PROFESSIONAL LIABILITY IN THE CONSTRUCTION PROCESS:

A GUIDE FOR PROJECT OWNERS AND THEIR RISK MANAGERS

PLAN
PROFESSIONAL LIABILITY AGENTS NETWORK
-Since 1984-

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ABOUT THE PUBLISHER

The Professional Liability Agents Network, Inc. (PLAN) is a network of insurance brokers specializing in professional liability insurance and loss prevention services for design professionals. Since 1984, we've been harnessing the collective knowledge and experience of brokers across the US, Canada and Puerto Rico to meet the needs of architecture, engineering and consulting firms.

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INTRODUCTION

As construction projects become more complex, the need for specialists in all areas of the design and building process has increased. Today, a project often requires the expertise of a wide variety of consultants: architects, engineers, cost estimators, value engineers, geotechs, environmental consultants, preservationists, programmers, urban planners, green designers, energy specialists, seismic experts, facilities managers and construction managers. The list goes on and on.

The introduction of these parties into a construction project means that risk management is more complicated than ever before. The liability issues facing project owners and their risk managers are far-ranging and can make or break a project. To control these exposures, risk managers call upon a diverse combination of risk management and loss prevention tools. By imposing stringent risk allocation techniques, drafting air-tight contracts and specifying strict insurance requirements, owners hope they can protect their assets while minimizing the likelihood of expensive delays, disputes and litigation.

Although these risk management tools are generally effective, they must be customized and applied correctly, targeted to a specific party to the project. Owners who are used to handling risk management issues with contractors, for example, are often surprised to learn that the risk management tools used with contractors don't always apply to architects or engineers.

Even though a part of the same construction process, architects and engineers are very different from contractors. These differences lie not only in the "languages" design or environmental professionals speak, but also in the roles they undertake, the responsibilities they legally assume, the standards they are expected to uphold and even the nature of the liability insurance they carry (i.e., professional liability insurance).

We've created this publication to help project owners and their risk managers understand these differences and anticipate and avoid risks and problems on their construction projects.

To put things in perspective, we'll start with a brief look at today's projects, some of the emerging project delivery methods, and the architect's, engineer's and environmental consultant's roles on those projects. (To keep things simple, we'll refer to all of these consultants as A/E/Es.)

Next, we'll look at the A/E/E's obligations under the law. We'll explain some of the peculiarities of professional service contracts and how the A/E/E's legal duties carry over into his or her contracts and even to professional liability insurance.

We'll also explain some of the factors that make professional liability insurance so highly specialized and, to those outside the profession, a bit difficult to understand. We'll review some of the issues that go into specifying insurance requirements for A/E/Es. Finally, we'll consider ways to avoid problems on construction or remediation projects and review some of the best methods to handle disputes that do arise.

Along the way, we'll define some of the more common construction and insurance industry terms. (Look for the ***bold italics,*** and then you may want to check the Glossary.) We think that you will find this information useful.

This document has been written as a guide for owners in both the private and public sectors. From a risk management perspective, there is little substantive difference in the liabilities associated with projects in the two sectors. While it is true that the process of selecting and contracting firms for both professional and construction services may be a bit more complex and inflexible in the public sector, the underlying principles of risk management are generally the same. When differences between the public and private process are material, we will point them out.

CHAPTER 1

A BRIEF LOOK AT TODAY'S CONSTRUCTION PROJECTS

The design and construction industry continues to evolve right before our eyes. Today, there are many different ways to plan, design, manage and build a project. Each option has its own advantages and disadvantages, and each gives the participants different roles, responsibilities, risks and rewards. The right choice of project delivery method will vary from project-to-project and depends on several factors, including the project size and complexity, the budget and schedule, and the owner's needs and experience with construction projects.

TRADITIONAL PROJECT DELIVERY: DESIGN-BID-BUILD

Not long ago, almost every project built in this country was delivered in pretty much the same fashion. This process, known as ***design-bid-build,*** is still widely in use today.

With design-bid-build, the owner hires an A/E/E whose job is to help the owner define the project requirements and then create the design to meet those requirements. This individual is usually known as the ***prime.***

Except on an engineering-dominated project -- a highway, a bridge, an environmental remediation project or a chemical plant, for instance -- an architect usually serves as the prime. He or she acts as both "composer" and "conductor" of the project's design.

First, the prime conceives of and translates a design idea into a ***schematic design*** (conceptual) and then, with the owner's approval, prepares the detailed project documentation (drawings, specifications and other contract documents). The prime will administer the construction contracts and observe the progress of the work, as well as review submittals, process construction change orders, and handle payment applications and other submissions from the contractor. The prime may also provide pre-design and post-construction services. As the prime A/E/E for the project, he or she assumes professional responsibility for all design decisions.

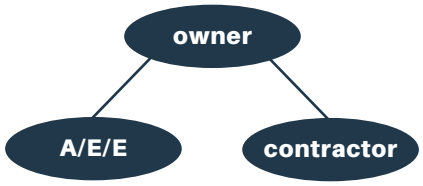
It takes a great many people with specialized knowledge to put together what may seem to be a fairly simple project. That's because every project is different, with variations in owner requirements, scheduling deadlines, financing parameters, site conditions, building codes and regulations, and aesthetic demands.

Depending on the size and complexity of the project, the prime may call on various specialist engineers and other ***subconsultants*** to help with aspects of the design. These "subs" may design the structural, mechanical and electrical systems, or the landscaping of the site. Together with the prime, these subconsultants produce portions of the construction documents for the project -- the drawings and specifications -- and, based on these documents, contractors bid for the job or are preselected, and a contract is negotiated.

The selected contractor is hired by the owner to construct the project and assume the responsibility for construction quality, timeliness, cost, safety and construction means and methods. The contractor in turn may hire specialist ***subcontractors*** of its own.

Often, the prime A/E/E stays involved during the construction phase, providing contract administration services and peering over the contractor's shoulder to see that the work is generally conforming to the designers' plans. If construction is not generally conforming to the design, the prime will bring these issues to the owner's attention.

EXHIBIT 1



Design-Bid-Build

As you can see in Exhibit 1, the contractor and the A/E/E each have contractual relationships directly with the owner. Although they are expected to work together to complete the project, they have no contract with each other.

Advantages to Owners:

- The design-bid-build process is straightforward and may be the easiest for owners to manage, with contracts and direct lines of communication for both the A/E/E prime and the contractor.
- Owners can actively participate in the design process and have more control of the project.
- The widespread use of design-bid-build breeds familiarity, and each party's role is separate, distinct and well understood.
- The design is executed and substantially completed prior to construction.
- The prime A/E/E is typically more active during the construction phase than with other project delivery methods, so design intent is more likely to be carried through construction.

Disadvantages to Owners

- Because of the linear nature of the design-bid-build process, the project usually takes longer to complete than do alternative approaches where design and construction can be concurrent or fast-tracked. A delay in any phase can set back the entire schedule.
- The strict separation of design and construction may hinder useful communication between the A/E/E and the contractor regarding constructability and cost issues.
- Change orders and delay claims are more likely than in other project delivery methods.
- The potential for conflict among the three major parties can be greater than under some other methods, and the owner may be caught in the middle of disputes between the design and construction teams.

Still, design-bid-build may be best in situations where the owner wishes to be involved in the design and wants to see it fully developed and priced before construction starts. These owners cherish the protection and comfort of a well-understood, tried-and-true delivery process and have time to invest in the process.

PROJECT DELIVERY ALTERNATIVES

Traditional design-bid-build delivery has worked reasonably well for a long time. But as projects have grown larger and more specialized and complex, the management of these projects has become more cumbersome and time-consuming. In some instances, instead of having a single prime A/E/E, owners have found themselves having to deal with several specialist A/E/Es, or multiple primes, all of whom have direct contractual relationships with the owner.

Clearly, owners need (and have demanded) other options. They want projects delivered in less time, for less money and with fewer disputes. Some owners want to be less involved in the management of the construction project. Others want to deal with a single entity that would design, build and manage the entire process. The construction industry has responded to these demands with several alternative project delivery options, including design-build, bridging, construction management and integrated project delivery (IPD).

DESIGN-BUILD

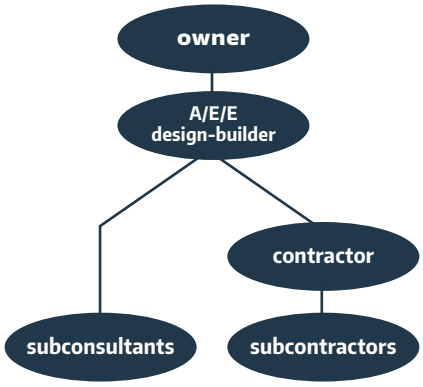
Design-build is a form of project delivery that provides the owner with a single point of responsibility for both design and construction. Instead of using the traditional design-bid-build method -- in which the owner obtains plans from the designer and furnishes them to the contractor -- design-build enables the owner to contract with a single entity to both design and build the project. The design-build entity becomes solely accountable to the owner for the cost, schedule and quality of the project. The owner can focus its efforts on defining the scope and needs of the project, rather than on coordinating the designer and builder.

There are several variations of design-build. For instance, the design-builder may be an A/E/E who designs the building and hires a contractor to construct the project, as in Exhibit 2. In Exhibit 3, the design-builder is a contractor who contracts with an A/E/E to provide the design. Sometimes, an A/E/E and a contractor form a joint venture to design and construct the project as a single entity. This variation is shown in Exhibit 4.

Advantages to Owners

- With design-build, there is a single point of responsibility. The single contract makes it clear that responsibility for design errors or omissions, faulty construction and project coordination rests with the design-builder.
- There may be reduced project delivery time. The A/E/E's services may be overlapped with construction (in a process called fast track) or abbreviated (using simplified documentation) to expedite project start-up. Early collaboration between the contractor and the A/E/E can speed up design decisions and minimize subsequent design changes and/or scheduling delays.
- Project costs may be lower. Faster project completion may drive down total costs; this in turn may reduce interest payments and, for revenue-producing projects, allows the owner to "open the doors" sooner.
- Dispute resolution can be simplified. The owner is not required to referee disagreements between the design team and the construction team. The buck stops with the design-builder.

EXHIBIT 2



A/E/E-led Design-Build

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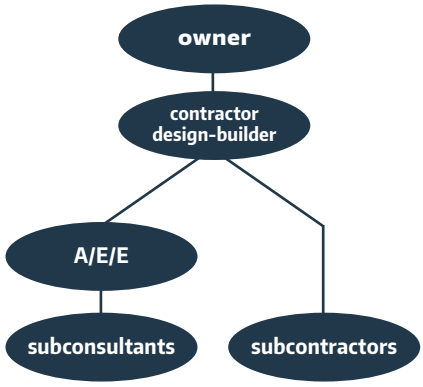
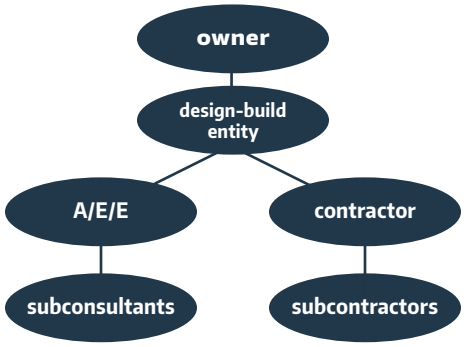


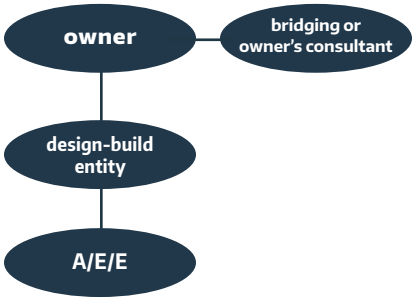
Contractor-led Design-Build

EXHIBIT 4



A/E/E and Contractor-led Design-Build

EXHIBIT 5



Bridging

Disadvantages to Owners

- The loss of the A/E/E as an independent advisor to the owner can be a major drawback of design-build projects. Unless the owner has in-house A/E/Es or employs outside professionals as consultants, there will be no one to "independently" represent the owner's interests throughout the process and help ensure the quality of construction.
- When an A/E/E acts as design-builder (Exhibit 2), the owner may lose direct contact with the contractor. When a contractor leads the design-build project (Exhibit 3), this may isolate the owner from the A/E/E, since communication is often filtered through the contractor.
- The potential for cost-saving strategies may erode project quality. Because a contractor design-builder tends to focus on the cost of construction, design quality may suffer. Alternatively, an A/E/E design builder may attempt to shortcut construction costs. While an owner may see short-term savings in project time and costs, he or she may not realize the desired performance results over the long-term of the project, taking into account the maintenance and operating costs.
- Design-build may not be permissible for public projects in some jurisdictions.

Design-build may be appropriate when the project is unique, complex and requires an intense coordination effort. It may also be the approach of choice if time is one of the most critical elements and the project is simple and straightforward.

BRIDGING

Another variation on the design-build theme is bridging, which incorporates some of the benefits of design-bid-build. With this delivery method, the owner contracts with an independent A/E/E (known as the owner's consultant or bridging consultant) to define the preliminary design requirements of the project and to represent the owner's interests throughout the project. (See Exhibit 5.) The owner uses preliminary documents prepared by the bridging consultant to solicit bids from design -builders to complete the design documentation and construct the project. The design-builder will have the final construction documents prepared by its own design-build A/E/E.

Advantages to Owners

- Bridging offers the owner most of the advantages of design-build, while maintaining the independent advice of a designer.
- The bridging consultant works closely with the owner to define the project requirements, allowing for a more in-depth definition of the owner's needs.
- The owner can obtain a highly dependable price quote for the completed project early in the process.

Disadvantages for Owners

- Bridging is not often used or well understood, adding to the chances of misunderstandings of roles and responsibilities.
- Bridging may require more extensive management involvement by the owner and higher initial management costs.
- There may be conflicts between the bridging consultant and the design-builder's designer, especially if the owner has not defined the extent of the authority of its consultant.
- The design-build team may have no opportunity for input during the early design stages of the project.
- Because many public jurisdictions require that A/E/Es be chosen through qualifications based selection (QBS), bridging means there can be two lengthy selection processes needed to hire the bridging consultant and the design-build designer.

Bridging may be most appropriate when the project is unique or complex, or the owner and its staff is inexperienced in design and construction.

CONSTRUCTION MANAGEMENT

Construction management can mean different things to different people. In its purest form, it can be defined as a complete set of comprehensive services to help the owner manage a project from concept to completion. The Construction Management Association of America (CMAA) has defined a broad matrix of services that begins with pre-design and ends with post-construction. The scope of these services is flexible, however, and can adapt to changing owner and project needs. Depending on the project, an owner may contract with a construction manager (CM) for all or some of those CMAA defined services.

Thus, a construction manager's responsibilities may vary radically from project to project. For example, one CM may assume only an arm's length advisory role, representing the owner and overseeing the progress of the project. The construction manager administers the contracts, keeps track of the work and the payments. This CM doesn't furnish materials or labor; the cash does not flow through the CM, and the CM offers no guarantees about the time, cost or quality of the construction. This kind of construction manager is often called a CM-advisor or CM-agency. (See Exhibit 6.)

Just down the street, however, another construction manager on a different project is actively and solely responsible for everything from the design to jobsite safety, from bids to permits, and from ordering materials to bringing the project in for a guaranteed maximum price (GMP). This construction manager is called a CM-constructor or CM-at risk. (See Exhibit 7.)

In either form, construction management has its pros and cons:

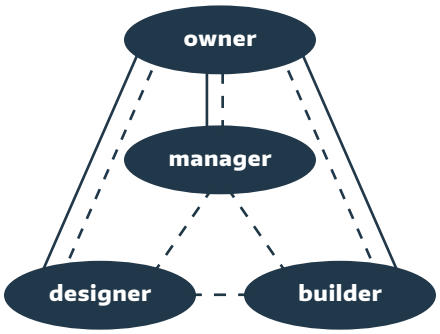
Advantages to Owners

- Owners who are not experienced with the construction process or do not have the in-house staff to devote to a project, sometimes prefer to hand over the responsibility to someone with significant knowledge and experience in this area.
- The project is easier for the owner to manage.
- Speed, achieved through fast tracking and concurrent design, may be the greatest advantage of construction management.

Disadvantages to Owners

- There is the added cost of the construction manager, although this may be offset somewhat by reduced management demands on the owner's staff.
- Additional time is required to select the CM and to define and negotiate a contract for his or her services.
- Disputes between the contractor, CM and prime A/E/E may be more likely.

EXHIBIT 6



Construction Manager as Advisor

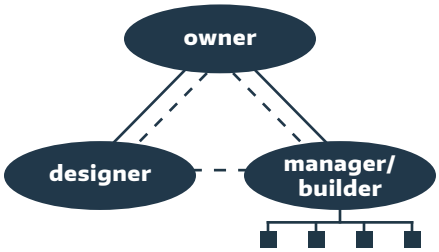
INTEGRATED PROJECT DELIVERY

With integrated project delivery (IPD): the owner, contractor and lead A/E/E (and perhaps other key parties to a construction project) commit in writing to a collaborative, synchronized approach to project delivery in which all parties work together toward a common goal and share in the rewards. In the words of the AIA California Counsel, IPD is "a project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to reduce waste and optimize efficiency through all phases of design, fabrication and construction."

Some contend that IPD is not simply a new project delivery method such as design-build, construction management or bridging. It's a whole new process that changes the way projects are conceptualized, designed and built and alters the traditional relationships, contractual and otherwise, of the key parties to the project. With IPD, traditional roles are blurred since collaboration is at the forefront in all activities. The designer and contractor help determine the client's needs, goals and budgets. The contractor and the owner contribute ideas to the design. The client and designer have input on the construction means and methods. All silos are taken down.

One of the toughest challenges faced by early adapters of IPD was finding insurance companies that could provide comprehensive coverage for the project team. Because of the collaborative approach, each team member faces the prospect to taking on additional liabilities not covered by their current insurance policies. Insurance companies, in turn, are not enthusiastic about design firms taking on construction liabilities, or, alternately, project owners and contractors assuming professional liabilities for design. There are just too many questions regarding the known and unknown liabilities and how judges, juries or arbitrators might rule on claims when multi-party contract provisions include extensive waivers of rights to file claims, unusual limitations on liabilities and nontraditional scopes of work.

EXHIBIT 7



Construction Manager as Constructor

Fortunately, real progress is being made in this arena. For instance, a few professional liability insurers are now putting together innovative project-specific policies that cover all major parties included in the IPD agreement as the "named insureds." (IPD project policies typically do not cover claims from any of the IPD members against the others, if such claims are allowed by the multi-party contract. Any such claims likely fall to each member's individual practice policy, or a project contingency fund is established to help rectify damages.)

Advantages to Owners

- With IPD, increased collaboration to achieve shared goals can eliminate some of the adversarial relationships that can develop between owner, contractor and designer.
- Each party to the project can contribute innovative ideas and best practices throughout all stages of design and construction.
- IPD serves as an excellent platform for getting the most out of building information modeling (BIM) and other computer-based collaborative design tools.

Disadvantages to Owners

- IPD projects often push participants into unfamiliar responsibilities and relationships, causing unease. For example, as an owner, it can become difficult to avoid responsibility for jobsite safety if you have participated in decision-making regarding construction means and methods.
- IPD may require a completely new contractual framework for a project. In its fully integrated form, IPD uses a single multi-party contract that covers the owner, the contractor, the lead A/E/E, subcontractors and subconsultants. This contract tends to be lengthy and complex.
- Costs and profits can be more difficult to project. To promote true collaboration, fully integrated IPD calls for the sharing of project risks and rewards. Thus, each party's compensation (and profits) for the project are contingent upon the owner, designer, contractor and perhaps others meeting their quality, time and cost commitments.
- Liability issues can get muddied, and it can still be difficult to find appropriate insurance to adequately cover all parties.

Obviously, there is still work to be done to make integrated project delivery a standard practice in the design and construction industry. But ready or not, the IPD trend is growing, spurred partly by innovations like BIM and other technological developments that facilitate the collaborative approach. Early results confirm a likelihood of success and legal and insurance professionals are making progress in understanding and resolving the liability issues that have plagued early adapters.

Clearly, project delivery methods are evolving, as are the roles of the architect, engineer and environmental consultant within those methods. But what can we expect from these professionals? In the next section, we'll look at their obligations under the law.