be carried as compared to a traditional design-bid-build project. Contractors are accustomed to carrying commercial general liability ("CGL") policies that provide third party liability coverage to the contractor arising from its operations and premises which may be owned and/or under the control of the contractor. The CGL policy, however, only provides coverage for liability arising from design which is incidental and necessary to the construction means and methods of the contractor. A design professional errors & omissions policy ("E&O") provides coverage for damages arising from negligent design errors and omissions.

Under the A141 base agreement the parties have flexibility in the area of insurance in that the A141 simply provides a blank Exhibit C that the parties utilize to provide their own custom terms. Thus, the A141 has no specific type of coverage listed. However, ¶ 11.2 of the AIA B141 Exhibit A Terms and Conditions sets out eight types of insurance, but surprisingly omitted is E&O insurance. Like the A141, the DBIA No. 530, ¶ 10.1 similarly provides flexibility with respect to insurance. It does, however, address E&O coverage. See Doc. 535, ¶ 5.1.4.

Thus, owners will have to specify whether E&O coverage is required of its design-builder and its architect and the coverage limits. In an effort to obtain coverage for the redesign and reconstruction resulting from negligent design, as well as coverage for any economic loss that may be incurred by the design-builder or the owner, the design-builder should obtain an E&O policy to cover the design exposure of a design-build project. This is true whether the design is done in-house, via a subcontract, joint venture or by other means. It also is critical for the design-builder to carry adequate amounts of coverage because it will be insuring against loss to the entire project. Likewise, layered coverage with key subcontractors providing design services should be obtained as well as with the design professional subcontracts.

The involvement of a DCC further complicates the matter of insurance for the project. Specifically, the issue arises as to how you allocate risk with E&O coverage for the design-builder's architect where there is a DCC doing anywhere from 20% to 40% of the design? Insurance statistics show that the majority of claims against A/E firms are for design errors or omissions¹. Since the DCC develops as much as 30% of the schematic or design drawings, which typically are not sealed, it is likely that the design-build team will prepare the final technical details used for construction and seal those documents. Thus,

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¹G. William Quatman & L. Tyrone Holt, *Use of Bridging Consultants in Design-Build Relationships*, American Bar Association Forum on the Construction Industry (Jan. 25, 2007).

if there is a design error or omission in the drawings or specifications, liability will most likely fall initially on the design-build team's architect or engineer who prepared those documents and not on the DCC.

For the design-builder, it is common for it to carry its own E&O policy to cover all design work being performed under its own umbrella. In addition, it is typical for the design-builder to require E&O protection from the architect under a design subcontract with it, as well as the mechanical and electrical engineer (if not under the lead architect). If the civil engineering work is under separate contract with the design-builder, it also should be required to carry E&O coverage. The architect on the design-build team likewise should be required to mandate with its consultants (such as the structural engineer) that they furnish E&O coverage of their own. In this fashion, the design-builder can secure layered E&O protection for those doing design work under it.

The owner likewise should require E&O coverage of its DCC. Even though the bridging consultant has a narrower role than that of the traditional architect, to the extent that claims arise associated with design liability, it is not inconceivable to have some liability claimed to be traceable to the Design Criteria or related documents that the DCC will prepare for and on the owner's behalf. Hence, there remains potential *Spearin* Doctrine type of liability for the owner to the design-builder as discussed in the last newsletter. Likewise, there may be claims arising out of the DCC's role on other aspects of the project that could be covered by an E&O policy so it only makes sense for the prudent owner to require E&O coverage from its DCC. As a practical matter, the DCC will carry E&O coverage as part of its normal design practice so that the cost and effort in securing E&O coverage for a bridging agreement should not be excessive.

Another option for the owner is to purchase a project policy, paid for by the owner, that is sufficient in amount and with a low enough per claim deductible to cover all design professionals providing services on the project. If the owner agrees to a project policy, the owner needs to purchase adequate coverage to address all risks inherent with multiple designers on a job, recognizing that if there is a project professional liability policy, in the absence of a special endorsement, there may not be coverage available under the DCC's professional liability insurance policy standing alone to protect the owner. Further, if a project specific policy is obtained, the parties should negotiate and execute a deductible sharing or payment agreement to address deductible payment/sharing and project policy administration issues that affect all insureds, regardless of their role in the project. Finally, if the DCC's normal practice professional liability insurance policy is to be used, it should be noted that continued coverage is not guaranteed and the limits may be exhausted by other

projects. At the very least, the owner needs to address securing excess coverage from the DCC and to having the E&O coverage extend more than a year or two past project substantial completion.

The Bridging Consultant Fee Structure

A question is often posed by DCCs regarding the development of a fee structure when limited design services are performed on a project. This matter is further complicated because Indiana law does not permit percentage fees for design services on public works projects, which likely precludes a percentage fee structure in a DCC agreement on a public works design-build project.

With respect to design-build generally, a design-builder following the standard AIA procedure for design-build projects implements a two part process. The first part involves the conceptual or schematic design for a minimal fee. This allows the design-builder to develop the program and conceptual design as well as the associated construction cost without requiring the owner to move forward with a design or cost. In fact, many design-builders do not charge a fee for the conceptual or schematic design with the hope of satisfying the owner so that the design-builder is awarded the project.

However, this course of action is not acceptable to DCCs that will not become part of any design-build team. As noted in the prior newsletters in this DSV Newsletter Series, bridging is a target market for some design firms, even though the fees for DCCs are typically less than for traditional full scope services. For these DCCs, it is anticipated that the DCC will prorate from a full fee arrangement (i.e., charge 30% of a full fee when 30% of design is to be performed by the DCC). It is difficult to place a definitive percentage on the amount of design services to be performed by the DCC. Thus, it serves as the starting point that the DCC begin by determining whether its services will be limited to preliminary design services, or encompass construction administration services as well. Further, with respect to the design services, a DCC must determine the following: cost of project, type of project, scope of work required, and type of design services. The scope of service can further be broken down into the concept design, preliminary design, development design, detailed design and construction design. When the scope of work does not include all of the various levels of design, deductions should be made to the DCC's overall fee. Moreover, the DCC fee should be anticipated to increase when the scope of work includes any of the following: feasibility studies, preparation and advice on estimates, geotechnical investigations and reporting, site survey of levels, investigation of ground water conditions, evaluation of different design solutions, liaison with local authorities and obtaining building consent and/or

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resource consent, life cycle costing and considerations, schedule of quantities, economic studies, alteration and strengthening, acting as principal advisor for the project, and fast tracking the project.

The Office of Financial Management (“OFM”) has issued Guidelines for determining design fees for public projects. This guideline likewise is helpful for breaking down the DCC fee into approximate percentages for each phase of work. Specifically, the OFM has established the following breakdown:

Project Phase	% of Basic Services Fee
Schematic Design	13
Design Development	20
Construction Document	36
Bidding	2
Construction	27
Project	2

According to the OFM, in the schematic design phase, the DCC provides those services necessary to prepare schematic design documents consisting of drawings and other documents illustrating the general scope, scale, and relationship of project components for approval by the owner. These services are essentially the same as those an architect would provide in a traditional design-bid-build method.

In relation to a DCC providing construction monitoring services, the factors influencing the DCC fee structure are as follows: size of the project, importance of the project, complexity of the construction works, and the experience and skill in quality management of the design-build team. Clearly, the cost of monitoring increases with higher levels of service.

Another issue the DCC faces is whether it should include compensation for the design risk it will incur as there is potential liability at the level of the DCC participation. It only makes sense that such a risk be considered and priced when determining the DCC fee structure as well as the indemnification risks discussed above.

Conclusion

In sum, there are many issues that have arisen through use of the bridging method that have yet to be tested. This newsletter has attempted to focus attention on some of the more obvious developing issues present with utilization of the bridging consultant: ownership of the design documents and copyrights and how the industry is attempting to address this issue through licensing arrangements, particularly with the increasing use of electronic or digital design; design professional conflicts of interest for the DCC; the need for layered and multi-party design professional E&O insurance; and how the bridging consultant’s fee may be structured. In the months and years ahead, new issues will emerge with bridging but it is a concept that appears to be firmly rooted in the design-build future.

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Risk Shifting Inherent In The Design Build Process

Presenter: Michael F. Drewry, Esq., Drewry Simmons Vornehm, LLP

Panel: Mike J. Kaiman, Vice President and General Manager, Turner Construction Company and Dan R. Ware, RA, Interdesign

I. INTRODUCTION¹

This presentation is focused on the risk shifting presented by and inherent in the design-build project delivery system. It is designed to identify the differences between traditional project delivery systems and design-build. In this area, focus will be on what advantages an owner may have with this relatively new form of project delivery (new especially for public works owners) has over design-bid-build. Next, the focus will shift to identification and discussion of key contractual risk issues to consider in design-build and how those risks may be shifted through the contract terms. Finally, the presentation will turn to the particular issue of design liability considerations with design-build, including the role of the architect as a sub-contractor to the design-builder and the role of the bridging consultant in design-build.

A. Different Contracting Methods

- The type of delivery method a project owner wishes to utilize depends on the nature and particular circumstances of each project. Types of delivery methods include the traditional design bid build (general construction) model, construction management/multiple prime trade contractor model, and design-build.
- The project delivery method chosen by the project owner will depend on the project owner's level of experience with construction, aversion to risk, the size and complexity of the project, and the amount of unforeseen changes that may occur during the design and construction process among other considerations. One of the most important considerations for the project owner is the level of risk the project owner wishes to accept.
- Generally, the more risk the project owner shifts to the contractor and designer the higher the cost of the project and the less control the project owner maintains. The project owner must pay for reducing his risk.

- The design-build model offers the project owner the least risk versus the construction management/multiple prime trade contractor model, which offers the most risk.

1. Design-Bid-Build

a. Traditional General Construction Model

- The most common project delivery method is the traditional design bid build or general construction model. In this method, the project owner contracts with a designer to fully perform design services. Once the designer has completed the drawings and specifications the designer and project owner request contractors provide proposals to perform the construction work. The project owner may request bids from specific contractors, may enter into negotiations with one particular contractor, or, as in public contracting, request bids from any contractor. The contractors submit their bids and the owner chooses to award the contract to the bidder they deem best.
- The agreement between the project owner and the contractor usually provides that the contractor will perform all of the construction work in accordance with the drawings and specifications prepared by the designer in turn for agreed upon payments. Usually the project owner agrees to pay the contractor a lump sum amount either in a single lump sum or in scheduled payments (often monthly). However, in certain situations the project owner and contractor may agree to payments totaling the actual cost of the construction plus a predetermined fee or percentage markup. In this scenario, the contractor records the total cost of the construction as it progresses. The

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¹ The author wants to acknowledge the collaborative effort in the preparing of this paper of Mike Kaiman and Scott Schroeder of Turner Construction Company and Dan Ware and Blake Wagner of InterDesign. In addition, a special acknowledgement is due to Lynn A. Toops and Christopher S. Drewry, associates at Drewry Simmons Vornehm, LLP for their research and writing contribution to this paper.

project owner pays the contractor for its actual cost expended plus the agreed upon fee.

- The “Cost Plus Fee” contracting model is usually used in situations where the contractor can not estimate the cost of construction with a sufficient degree of accuracy. This may occur on a project where the owner and designer have not agreed upon certain aspects of the design, but because of time constraints the project must commence, or where the owner, designer, and contractor must design and build as the construction progresses. Another example occurs when there are so many unforeseen contingencies on a certain project that an accurate cost estimate cannot be made.
- In situations where the cost of construction can be estimated with some degree of confidence, the project owner may wish the contractor to agree to a Guaranteed Maximum Price. By this term the contractor agrees that the cost of

- This variance on design-bid-build can be used where the project design can be separated into smaller portions of field work which can be bid and commenced prior to completion of the entire design, thus allowing portions of the construction phase to overlap with the design phase.

- One important factor in making a fast track method successful is to bid smaller construction packages which can be designed quickly and commenced early in the construction process. Additionally, it is important to begin certain aspects of construction only when the corresponding portions of the design are complete and not to start before they are designed. Otherwise, a myriad of problems could result, including redesign, tearout and replacement, numerous change orders, and field construction difficulties.

(2) Multiple Prime Contracting

- In response to the fact that owners in the design-bid-build method have little control over the various trade contractors, and owners must pay for the layer of overhead and profit that a general contractor receives on the work performed by trade

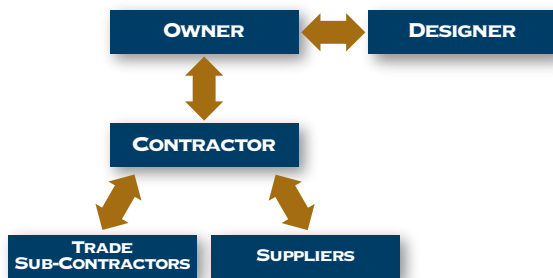


Diagram 1 Traditional Design-Bid-Build Model



Diagram 2 Multiple Prime Contracting Model

construction will not exceed the Guarantee Maximum Price and the contractor takes the risk for the cost exceeding the agreed upon amount. This contract is referred to as a “Cost Plus Fee with a Guaranteed Maximum Price”.

b. Variances on the Traditional Model

(1) Fast Track

- The concept of fast-track construction was developed in response to the industry’s need to overcome the time constraints of an extended design period. The overarching principle of this method is to overlap portions of the construction and design phases so that certain elements of the construction work can begin earlier, prior to the completion of the entire project design. Cost control could also be maintained in that a fixed price for one element of the work could be obtained when the design of that element was complete without waiting for the completion of the entire project design.

contractors acting as subcontractors to the GC, the multiple prime contracting method was developed.

- Rather than having all of the work performed under one general construction contract, the owner bids directly and awards several contracts to various trade contractors. Now that an owner has multiple contracts, he avoids paying some of that overhead and profit and has more control over the various trades.

(3) Construction Management

- One of the problems many project owners experience in the traditional general contracting model is the perceived adversarial relationship between the project owner and the contractor. Whether this is true

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or not has been the subject of much debate. However this perception caused project owners and contractors to develop an alternative project delivery method - Construction Management. This project delivery method has evolved into two different approaches: Agency Construction Management and At-Risk Construction Management.

- The key advantage to Construction Management is that the owner receives the benefit of contractor insight early on in project development, specifically during the design process and formulating the budget. This process has value to the owner. First, the owner gets the CM's practical view on issues involving constructability. Also, the owner receives CM input on value engineering. In addition, the owner gets the expertise of the CM in a particular type of project construction. Finally, the owner's views can be carried forward during the construction phase via the CM, acting as an agent of the owner.
- Although there are distinct advantages to Construction Management, it also has its downside. To start, there can be coordination issues among trades and with the design team unless it is carefully addressed in the contract documents. Also, some believe that there is a lack of total project responsibility that is otherwise present with a general contractor ("GC").
- There are two types of CM: an Agency CM (CMa) and a Constructor CM (CMc).

(a) Agency Construction Management with Multiple Prime Contractors (CMa)

- In Agency Construction Management the Construction Manager is made an agent of the project owner. The CM acts in the owner's interest in delivering the project to completion, usually in conjunction with the designer.
- The CM is hired by the owner prior to the commencement of the design process. During the pre-construction phase the CM represents the owner's interest in managing the design process. The CM is obligated to assist the project owner in budgeting the cost of construction, making recommendations to the designer to keep the cost within budget, assisting the project owner in contracting with the

Prime Contractors, and managing the on-site construction.

- The CM is not a constructor. During the construction phase the project owner enters into separate prime contracts with various trade contractors (Prime Contractors) who are each responsible for a scope of work usually for a lump sum contract amount. The CM remains as the owner's agent during construction.

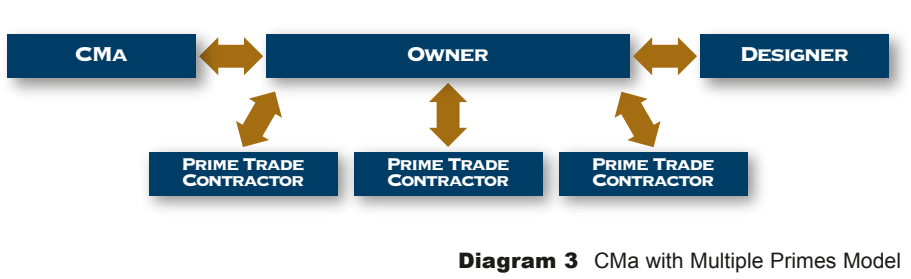


Diagram 3 CMa with Multiple Primes Model

(b) At-Risk Construction Management (CMc)

- The second approach to the Construction Management project delivery method is At-Risk Construction Management (CMc). Under this method, the CM is also the constructor and holds the contracts with the subcontractors. In this approach, the CM is hired to represent the owner's interests during the pre-construction phase.
- When the construction documents have been completed by the designer, the CM gives the owner a proposal to construct the project. If the owner agrees, the contract is converted to a general construction agreement. Work then progresses under the control of the CMc, which is responsible for the subcontractors and suppliers the same way that a general contractor under contract with the owner would be.

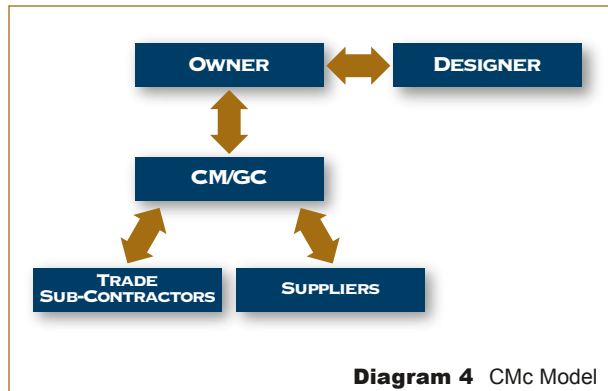


Diagram 4 CMc Model

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2. Design-Build

- The design-build project delivery method has become much more popular during the past decade. In this contracting method the project owner contracts with one entity to design and construct the project. The implications of this compared to other project delivery methods is obvious. The project owner has one entity to look to for responsibility for the successful completion of the entire project. The design-build contractor agrees to take all of the risk for design and construction of the project.
- Often the design-build contractor is a traditional general contractor and usually contracts with an architect or engineer to perform the design related services for the project. Many contractors who do a lot of design-build contracting have registered architects on staff who perform the design work themselves.
- Usually the owner will request proposals from various design-build contractors, and will provide basic performance information communicating the desired product. The design-build contractors will perform some preliminary design and cost estimating for the proposal. The proposal is usually submitted to the project owner with some design sketches, performance criteria, and a lump sum cost proposal. The owner then chooses to award the contract to the entity they deem best.

tance of that proposal the contractor proceeds to enter into the formal subcontract with the design professional as well as subcontracts for performance of the work itself.

b. Design Professional as the Prime Design-Builder

- Another form of design-build is where the owner enters into a contract directly with a design professional, who in turn enters into an agreement with the construction contractors to obtain their input into the design, provide construction pricing, and build the project, while the design professional coordinates the work. In this method, the design professional takes the lead on the risks, rewards, and challenges of the construction process.
- In the past, owners under this delivery method often would perceive that design firms had little experience in field construction, lacked the financial resources and bonding capacity necessary to perform or to be directly responsible for construction contracting, and did not know how to handle some of the risks inherent in construction. It was not until more recently when insurance products became available for the construction industry that this delivery method has become increasingly popular.

B. Advantages Of Design-build To The Owner

The alternative delivery systems on traditional design-bid-build each addressed some of the shortcomings of the general construction model and purport to improve that delivery system. Likewise, there are clear cut advantages of the design-build project delivery system over traditional design-bid-build. Below are enumerated some of the advantages of this alternative project delivery method:

1. Promotes Concurrent Activities During the Design Phase on a Project

- The design-build method uses the same principles as found in fast track construction in order to overcome the time constraints of an extended design period that may be found in the traditional general contracting model.
- There is not necessarily a reduction in actual design time, and certainly not less design work involved in design-build due to the need to review more alternative design and cost options on portions of the design.
- However, what design-build does due is to allow for concurrent, interdependent tasks involving design, procurement and construction activities to proceed apace. Ultimately, this can result in a better design and a shorter overall project duration for construction.

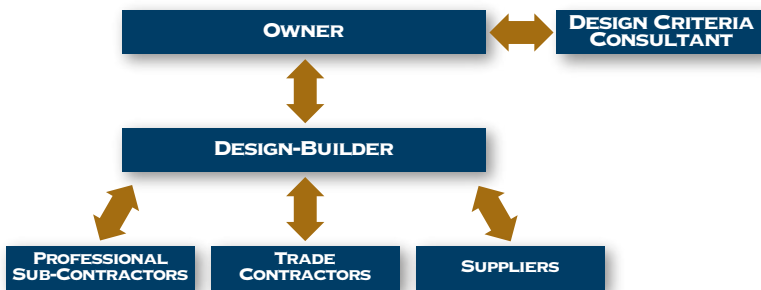


Diagram 5 Design-Build Model

a. General Contractor as the Design-Builder

- In one possible design-build arrangement, a GC, whose primary experience and background are on the building and construction responsibility, contracts directly with the owner. The GC then engages a design professional to undertake the design on the contractor's behalf.
- The contractor led design-build team is the more typical or common way in which the design-build team is created, certainly in this market place.
- The design-build contractor will line up its design professional in advance of submitting its proposal to the owner, who assists the contractor with preparation of the proposal. Upon accep-

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2. Obtain Design Input from the Constructor

- Design-build addresses one of the problems with the traditional design-bid-build model which typically does not allow for contractor input into the design pre-bid. Like construction management delivery systems, the construction professionals in design-build can take the lead in the development and management of the overall project delivery process and can be extensively involved during the preconstruction phases as well as the construction phase.
- This can result in an improved, more constructible design and benefit the project schedule and costs during the construction phase.

3. Improve Cost Controls During the Design Development

- Just as At-Risk Construction Management provides an advantage over the design-bid-build model in terms of improved identification and limitation of costs during the design phase, so too does design-build.
- More specifically, under the design-build project delivery system, it becomes possible to have the construction-cost control and the price certainty that come with hard bid fixed-price contracting or at-risk contracting but with the benefit of construction expertise in cost controls during the design development phase.
- Costs are known or projected earlier and are better defined, which also can help to establish a reliable GMP earlier.

4. Ongoing Budget Analysis and Input

- Again, as with cost controls, having the design-build team involved earlier in the project during the design phase allows for more in depth and ongoing budgetary analysis and input from the constructor side.

5. Shorten the Schedule Duration for Faster Project Delivery

- It is possible to shorten the construction phase normally experienced in design-bid-build construction. Owners selecting design-build may want to have an expedited project occupancy date and are willing to pay for it. The design-builder is able to employ several methods to achieve early project delivery.
- This combined responsibility allows the team to overlap various aspects of the design and construction phases, as noted above. There are no bidding periods between design and construction because the procurement of the construction services and material is done during the design process. Additionally, the process is shortened because the continuous input and ongoing reviews by the owner are often reduced

in number or eliminated altogether.

6. Increased Design Creativity

- Design development is no longer the exclusive area of the architect or engineer, as the owner and contractor are also brought into the equation, thus stimulating creative approaches that improve the quality of the project with both design and construction considerations.
- Additionally, owners are more willing to accept innovative solutions proposed by design-builders, knowing that a balance of perspectives has been achieved from both the design and the construction responsibilities. This increased owner confidence in the process benefits all parties as they work together.

7. Quality Based Selections – Specialized Skills and Expertise

- The resulting design-build projects are often of better quality. The Construction Industry Institute conducted a study in which quality was measured in various ways, and in every quality measurement, design-build projects significantly outperformed the design-bid-build projects.
- One of the reasons is that design-build fosters innovative “team” decisions, wherein the designer, contractor and owner are joined contractually and pursue common goals for the project and work together on design reviews, constructability, and value engineering.
- Another factor is the avoidance of the reduction in quality of construction that too often accompanies contract work secured through a price driven low bid.
- Finally, in design-build, it is possible to secure trades based upon quality, skill and expertise more than would otherwise be the case in hard bid projects, especially public works projects where the contract is awarded to the lowest responsive bidder that passes a relatively low threshold of determining responsibility.

8. Increased Potential Cost Savings During Construction Phase

- There is a real potential for both time and cost savings from the design-build method, including better field performance, reduced incidence of project cost and schedule growth, and a quicker overall delivery speed. These advantages benefit the owner but also result in savings to the design-build contractor, who then is in the position to be more competitive in its pricing.
- Designers and contractors may benefit from the unified role as design-builder, thus allowing them to approach the construction marketplace with a cost-effective combination of services.

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Eliminating the drive to include contingencies to cover certain problems allows design-builders to price the contract with more certainty.

- During construction, there is less likelihood of cost increases for the owner attributable to field changes and claims but there still exist risks to the owner for unanticipated conditions such as differing site conditions, owner caused delays and owner-generated scope creep through change orders. Nevertheless, with design and construction risks both under the umbrella of the design-builder, any gaps in the scope of the design and construction functions will fall to the design-builder, not the owner.

9. Unified Design and Construction Team Leads to Minimizing Conflict Between the Design Professional and the Contractor

- Under design-build, there is an incentive to minimize the underlying tension and conflict between the designer and the contractor that may affect the project delivery.
- The contractor may take the lead in the project, exercising control of and providing input into the design in order to eliminate design deficiencies that might surface during construction. The contractor is often the driving force in preventing design flaws in order to avoid paying for tear-out and remedial work to fix design problems in the field, and thus, he is often able to identify potential design problems and team with the designer to find remedies before the affected work is started or installed.
- Due to this same collaborative effort, turn around time on submittals, responses to RFIs and to changes are improved and streamlined.

10. Minimizing Construction Phase Design Conflicts, Collisions and Field-Generated Change Orders

- Through the early and ongoing involvement of the constructors in the design process, including the specialty trades and those trades with their own design-build component, such as the MEP, fire protection and structural steel trades, design conflicts and collisions can be more readily and earlier detected and corrected.
- In turn, during the construction phase, the improved status of the drawings and the earlier coordination by and among the constructors and designers leads to reduced number and extent of field-generated change orders.

11. Single Point Responsibility

- Under the concept of single point responsibility, the coordination of the design-build functions benefits owners. Because the responsibility for both design and construction have been delegat-

ed by the owner to one entity, the owner is not in the loop when certain design-related problems surface. The owner is not responsible for investigating most problems and for allocating fault to the designer or the contractor, thus serving to minimize disagreements and disputes involving the owner.

- With single point responsibility, being the design-builder also has its benefits. The design-builder takes on the challenges of quality, cost, and time for both design and construction and is rewarded for performing and taking the risk of both functions. Because compensation is often tied to a fixed price, even if different design firms are involved in the design-build entity, they are motivated to work as a unified team throughout construction. Hence, the design-builder can establish procedures to control and minimize the risks inherent throughout design and construction

12. Consolidated Dispute Resolution Procedures

- Among traditional industry contracts a problem for the owner is presented in the form of dispute resolution procedures. The owner may have totally different means of resolving claims and disputes in its design services agreement and in its construction agreement. Oftentimes, there also are limitations or outright contractual prohibitions on joinder of parties and claims.
- This puts the owner in the position of having to litigate the same claims that involve both a design and construction component in two different forums over two different time periods. It also places the owner in the position of having inconsistent results.
- Under the design-build agreement, this problem is resolved. As between the owner and design-builder, there will be only one, consolidated dispute resolution procedure. The issues of design and construction will all be decided at the same time, in the same manner and in the same forum.

13. Improved Owner Input through Continuous Project Team Interfacing and the Bridging Option

- A concern of the owner in design-build is how much control over the design and construction will it have in comparison to those traditional design-bid-build delivery systems.
- As noted above, under design-build, there actually may be improved owner control and certainly owner input. There will be increased interfacing and coordination between the design and construction functions. There also will be ongoing opportunities for interfacing with the owner and

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design-build team throughout the life of the project, while at the same time less need for owner project and contract administration time between the design professional and the constructors. There will be unified decision-making processes and recommendations to the owner. The various team members also should be more focused on resolution of issues rather than concern over justification of positions and deflection of responsibilities.

II. KEY CONTRACTUAL RISKS AND ISSUES FOR DESIGN BUILD

This portion of the materials will address the key risk areas that arise in the use of the design-build project delivery system. Further, where relevant, this section will address how the AIA and DBIA attempt to allocate these risks by way of their respective standard contract forms. Additionally, recommended modifications to these standard forms will be addressed.

As a practical pointer, in allocating risk on the design-build project, owners should be mindful that excessive risk leads to an excessive price and lessened competition for the project. In order to achieve the best value available in the marketplace, owners should create a balanced contract with the design-builder, which recognizes the single source responsibility of the design-builder while also recognizing the inherent retained risk of the owner.

Regardless of the contract forms serving as the basis for the project contract documents, there are certain key contractual risk issues to address when utilizing design-build.

1. Owner Design Criteria and Defining the Scope of Work

- Typically, the Owner will request proposals from various design-builders, and will provide basic performance information communicating the desired end product. The design-builder will perform some preliminary design and cost estimates for the proposal. Once the project is awarded to a design-builder, the scope of the work the design-builder is to achieve may be described in a series of documents, some of which are developed before signing the contract (request for proposal and the design-builder's proposal) and some of which will be developed after the contract award (design-builder's plans and specifications).
- Under the AIA's A141 Standard Form of Agreement Between Owner and Design-Builder (2004 ed.) ("A141"), the owner furnishes project criteria on which the design-builder is entitled to rely. However, the A141 does not include an exhibit for the project criteria so that the parties must attach their own exhibit. Additionally, the owner provides geotechnical services and surveys. The A141 also permits the owner to obtain an independent peer review of the design of the design-builder.
- With respect to the owner's project criteria, DBIA Doc.

No 535 §3.2 provides that the owner is to develop its project criteria and the design-builder is to review and evaluate it. However, the design-builder may assist in the development of the criteria.

- It is recommended that, in an effort to avoid risk in this area, owners should first ensure that they have a clear understanding of their program goals and have properly relayed these goals to the design-builder. This does not mean having a detailed set of plans and specifications from which the design-builder will bid. Rather, the owner should determine its performance requirements and develop appropriate performance type specifications that reflect those requirements.
- From the design-builder perspective, the design-builder must carefully review the design and scope of work criteria to verify that the scope is clearly defined and ensure that the performance criteria are achievable. It also needs to be assured that it has a complete set of owner criteria before locking down its final work scope and price. This may mean providing interim pricing with a final GMP to be set later, upon a finalized owner criteria being provided.

2. Design Liability – What is the Risk and How is it Addressed

- In true design-build, the owner contracts with the design-builder, who is the single point of responsibility entity in charge of providing both the design and construction services. Unlike design-bid-build where the owner impliedly warrants the adequacy of the design to the contractor (the Spearin Doctrine implied warranty), the design-builder now has responsibility for and warrants the design to the owner. Thus, the owner will rely upon the design-builder to respond to and correct any design problem that may occur during construction, or even after construction is complete.
- The same dynamic is at play with the design-builder and its design-build subcontractors, such as the MEP trades and the structural steel and fireproofing trades. For those subcontracts, the design-builder requires certain portions of the design to be developed by those trades in their specialty. The design professionals that they utilize will have the same loyalties and contractual commitments vis-à-vis the design-builder that the design-builder's architect will have towards the owner.
- Thus, in drafting the design-build subcontract terms, particular attention must be paid towards drafting the appropriate duties and obligations, and expectations for the subcontract design components since it is the design-builder who will be ultimately responsible for its work upstream to the owner.

3. The Issue of Whether the Owner Risk's Loss of Control

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- In design-build, one concern of the owner is whether it will have less control over design because such decisions now lie with the design-builder. Additionally, the contractual combination of designer and builder minimizes the owner's ability to control the design. Apart from the accuracy of this perception, as noted above, contractually it needs to be addressed.
- In an effort to curb this real or perceived loss of control, it is important for the owner to use detailed performance specifications to gain some semblance of initial control and direction over the design process. The owner may also add periodic design review and approval stages during design development. It likewise can retain an inspection and rejection of defective work right. Finally, an owner may engage a separate design professional on a limited scope basis utilizing the bridging method discussed below (see Topic III(b)).
- For the contractor, these concerns also can be addressed through contractually required exchanges of information and interfacing with the owner. The contract also should provide that the owner will be responsible for timely notification of any defects or other problems and that it will be responsible for any increased costs or delays occasioned by what becomes unjustified owner rejection of work or stoppage of work.

4. Code Compliance and Updates Following Building Permits

- Under the A141, the design-builder is entitled to rely on the completeness and accuracy of the information provided in the owner's criteria, but not that such information complies with applicable laws, regulations and codes. Rather, it is the obligation of the design-builder to determine whether the information found in the criteria complies with applicable laws, regulations and codes (as of the date of contract execution).
- The real issue is who is responsible for code compliance after the contract is formed, the design is completed and accepted by the owner and construction commences. Stated differently, who bears the risk of loss for changes in the code that arise after these milestones have been achieved?
- An aggressive owner may want that risk of loss passed to the design-builder. In turn, the design-builder (and by extension its design professional subcontractor) will want to pass the risk of code modifications post-design completion and commencement of the construction phase to fall on the owner. Thus, the design-builder will receive additional monies and time for changed code driven change work.
- A potential middle ground is to require the design-builder to carry the risk of code, rule or regulation changes for which it new about but did nothing from those that it did not know about at construction com-

mencement (or at the time of contract execution). In the latter circumstance, the effort required to adopt the work to the changed code, rule or regulation will be treated as any other change in the work.

- The DBIA Doc No. 535 §2.5 provides that the design-builder must perform work in accordance with all applicable laws and regulations. Further, the design-builder is entitled to adjustment to contract price/guaranteed maximum price and contract time for changes to legal requirements. The design-builder is also required to obtain and pay for all permits except those contained in the owner's permit list. See Doc No. 535 section 2.6.

5. Ownership and Use of Design Documents and Plans

- Does ownership of the design documents change under the design-build delivery system?
- The AIA is not entirely clear as to who owns the copyrights. The AIA seems to imply co-ownership in the A141, § A.1.6.1, of the Terms and Conditions by stating that the "Design-Builder, Design-Builder's Architect, and other providers of professional services individually shall retain" the copyrights to the design documents "furnished by them". With this language, it is not clear if the design-builder has ownership rights in documents it "furnishes" to the owner. A prudent design-builder should include such rights.
- The subcontract between design-builder and architect, AIA Document B143 §3.2.1, however, provides that the architect and its consultants are the authors and owners of all copyrights in their work and that the design-builder's right to utilize the documents terminates if the architect's services are terminated unless the termination was for cause. In the event of termination for cause, the design-builder can give the documents to another professional in an effort to complete the project. Finally, pursuant to section 3.2.5 of the B143, the design-builder is explicitly prohibited from using the architect's design documents on other projects unless the architect gives prior written consent.
- The owner holds a nonexclusive license to reproduce the documents for the project and the design-builder may receive such a license from its architect and other professionals. Additionally, pursuant to section A.1.6.4 of the A141 Terms and Conditions, the owner is granted a license by all of the design professionals upon termination of the design-builder to use the documents for completion of the project, provided that the owner assumes the design-builder's duties to the design professional and pays all amounts due the design professional and its consultants. If, however, the owner does not agree to assume said duties, it can still use the documents to finish the project, provided the owner indemnifies and

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holds harmless the design professional from claims, expenses and attorney's fees incurred as a result.

- DBIA's policy is that the design-builder should retain ownership of the design documents. DBIA's official position is as follows:
 - As to the ownership of the completed construction documents once the project is built by the design-builder, DBIA believes that the documents are instruments of service and that the design-builder should retain ownership thereof. The owner, however, is permitted to make and retain copies of the documents and use them in connection with the use and occupancy of the project. . . . [W]ith the design-builder being afforded appropriate consideration, the documents should not be used for alterations to either the project or on another project. Any reuse without verification or adaptation by the design-builder for the specific purpose intended must be at owner's risk and without liability to the design-builder.
 - The owner can only use the document without the design-builder's permission in the event of a termination for default, although it can use them in connection with owner's occupancy of the project once the design-builder is paid in full and indemnified.
- As a proposed modification, the design-builder may agree, in exchange for the payment in full for performance of the work, to grant the Owner a limited license to use the project's design documents, subject to the following:
 - If the design-builder terminates the agreement, upon payment of the monies the design-builder is entitled to, the owner has the right to use the design documents to complete the project. If, however, the agreement is terminated for default, the owner is entitled to a limited license to use the design documents;
 - Pursuant to the limited license, the owner may use the design documents for subsequent renovation and remodeling of the project, but not for other projects without the express written consent of the design-builder. Moreover, the owner's use of the design document is at its sole risk;
 - The design-builder obtains from its subcontractors property rights and rights of use that correspond to those extended to the owner from the design-builder; and
 - The design-builder and architect may utilize the project information in promotional and marketing materials except that distinctive architectural components of the design shall not be utilized without the owner's written consent.

6. Establishing the Contract Price (Lump Sum, Cost Plus Fee and GM)

- The design-builder usually has a lump sum or cost

plus fee with a guaranteed maximum price ("GMP") contract to design and construction the project.

- Under the A141, the parties have options for payment, including lump sum or cost-plus that is either open-ended or with a GMP. In the event a cost-plus basis is used, the A141 provides a separate Exhibit B listing what costs are properly charged to the owner by the design-builder. A crucial aspect to this setup is that the owner and design-builder agree which of the designer-builder's costs are to be reimbursed. This often requires careful drafting of the costs to be reimbursed as opposed to being covered by the fee.
- Likewise, the DBIA's Standard Form of Agreement Between Owner and Design-Builder provides a lump sum option and a cost plus fee with an option for a GMP.
- A significant concern that design-builders and design professionals have with respect to the design-build process is committing to a contract price based on incomplete design documents. The owner expects the design-builder to develop a coordinated design within the budget established for the project. The solution for the design-builder's concern is to hold off on committing to a price until the design is more fully developed, or to enter into a cost plus fee contract with the setting of the GMP to follow at the time of complete owner criteria and completion of the design.

7. Cost Savings Participation

- If a cost-plus approach is utilized, the A141 does not provide for shared savings of cost, but simply an italicized note that the parties may insert a clause if they wish.
- In contrast, the DBIA's cost-plus contract, No. 530, §6.5, has an entire section entitled "Savings" which gives the parties an option to choose to split the savings on a pure percentage basis, or based on a specific dollar amount.
- It is recommended that owners provide for a shared savings with the design-builder because shared savings is a good way for owners to provide some incentive to the design-builder to bring in the project at a lower price. The most common splits are either 50-50 or 75% to the design-builder and 25% to the owner.
- Additionally, design professionals acting as subcontractors may want to consider adding a provision that allows them to share in any potential savings, since costs may be reduced by design changes and value engineering.

8. Indemnification

- Indemnity is a common theme in the standard form design-build contracts in that all of the contracts

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require the design-builder to indemnify the owner for claims of bodily injury and property damage caused by the design-builder's negligence. Further, standard clauses exist that require indemnification by the design-builder for patent and copyright infringement actions.

- In the A141, the design-builder indemnifies the owner for claims of bodily injury or property damage to the extent caused by the negligent acts of the design-builder, architect, a contractor or a subcontractor. However, the design professional does not expressly indemnify the design-builder. The design-builder's only obligation is to indemnify the design professional against liability arising out of the services of the design-builder's other consultants.
- The AIA language is consistent with the Indiana statutory indemnity limitations or prohibition against broad-form indemnification against sole negligence
- The DBIA Doc. No 535 §7.4 provides that the design-builder indemnifies the owner for bodily injury and property damage, other than to the Work, resulting from negligent acts or omissions of the design-builder and all subcontractors/subconsultants. Further, the DBIA provides for indemnification for employee claims.
- On the other hand, pursuant to §7.5, the owner indemnifies the design-builder for bodily injury and property damage, other than to the Work, resulting from negligent acts or omissions from owner's separate contractors. This does not include acts of the owner. The AIA contract does not provide for this type of reverse indemnity.
- Further, under the DBIA contract indemnity is addressed in the subcontracts with trade contractors and design professionals. In this regard, the design professional agrees to indemnify the owner and design-builder for claims of payment or liens by subconsultants. Additionally, the design professional agrees to indemnify the owner and design-builder for copyright and patent claims, with some exceptions. Missing from the exceptions is when the owner or design-builder provide the design in which case it is the design professional who should be indemnified by those parties.
- There are a number of indemnity provisions that can be negotiated: coverage of losses, economic damages, indemnity for contractual nonperformance, indemnity only to the extent of causation (i.e., pro-rated liability) and the right or exclusion of attorney fees.
- The design-builder will want to pass all indemnification requirements downstream to subcontractors and to be careful to require CGL and E&O insurance policies from lower tier participants to protect its contractual risks upstream.

9. Site Safety Issues (Personal Injury and Hazardous Materials)

- Under the A141, in Article 3, the design-builder is responsible for the supervision and direction of the Work using its best skill and attention. Additionally, the design-builder is fully and solely responsible for the jobsite safety of those construction means, methods, techniques, sequences or procedures for which it gives specific instructions.
- The DBIA Doc. No 535 §2 provides that the design-builder is responsible for project safety and must designate a Safety Representative who makes routine daily inspections and holds weekly safety meetings.
- A modification may include a clause providing that the design-builder's responsibility for site safety is not intended to relieve the design-builder's contractors and subcontractors of their own contractual and legal obligations and responsibility for complying with all laws, ordinances, codes, rules and regulations relating to safety matters. Further, language may be added that the design-builder's contractors and subcontractors are required to take all necessary measures to implement and monitor all safety precautions and programs.
- From an owner's perspective, without an independent architect under contract with it, all responsibility for site safety should be placed on the design-builder. This is anticipated for the design-builder, but modifications should be included to require disclosure of any information or knowledge that the owner may possess regarding the site and also what it observes during construction. Protections or representations by the owner regarding the absence of hazardous materials or asbestos also should be negotiated.

10. Insurance (Including E&O Coverage)

- Contractors are accustomed to carrying Commercial General Liability (CGL) policies that provide third party liability coverage to the contractor arising from its operations and premises which may be owned and/or under the control of the contractor. The CGL policy, however, only provides coverage for liability arising from design which is incidental and necessary to the construction means and methods of the contractor. An Errors & Omissions Policy (E&O) provides coverage for damages arising from negligent design errors and omissions.
- Under the A141, the parties have flexibility in the area of insurance in that the A141 simply provides a blank Exhibit C that the parties utilize to provide their own custom terms. Thus, the A141 has no specific type of coverage listed. However, the AIA §11.2 of the Terms and Conditions sets out eight types of insurance, but surprisingly omitted is E&O insurance.
- Like the A141, the DBIA No. 530, §10.1 similarly provides flexibility with respect to insurance. It does, however, address E&O coverage. See Doc. 535

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section 5.1.4.

- Owners will have to specify whether E&O coverage is required and its limits. In an effort to obtain coverage for the redesign and reconstruction resulting from negligent design or any passive economic loss that may be incurred by the owner, the design-builder should obtain an E&O policy to cover the design exposure of a design-build project. This is true whether the design is done in-house, via a sub-contract, joint venture or by other means.
- It is also critical for the design-builder to carry adequate amounts of coverage because it will be insuring against loss to the entire project. Likewise, layered coverage with key subcontractors providing design services should be obtained as well as with the design professional subcontracts.

11. Warranties

- Architects typically will not make express warranties or guarantees to the design-builder because of the insurability issue surrounding such warranties. However, the A141 §A.3.5.1 of the Terms and Conditions expands the design-builder's warranty to the "the Work" as being free from defects, and "the Work" is defined as "the design, construction and services." Thus, even though architects are not legally required to warrant their designs as flawless, nor are architects potentially insured for such a warranty, the A141 may have created a design warranty by the design-builder to the owner that is not insurable.
- The DBIA Doc. No 535 §2.9 provides for a design-build warranty that the construction will be new, good quality, in conformance with contract documents, and free of defects in materials and workmanship. The warranty excludes "defects caused by abuse, alterations, or failure to maintain the Work by persons other than design-builder or anyone for whose acts design-builder may be liable." The design-build warranty does not limit manufacturers' warranties.
- Modifications may be needed to exclude design services from any express warranties. The design-builder also will want to assign product warranties and to be released from warranty claims in exchange, even if it is after a set period of time.

12. Scheduling and Schedule Enforcement

- The speed of project delivery made possible by the design-build method is a major reason why owners are choosing this method. However, on design-build projects, because the design is not completed at the time of award, the design-builder must not only consider the timing and sequencing of the construction work, but must also address and incorporate the design activities into the overall project schedule. This requires close coordinate with the design professional during the planning phases of a project. Moreover, because the overall project schedule will contain design and construction activities, delays

in completion of either activity have the potential to impact the completion date of the project. Thus, the design-builder must have internal mechanisms in place to allocate the risk of delays between the design-builder and the design professional. The design-builder should also address the responsibility and procedures for mitigating delays, including accelerating the work, in the event delays occur.

- Under DBIA Doc. No 535 §8.2, the design-builder agrees to complete the work in accordance with the time set forth in the contract. If the design-builder is delayed by events beyond its control and through no fault of the design-builder then the contract time is reasonably extended. If, however, the event is beyond the control of both the design-builder and the owner, the contract time is extended without change in the contract price.
- Owners should assess the adequacy of the proposed performance time during the project's programming stage, which is the best time to determine whether the proposed schedule is realistic under any scenario and what will have to be sacrificed in an attempt to complete in accordance with the desired schedule.
- From the owner perspective, strong clauses requiring schedule enforcement and schedule recovery should be included in the contract. To the extent that such clauses are present, the design-builder must ensure that those obligations are reciprocated in its subcontracts so that the risk of loss is passed down to the parties responsible for the schedule delay or slippage.
- Design-builders also should avoid contract terms that propose completion in an unrealistic time frame, or ensure that the contract provides for time extensions for all anticipated and possible delays and disruptions.

13. Liquidated Damages and Early Completion Bonus

- The A141 contains no provision for an early completion bonus. With respect to liquidated damages, the A141's instruction sheet contains a sample clause for liquidated damages that makes the design-builder and its surety liable for liquidated damages in an amount to be set by the parties.
- The DBIA's prime contracts, however, contain an early completion bonus with a blank space to be filled in with a dollar amount for each day that substantial completion is attained earlier than an agreed date. With respect to liquidated damages, DBIA's contract states that the contractor understands that if substantial completion is not attained by the completion date, the owner will suffer damages which are difficult to determine and accurately specify. The DBIA then provides a blank to insert a designated time after the substantial completion date, which is then referred to as the liquidated damages date or

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“LD date” after which liquidated damages begin to accrue.

- An owner may use liquidated damages as a way to motivate the design-builder, however, the effect is often disputes between the parties as they spend time and resources asserting blame for project delays. Owners may want to consider truly providing an incentive to the design-builder with an early completion bonus as a trade off to the liquidated damages clause. Thus, the design-builder can earn additional sums if it is able to better the contract schedule and provide the owner use of its facility before the substantial completion date.
- From the design-builder perspective, liquidated damages clauses should be avoided if possible or limited in amount and only applicable under clearly defined conditions.

14. Addressing Claims (especially Lower Tier Claims)

- Industry forms require timely notice of claims in order to claim contract price and time adjustments. These are typical and to be expected. However, what requires close attention is when one party seeks to shorten or excessively lengthen the notice times, or seeks to impose detailed and prohibitive notice requirements that must be met for a claim to be considered valid. This is true whether the claim is for delays or additional costs.
- The contract forms also provide for a contractual review procedure on claims. In the design-build model, where the architect is under the design-builder, the practical usage of a designer initial review of claims is limited. Therefore, the owner and design-builder may often attempt to draft a mutually acceptable claims procedure that extends from initial notices through informal meetings between party representatives.
- A common problem that repeats in the design-build delivery system is lower tier claims. Standard sub-contract provisions should require the subcontractors to give the prime contractor notice of the delays or claims in sufficient time and with sufficient detail so as to permit the design-builder to make any claim to the owner. It is recommended that the design-builder pass this requirement on to the design professional subcontracts as well.
- DBIA requires subcontractors to give the design-builder notice of delays or claims in sufficient time to permit the design-builder to make such a claim to the owner. This requirement is further passed on to the design professional.
- The design-builder also wants to make sure that any claim procedures or limitations are passed downstream to the subcontractors.

15. Dispute Resolution Procedures and Options

- The A141, Exhibit A, §6.2 provides a checkbox allowing parties to designate whether they will arbitrate, litigate or select some other option for dispute resolution. Mediation, however, is considered a condition precedent to either arbitration or litigation.
- Further, the AIA optionally provides for the designation of a neutral by the parties, or if none is selected, the owner decides disputes. The concept of a neutral comes from concerns that architects who were the initial arbiter of disputes between the parties in the prior AIA contracts were not objective since they were contracted by the owner or design-builder.
- The DBIA does not require a neutral nor have the owner decide disputes; rather, the DBIA requires a process of joint negotiation. See §10.2, DBIA Doc. No 535. The parties first negotiate at the field level (design-builder and owner’s representatives), and if the dispute cannot be resolved, the dispute elevates to the Senior Representative. In the event the parties cannot negotiate, mediation is mandatory prior to arbitrating the dispute.
- The dispute resolution procedures can be tailored in a number of ways – the selected method of dispute resolution (arbitration versus litigation), the type of rules governing those proceedings, what constitute the triggering events, the levels of pre-suit or pre-arbitration negotiations or steps required, the types of claims subject to these procedures, the type and content of claim notices required, the issue of joinder of claims and selection of venue and choice of law for claims resolution.
- The design-builder needs to be sure that its subcontractors adopt the same dispute resolution process as its contract with the owner. Additionally, the design-builder should permit joinder of all needed parties into any mediation or arbitration. In this regard, it is important that all those who might be subject to indemnification be required to resolve their disputes in the same forum as the design-builder and the owner.

16. Termination Rights and Remedies (including Termination for Convenience)

- Under the A141, the owner may terminate the design-builder for cause if the designer fails to provide enough skilled works or property materials, fails to make payments to subcontractors, violates laws or otherwise substantially breaches the contract. In the event of termination for cause, the owner is required to give the design-builder seven days’ written notice.
- If, however, the owner terminates for convenience, pursuant to §A.14.4 of the Terms and Conditions, before the start of construction, the owner pays for design services performed, plus costs due to termination, plus overhead and profit on design services not yet completed. If the termination occurs

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after the construction begins, the owner pays for work performed, termination costs, plus overhead and profit on work not performed. By making these payments, the owner gains the right to continue to use the design-build documents with the completion design-builder.

- Under DBIA Doc. No 535 §11.2, termination for cause includes failure to supply sufficient manpower or materials, failure to comply with law, failure to pay subs and suppliers, etc. The owner must give a seven day cure period, and if not cured, the owner may take materials, equipment, scaffolding, etc. and employ any person to complete the work. The design-builder does not receive payment until Final Completion.
- With respect to termination for convenience, pursuant to §11, the owner may do so with ten days written notice, but the owner has to pay for costs plus overhead and profit plus an unspecified sum agreed upon by the owner and the design-builder.
- The key issue in design-build to consider carefully is how will the owner treat the design-builder upon termination for convenience at the end of the design phase. What happens to lost anticipated profits on the unperformed work? Are costs of shutdown covered? An owner will be reluctant to pay lost anticipated profit on unperformed work but a compromise can be negotiated that sets a lump sum "buy out" price in exchange for use of the design documents.

III. DESIGN LIABILITY CONSIDERATIONS WITH DESIGN-BUILD

In this section of the paper, the focus shifts to the design side liability exposure present in design-build. For the design-professional, the issue becomes whether the design liability for errors and omissions increases or decreases. In addition, there may be different liability issues facing the designer in its new found role as a subcontractor to the design-build contractor. Likewise, the prudent contractor acting as the design-builder must also recognize these same risks, which now may be on its side of the ledger under design-build.

A. The Architect as a Subcontractor to the Design-Builder

- Often the design-builder is a traditional general contractor who contracts with an architect or engineer to perform the design related services for the project. In some cases, however, design-builders have registered architects on staff who perform the design work themselves. Single point responsibility of the design-builder requires the design-builder to assume responsibility and control for the design and construction of the project. Acting as subcontractor to the design-build contractor, who is now the single point responsibility, is a new role for the architect and presents legal issues the architect should consider in negotiating the terms of its subcontract.
- Under this method, the subcontract between the con-

tractor and the design professional should address many issues not dealt with in the typical subcontract with a trade contractor. Of particular importance is the designer's responsibility if any aspect of the design does not comply with building codes, regulations, or professional practice standards. The design subcontract may impose liability on the designer for the cost of any such failures, including losses incurred by the owner, by the ultimate end users, and by victims of personal injury. The losses to the owner may be economic as well as personal injury.

- The contractor should be concerned with the effect any design deficiencies would have upon the contractor's cost of materials, labor, overhead, and other job costs and on the safety of the workers. Other issues in the design subcontract include other indemnifications, licensing, professional liability coverages, conflicts of interest, budgets, and time of performance.
- Some of the key considerations in addressing this relationship include the following:

1. The Design Contract is with the Design-Builder and Not the Owner

- The design-builder's architect contractually is just one among many subcontractors. The design professional is used to being in direct contract with the owner. Therefore, the designer answers only to the design-builder and contractually acts in its interest and not necessarily in the interest of the Owner.
- To the extent that there are design components that the design-build team is providing but which are being designed by the specialty subcontract trades, the design-builder's architect will not even have these trades under its design umbrella, as may otherwise be the case with traditional design where the architect would be contracting with engineering consultants. Alternatively, the design services subcontract may retain the usual engineering consultants under its umbrella. Regardless, the design professional will be responsible for their performance to the design-builder.
- As such, in drafting the design-build subcontract terms, particular attention must be paid towards drafting the appropriate duties and obligations, and expectations, for the subcontract design components since it is the Design-Builder who will be ultimately responsible for their work upstream to the Owner.

2. Loss of Design Independence

- By use of the design-build project delivery system, the role of the architect is somewhat diminished in conjunction with the importance of design to the project. Traditionally, the architect has played

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a secondary role to the contractor in a contractor led design-build project. The design-builder, by leading the design-build delivery process, controls many aspects of the scope and quality of the design. There is a concern that, in order to keep costs within a lump sum price or a set GMP, will certain design-builders seek to degrade the quality of the materials and design?

- The design professional will have to guard against that situation. For the design professional, the contractual duties owed may collide head on with the designer's opinions of the best design options and features.
- Contractual protections and clarifications are warranted to address these concerns.

3. Permit Applications and Stamping the Plans (Residual Direct Liability to the Owner?)

- There remain the licensing duties and obligations on the designer as the preparer of the design which remain unchanged regardless of the contractual arrangement.
- The AIA A141 Standard Form of Agreement Between Owner and Design-Builder (2004 ed.), §A.3.2.9, also has created a new certification to be issued by each of the design-builder's professionals that, to the best of their knowledge, the documents are consistent with the owner's criteria and comply with applicable standards, laws and regulations and that the owner's own consultants can rely upon the accuracy of the certifications.
- This provides the owner a level of assurance that the documents provided by the design-builder will reflect the owner's criteria. However, this certification may create direct liability to the owner and other consultants that rely on it.
- The DBIA does not require such a certification from a design professional.

4. Code Compliance

- The parties must determine which design professional will be ultimately responsible to the owner for code compliance, including those issues inherent in or created by the owner's criteria package.
- Since the design-builder's architect will be the person to sign and seal the ultimate design by code authorities, the AIA approach in the A141 is to impose ultimate responsibility for code compliance on the design-builder's architect. This makes imminent sense from both the owner's perspective and that of the design-builder. Therefore, the design-builder's architect may bear the ultimate financial cost for code violations created by criteria provided by the owner or created by the owner's design criteria consultant.

5. Ownership and Use of Design Documents and the Plans

- Ownership of the design documents should be addressed in the subcontract. Careful attention to the distinction between outright ownership of the design versus a limited project license must be made.
- The treatment of ownership versus license usage must be considered in the context of the design-builder termination for fault or convenience of the owner. Likewise, how will ownership and use of the design documents differ when the termination is that of the design professional under its subcontract with the design builder.
- The architect should make clear the confidential relationship and proprietary information with respect to the design documents or risk an owner or design-builder subsequently distributing or using the architect's design documents.

6. Contingent Payment

- As a subcontractor, the design professional may find itself in the unfamiliar position of being subject to contingent payment terms under its subcontract. This is a strange and alien world for design-professionals.
- Under the AIA A141, §A.9.6.2, prompt payment of the architect by the design-builder "upon receipt of payment from the Owner" is required. The exact time for payment is set out in the B143 Design-Builder and Architect Agreement, §5.8, which ties payment to the date of the architect's invoice, not to the date the owner makes payment. Of course, under a design-build subcontract that is prepared by the design-builder, different payment terms may be included as noted above.
- The DBIA takes the position that the design-builder is often in a better position to assess the owner's financial condition such that many parties agree that the design-builder, rather than the design professional, will assume the ultimate risk of nonpayment by the owner. Thus, the design professional agrees that all payments to the design professional, whether a progress payment or final payment, or for changes or delays, shall not be due until after the design-builder actually receives payment on account of same from owner. This provision is commonly referred to as a "pay when paid" clause and most courts interpret these provisions as creating a timing mechanism where the payments to the design professional will be postponed for a reasonable amount of time to allow the design-builder to obtain funds from the owner or another source. If payment is never received by the design-builder, and the design professional is not at fault, the design-builder will ultimately be responsible for

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paying the design professional for its work.

- Additionally, if the parties truly want to place the risk of owner nonpayment on the design professional, a “pay if paid” clause should be included that effectively transfers the risk of the owner’s nonpayment to the design professionals.

7. Retainage

- Retainage will be a difficult issue for the design-builder and design professional to address. Constructors are used to the owner withholding a specified percentage of the construction contract price as retainage until the work is completed. Trade contractors are also used to having a portion of their contract held as retainage by the constructor. Retainage, however, has not traditionally been used in agreements between owners and design professionals. Thus, design professionals are not used to having part of their payment for completed services withheld until final completion.
- One solution to this issue, is to allow retainage on the design professional’s work, but only to the extent that the owner has withheld from the design-builder retainage on the design professional’s work.
- Another option is to provide for progressive reduction in retainage as overall project completion is achieved.

8. Indemnification of the Contractor

- As discussed above, in the A141, the design-builder indemnifies the owner for claims of bodily injury or property damage to the extent caused by the negligent acts of the design-builder, architect, a contractor or a subcontractor. However, the design professional does not expressly indemnify the design-builder. The design-builder’s only obligation is to indemnify the design professional against liability arising out of the services of the design-builder’s other consultants.
- The DBIA provides that the design professional agrees to indemnify the owner and design-builder for claims of payment or liens by subconsultants. Additionally, the design professional agrees to indemnify the owner and design-builder for copyright and patent claims, with some exceptions.
- As stated previously, the design-builder will want to pass all indemnification requirements downstream to subcontractors and to be careful to require CGL and E&O insurance policies from lower tier participants to protect its contractual risks upstream. This will include the design professional.
- Thus, for the design professional, this may lead to potential contractual exposure to liability that it may find to be uninsurable. This, in turn, may lead to a softening of this requirement if insur-

ance coverage is placed at risk.

9. Site Inspection Duties and Obligations

- How does the traditional role of site visitation and observation of the work change under a design services subcontract? Under industry AIA and DBIA forms that role continues in a familiar format.
- However, under a design-builder’s subcontract terms, these duties and obligations may be limited or eliminated altogether. How then does a design professional carry out its residual duties required as project architect and under the permits obtained and licensing statutes?
- A related issue is to whom does the design professional owe its primary obligations – its contractual party, the design-professional, or the owner?
- In general, architects should agree only to observe the progress of work for general conformance to the documents and be wary of any changes to this clause that require the architect to guard the contractor against defects in its own work.

10. Punchlist Duties and Obligations

- The punchlist organizes and details those items on a project which remain incomplete, broken, lacking parts, or requiring the owner’s review. On traditional design-bid-build projects, the architect or engineer helps prepare the punchlist after periodic site visits and then certifies final completion when the punchlist work is done.
- There remain potential issues with respect to inspection and certification of project completion, specifically, issues with repeated punchlists and the determination of proper punchlist work compared to that which is warranty work.
- How does design-build affect these punchlist duties and obligations? As with site inspections, does the architect owe any duties arising out of the punchlist obligation to the design-builder or to the owner?
- One solution is to have the design professional conduct the equivalent of pre-punchlist inspections on a regular basis so that the work can be corrected at the time, thereby avoiding the delay and costs of true punchlist work at substantial completion of the work. Under a design-build model, this type of cooperation between the design-builder and design professional is possible.

11. Construction Defects (Quality Control Role and Use of the Commissioning Process)

- In a perfect world, an owner utilizing design-build would step away from the design and construction and simply limit its role to oversight.

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However, owners often aim to incorporate measures to ensure quality and avoid construction defects, in addition to relying on a best-value selection process. Thus, owners may perform quality assurance and quality control (QA/QC) functions with its own forces or through an independent firm. However, it is advisable to give the design-builder primary responsibility for developing and implementing the QA/QC program for the project. Otherwise, the owner runs the risk that direction provided by QA/QC personnel could lead to claims by the contractor for additional time and/or money that might result in transfer of liability for third-party claims from the design-builder to the owner.

- Commissioning is another way to avoid and deal with construction defects. Commissioning is defined as a systematic process of ensuring from the design phase to at least one year after construction that all building facility systems perform interactively in accordance with the design documentation and intent, and in accordance with the owner's operational needs, including training of operational personnel. Commissioned buildings are more likely to operate as expected after the construction phase, and are less likely to experience ongoing problems.

12. Insurance (E&O Coverages and the Importance of Layered Protection)

- Design of a project presents significant design exposure to a constructor undertaking a design-build project. With respect to design liability and the resultant redesign and reconstruction resulting from negligent design, the constructor cannot rely on a CGL policy as there is no coverage for the redesign and reconstruction resulting from negligent design. The constructor should consider obtaining a stand alone E&O policy to cover the design exposure of a design-build project, even if the design is acquired through an architect subcontractor.
- Multiple issues are present with regard to E&O coverage by the design-builder's design professional subcontractor. How much coverage should be obtained? Typical policies carried by the design professional may be inefficient. Should additional coverage under a project specific rider be obtained? Can it be obtained?
- How much E&O coverage should be obtained under the design professional's subcontract on each of its consultants? Layered protection from multiple policies is almost a must have requirement for the design-builder in order to protect it from its upstream design exposure to the owner.
- The project owner should be equally concerned over securing the maximum amount of E&O coverage from the design-builder and should

require insurance from all design participants on the project.

13. Delays and Risk of Delay Damages

- The term "delay" is used to either describe the additional period of time it takes the contractor to achieve substantial completion over and above the date contemplated in the construction contract or a specific event which causes the time for completion to be extended.
- Delays can be caused by many different events including unanticipated weather, unforeseen conditions, owner initiated changes, defective design, lack of access to the work, or the contractor's fault. Delays are either excusable or not, and either compensable or not.
- Standard subcontract provisions require the subcontractors to give the general contractor notice of the delays or claims in sufficient time to permit the contractor to make such claim to the owner. The design-builder will pass these same types of requirement on to the architect under a professional services subcontract.
- This is a new type of contract term or risk for the design professional. Direct contractual liability for delays like those terms set out in standard contractor subcontract forms are relatively foreign to design professionals. They should not be overlooked during the negotiation stage because the risk of delay damages liability is substantial if the design professional delays the project.

B. THE BRIDGING CONSULTANT ROLE

On design-build project delivery systems the design professional may have another role besides that of the project architect under a design-build team. It may assume the role of the owner's independent design criteria consultant or DCC. This role also has been referred to as that of the bridging consultant.

1. What is Bridging?

- On design-build projects, the Design Professional usually is directly under contract with the Design-Builder. The Owner does not have an "independent" design professional watching out for its interests, acting as Owner's agent. Additionally, the cost of preparing designs sufficient to submit cost proposals in a design-build competition may limit the field of interested design-build teams. To solve both issues, some Owners retain an independent Architect or Engineer to prepare preliminary designs, and stay on board during the construction phase to review pay applications, review the work, and certify the completion date. This process is known as "bridging".
- In bridging, the owner hires a design consultant to do more than just prepare performance criteria. Instead, the bridging design professional prepares design

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documents, usually in the magnitude of approximately 30% complete. These schematic design documents are then used to obtain competitive proposals from design-build teams. The design-build teams include Architects and Engineers who will complete the technical drawings with the remaining 70% of information needed for construction. The design criteria consultant (“DCC”) remains as the Owner’s representative to provide limited construction administration services, including final inspections and closeout.

2. Advantages and Disadvantages to Bridging

Advantages

- a. Because the project’s program and design-build selection are important to success, Owners need help since they have more responsibility for defining and procuring than in traditional construction where a design professional firm traditionally helps with programming and Contractor selection. This poses opportunities for a new type of Owner consultant, such as program managers, or new roles for traditional design or construction management firms.
- b. Modest stipends, if any, can be awarded to the unsuccessful design-build teams but it does not cover the entire cost of the actual design competition. Only larger firms can afford to regularly write off uncompensated design efforts. With bridging, the design-build teams do not have to incur a costly design fee just to compete and can use the preliminary design prepared by the bridging firm. This should allow for more qualified firms to participate.
- c. Owners familiar with the design-bid-build process are accustomed to having a design professional with whom to discuss the project, to advise them and to oversee the Contractor. Design-build without a DCC requires the Owner to place a lot of trust with the design-build team. Owners who are not willing to do so may use bridging as a transition into design-build.
- d. An Owner choosing to use a DCC, may do so for whatever purposes the Owner desires. It is creating a direct contractual pathway with a design professional that otherwise will be absent in the Design-Build relationship, where the Design-Builder’s design professional will be in privity with it, not the Owner.
- e. The Design-Builder may wait until receipt of the Owner’s criteria package before choosing the design team. For example, if the Owner wants a curtain wall building, the Design-Builder may select the Architect based on prior experience with such systems or components. The same may be true of other consultants, such as structural, mechanical or electrical. Thus, the Design-Builder’s negotiation with the design team may be more realistic

and efficient as the Design-Builder will know the level of development of the project criteria actually provided by the owner.

- f. With the use of bridging, a more enforceable fixed price or cost plus fee with a GMP contract may be obtainable sooner and at less pre-construction cost as compared with any other method.
- g. There may be net overall construction cost savings for a fully equal product over the design-build furnished design because the DCC has a greater impact and role and there is less guesswork in trying to meet the Owner’s expectations or criteria that are not as clearly spelled out otherwise. Likewise, to the extent that more of the design and construction details and criteria are set out by the DCC, it makes sense that tighter bidding and pricing will be achieved.
- h. There may be significant reduction in exposure to claims against the Owner in terms of Contractor-initiated change orders.
- i. The presence of a DCC throughout the design-build process should aid the Owner (and the Design-Builder) in addressing proposed value engineering concepts, thereby improving final project delivery costs.

Disadvantages

- a. Bridging potentially limits the design-build team from significant creativity to the extent that basic solutions and concepts are determined before the design-build team begins.
- b. Work performed in the DCC performance development phase determines many of the design and functional aspects of the project for which the design-build team has to take responsibility (and liability), without any real input, leading for greater potential for disputes.
- c. True design-build permits fast-track construction with the ability to procure long lead time items and begin field operations well before a project is at the 30%+ point of design.
- d. By utilizing the DCC to develop a more detailed set of bridging documents initially, the Owner will retain more design liability risk notwithstanding the use of the design-build delivery system.

3. Mini-Bridging or Design Assist Within the Design-Build Team

- Key design-build subcontractors such as the MEP, structural steel and fireproofing trades, typically are required to design their own systems or components. When a trade subcontractor is hired to design-build their portion of the work for a construction project, it is often not known who will do the actual design. Will their portion of the work be done in-house or subcontracted out? What are the qualifications and

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experience of that subcontractor's designer? Are they licensed or insured?

- An alternative to having the subcontractor take on that role alone, some design firms have been utilizing "mini bridging" or "design-assist" which is a process where the design-build lead design firm hires engineering consultants to prepare design criteria and performance specifications. These designs are given to trade subcontractors who act as design-build subcontractors for their respective portions of the project.
- The benefit to this approach is that the architect can select trusted engineering consultants to prepare design criteria that the architect knows will meet the project needs. This provides comfort to an architect working with design-build trade subcontractors for the first time or those in whom the prime design-builder does not have complete confidence due to the nature of the project.
- On the other hand, sophisticated design-build subcontractors have specialized systems and products and employ in house engineering expertise that is equal to or superior to the knowledge that the Architect may possess. The argument can be made that these subcontractors' engineers, or select outsourced engineering firms, are best equipped to design the details of the systems and components in question. This frequently is the practice with the shop drawing process. By requiring stamped shop drawings prepared by a professional engineer, the Architect of Record can and does rely upon the particular trade's expertise. It also has an advantage to the Design-Builder by shifting more of the design risk down to those trades best equipped to address it and prevent design problems in the first place.
- The trade subcontractors must prepare designs that meet the performance criteria. Architect-led design build teams often require performance bonds from these trade subcontractors. Requiring professional liability insurance from these subcontractors is recommended since the surety bond may only guarantee that the work will be completed if the subcontractor defaults, but it will not pay damages due to design errors or omissions by the subcontractor.

4. Use on Public Projects of the Design Criteria Consultant

- With the 2005 creation of the new Indiana Design Build Public Works Projects Law ("Design Build Statute") public owners in Indiana may now use the design-build delivery system in conjunction with the bridging method as an option on publicly funded projects. This new law, which became effective July 1, 2005, is codified as Title 5 of the Indiana Code, and specifically at Ind. Code §5-30.
- As part of the design-build selection process, the public owner, on its own or by engaging a DCC, develops design criteria, layout, performance standards and other information describing the gen-

eral characteristics being sought for the project, not unlike the information an owner would provide a design professional hired to prepare a final design on a traditional job.

- With regard to the early stages of the selection process the owner is required to prepare Requests for Proposals. Each Request for Proposal issued to the design-builders determined to be qualified by the Request for Qualifications process must include a design criteria package that is the heart of the procurement. The design criteria are developed by the "design criteria developer" who is defined to be a registered architect or a professional engineer.
- While the detail of the design criteria is not defined the design criteria package may include: legal descriptions and surveys; interior space requirements; material quality standards; preliminary design criteria; special equipment requirements; cost or budget estimates; quality assurance and quality control requirements; site development requirements; compliance with applicable codes and ordinances; permits and connections to utilities; requirements for storm water and roads; parking requirements; soil borings and geotechnical information or performance specifications; life cycle costing and energy consumption requirements; performance specifications, including warranties; and project schedule.
- Additionally, the design criteria package must include: Instructions; Proposal forms and schedules; General and special conditions; The basis for evaluation of the proposals, including a description of the selection criteria with the weight assigned to each criteria; a determination of the common construction wage; and any other instructions, documents or information the agency considers relevant. The agency may also provide a stipend to a non successful bidder to encourage competition.
- The role of the statutory DCC is not dissimilar to the bridging consultant, although more limited potentially if the owner elects not to retain the DCC post contract formation with the successful design-builder.

5. Design Liability Involving Bridging Under the Spearin Doctrine

- There is a large body of state and federal case law which holds the owner or the preparer of the plans and specifications liable for any deficiencies therein. The basis of liability is an implied warranty of the fitness of the specifications that if they are followed a satisfactory product will result. If the specifications prove to be defective, unworkable, or incomplete the contractor is entitled to recover additional compensation for the extra work required in attempting to perform under the defective specifications, or to do corrective work necessitated by the defects.
- Indiana has recognized the doctrine, though not explicitly by name. Indiana has accepted the principle that detailed specifications imply a warranty. If the contractor is bound to build according to those

specifications, the contractor will not be responsible for the consequences of defects in the plans and specifications (citing Spearin). The Trustees of Indiana Univ. The Aetna Casualty & Surety Co., 920 F.2d 429 (7th Cir. 1990). See Allied Structural Steel Co. v. State, 148 265 N.E.2d 49 (Ind. Ct. App. 1971).

- What is bridging's effect on the Spearin doctrine? This will depend upon the level of design detail provided by the DCC and the amount of design discretion given to the design-build team. The Veterans Administration Board of Contract Appeals elaborated on this concept as follows: "A properly written and administered design build contract transfers the risk of design and sufficiencies from the [owner] to the design builder. The owner is shielded when the design results in cost over-runs or does not work. . . Specifications included in a design-build contract, however, to the extent that specific requirements, quantities, and sizes are set forth in the specifications, place the risk of design deficiencies on the owner." Appeal of Donahue Electric, Inc., 2002 WL 319, 27907 (VABCA No. 6618).
- Therefore, once the Owner provides detailed specifications via its DCC the Owner will likely carry the risk that comes along with that substituted discretion under the Spearin doctrine. If the Owner provides erroneous or faulty information, the Owner will likely bear liability under an implied warranty.
- In Indiana, there is a published case that, while not involving bridging, does address the liability of a design professional that followed owner furnished criteria. In Strauss Veal Feeds, Inc. v. Mead and Hunt, Inc., 538 N.E.2d 299 (Ind. Ct. App. 1989), an architect was engaged by the owner to design a

plant suitable for the processing of liquid veal feed. The owner used a new process which was found to be in violation of state environmental laws. The plant was designed in compliance with codes and in compliance with the owner's process. The architect was found not to have breached its contract or to be negligent because it did not have a duty to provide sanitary engineering services with respect to waste treatment and disposal. Likewise, the architect did not breach its implied warranty that the plans and specifications would be suitable for the purpose for which they were prepared when the architect designed the plant in compliance with applicable building and zoning codes, designed the facility suitable for the process of veal feed, as that process was described by the owner, even though the facility violated state environmental laws when in operation.

- By logical extension, if the architect was that of the Design-Builder, would the same result be achieved? The Design-Builder would make the same reliance argument as the architect made in Strauss Veal. To avoid such a result, the Owner should clearly define the Design-Builder's entitlement to rely upon the DCC's performance criteria. Regardless, the Spearin Doctrine may still come into play.
- Therefore, in summary, on a design-build project the owner usually provides general design criteria and desired performance standards (performance specifications) and the detailed construction plans and specifications are authored by the design-build team, not the DCC. This means that the Spearin implied warranty of specifications will likely not run from the owner to the design-builder and the design-builder bears the risk of non-performance. However, bridging may change this result. The more detail and prescription contained in a set of bridging documents

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- General Coverage of the Mechanic's Lien Remedy, ICLEF, 2003 and 2005; Vesting and Priorities Among Competing Liens, ICLEF, 2003 and 2005; Owner Personal Liability to Remote Claimants, ICLEF, 2003 and 2005; Design Liabilities: Defective Plans and Specifications and Shop Drawing Risks, ICLEF, 2001; Construction Delay and Impact Claims, ICLEF, 2001; Mechanic's Liens, ICLEF, 2001; General Coverage of Lien Formalities & Priorities, ICLEF, 1999, 2003; Mechanic's Lien Update-House Bill 1367, ICLEF, 1999; General Coverage of the Mechanic's Lien Remedy, ICLEF, 1990, 1994 and 1998; Acquiring and Perfecting Lien Rights, ICLEF, 1982, 1985 and 1987; Specifications, Changes and Changed Working Conditions, ICLEF, 1983; Managing Complex Construction Law Issues, National Business Institute ("NBI"), 2005; Construction Payment Remedies, NBI, 2005; Indiana Construction Law (Field Changes, Differing Site Conditions, Job Delays and Delay/Impact Claims, Contractual and Statutory Payment Remedies, and Dispute Resolution), NBI, 2000, 2002, 2003 and 2004; Construction Law (Contract Changes, Differing Site Conditions, Delays, Surety Bonds and Payment Remedies), NBI, 1987, 1988, 1990, 1991, and 1995; Managing Construction Projects in Indiana, Lorman Education Services ("Lorman"), 2006 and 2007; AIA Contracts, Lorman, 2004, 2005, 2006, 2007 and 2008; Public Contracts and Procurement Regulations in Indiana, Lorman, 2007; Construction Delay Claims, Lorman, 2006; When Construction Projects Go Bad in Indiana, Lorman, 2006; Indiana Mechanic's Lien Law, Lorman, 2005; Creative Strategies for Project Completion and Litigation Avoidance, Lorman, 1999, 2000, 2001, 2002, 2003 and 2004; Construction Claims (Contract Disputes, Bid Mistakes, Defective Specifications, Field Performance Claims, Defective Work, Defaults and Payment Claims), Lorman, 1999, 2000, 2001 and 2002; Construction Contracting For Public Entities in Indiana, Lorman, 1999 and 2001; Construction Issues, Lorman, 2001; Public Contracting Codes & Competitive Bidding, Lorman, 2001; Architect and Engineer Liability and Practice in Indiana, Lorman, 2000; Law For Design Professionals, Lorman, 1999, 2000 and 2001; Construction Defect Claims, Lorman, 1999 and 2000; Mechanic's Lien Law, Lorman, 1997, 1998, 1999, 2000, 2001; Construction Management/Design Build in Indiana, Lorman 1999; and Construction Claims & Liens, Lorman, 1995. **Instructor:** ABA Forum on the Construction Industry, Division 4, Project Delivery Systems Presentation, A Quick Primer on BIM's Legal Implications, 2007; ISBA Construction & Surety Law Section Presentation: Changes and Impacts to the Scope of Work, 2007; ISBA Construction & Surety Law Section Presentation: New Developments and Trends on Delay and Impact Claims, 2004; Associated Builders and Contractors, Inc. ("ABC") Safety and Education Summits, 2006 and 2007; ABC-DSV Construction Law Series, 2007-08; ABC Seminar: Contractual Risk Transfer, 2006 and 2007; ABC Seminar: Project Documentation - From Contract Formation Through Project Completion & Claims, 2007; AGC/I Construction Institute ("AGC/I") Seminar: Subcontract Agreements, 2006; AGC/I Seminar: The Risks of Contractual Indemnification: A Panel Discussion on Negotiating Indemnification Provisions, 2006; Construction Advancement Foundation ("CAF") Seminar: The New 2007 AIA Documents, 2008; CAF Seminar: The Risks of Contractual Indemnification, 2007; AGC Education and Research Foundation

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