

WORKING WITH AN ARCHITECT

1. What is the Architect's responsibility?
 - Design
 - Planning
 - Construction methods planning
 - Permits
 - Construction cost estimating
 - Obtaining construction bids from qualified contractors
 - Overseeing the execution of the construction contract
 - Aiding the Project Manager in obtaining required approvals from funding agencies

2. What is the responsibility of the Owner's Project Manager?
 - Scheduling
 - Obtaining all necessary approvals from funding and support agencies
 - Maintaining and monitoring the project schedule
 - Selecting and providing design and planning criteria for the architect
 - Proving all land surveys, title reports, soil information, etc.
 - Coordinating owners' professionals, including legal, development consultant, lenders, government agencies, architect.

3. The Architectural Process (see below)

4. The Construction Process: Methods of Procuring Construction Services (see below)

5. What to Expect
 - Crisis Control: No project moves smoothly to the finish line
 - Consensus Building: Political and public support
 - Money : There is never enough
 - Timing: Hurry up and wait

6. How to Select an Architect
 - The Request for Proposal
 - Experience and Services
 - Fees



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The Architectural Process

The Process Many of our clients are seasoned veterans of the building industry and are experts in the construction process. Others are new to this process, and have very little idea of what to expect.

Planning, designing and constructing a building is a complex set of tasks. What should one expect; what will happen; who will do what and how much will it cost are all concerns.

A project starts with an idea that a client wants to realize or problem that they want to solve. The client's first step usually is hiring an architect. The architect's job is to help the client to identify the problems and goals of the project, and then, to match these against costs, quality, schedule and site issues. Assembling a program of needs, sizes of spaces and functional relationships is at the heart of beginning a project. Evaluating various options for solutions comes next. This could mean looking at various site options, evaluating current building layouts or a whole host of other options centered on the client's problems. The goal is to assemble all the issues and review their impact on the project with the client, and help the client select the direction that offers the best options.

Once the project scope has been determined, there are five standard phases of the project that the architect goes through. In the jargon of the industry, they are called Schematic Design, Design Development, Construction Documents, Bidding and Negotiations, and Construction Contract Administration. Each of these phases covers a specific scope of work, and is designed to create a logical process towards creating a solution to the client's stated goals.

Schematic Design This initial phase includes establishing the goals and requirements for the project and creating an initial design concept for the project. Schematic Design focuses on establishing the "big picture". This phase varies greatly in its scope and complexity based on the project's and the client's needs. The key to success during this phase is in working closely with the client to meet all of the client's needs as fully as possible.

Design Development This is the second phase of a project. During this phase, the architect develops the schematic design plans more fully to include specific elements such as finishes and mechanical systems; adjusts needs to accommodate specific products; and develops other key elements that further shape a building. During this phase, the client starts to focus in on specifics and has an opportunity to refine the plans to meet the specific goals of the project.

Construction Documents This is the phase where the actual instructions on how to build the building are prepared. During this phase, all the work that has gone before is coalesced into a set of documents consisting of plans and specifications, so that a contractor can establish a cost for the work and build the project. At the completion of this phase, various permits are filed as well to obtain all the approvals necessary to build the project.

The Architectural Process

Bidding and Negotiations In this phase, a contractor is selected and prices are obtained. This phase can vary dramatically depending on what type of project delivery method the client chooses. The most typical method of procurement is design-bid-build, but there are many variations of this, as well as other methods. The goal in this phase remains the same; select someone to build the project, establish a cost for the work, and sign a contract so that work can begin.

Construction Administration This is the final standard phase in the process. During this phase, the architect oversees the construction of the project, resolving problems as they arise, reviewing requests for payment from the contractor, reviewing change orders, running project meetings and generally aiding the owner in handling the vast amount of administrative requirements which are part of the construction process.

These five phases make up the core of the design and construction process. There are many other subsets of these services, and on larger, more complicated projects, the sophistication and scope of these services can grow dramatically.

While the architect masterminds a project for a client, there are many special areas of expertise required to create a project, of which the architect has only a general knowledge. Because of this, project teams often include a variety of specialized consultants to advise the owner on various aspects of the project. Usually a structural engineer and a mechanical / electrical engineer will be needed. Other specialists that might be required are determined by the scope of the project. A partial list of consultants that might be needed includes landscape architect, interior designer, environmental engineer, geotechnical engineer, lighting designer, civil engineer, land surveyor and historic consultant. The architect's job is to assemble and manage this team of experts. The goal is to provide the client with the best possible advice, without overwhelming them with the many complexities of the process.

There are a number of items that a client needs to be prepared to provide during the design process. The primary requirement is that the client needs to establish a contact person through whom the architect can consult and receive directions. On larger projects this is a full time job and the person is typically called the project manager. Beyond a project manager, the owner needs to be able to establish budgets for financing the construction, provide legal services required, and obtain site data, site surveys, environmental reports, coordinate telecommunications requirements etc.

Finally there is the fee for the architect's and the design team's services. BHA establishes fees several different ways. When a client has an idea, but isn't really sure what the solution may be or what is possible, we tend to work on an hourly basis not to exceed a stipulated sum without prior written authorization. When the project scope is fairly clearly determined, we give the client a fixed fee for the services to be completed. The actual fees for services are based on an estimate of the number of hours, multiplied by the cost of staff required to complete the project. Fees vary widely depending on what exactly is required, but generally range from 5% to 12% of construction costs.



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Methods of Procuring Construction Services

There is more than one way to skin a cat, and there is more than one method of structuring the team that builds your project. Construction procurement comes in many different formats and more are being developed every day. Below is a quick synopsis of several different basic methods, and the strengths and weakness of each.

Design-Bid-Build

This is the traditional way of selecting a contractor. The architect designs the building and prepares construction documents, then a group of contractors prepare bids and the owner selects the contractor who, in their opinion, is best qualified. The reason that this method is so popular is that it is perceived as producing the lowest cost for the specific quantity of work required. The problems with this method are that the bids can be higher than the budget allows, since the contractor had no input into the building design. Furthermore, the potential for change orders is greatly increased, since the contractor must assume the lowest quantity of work possible in order to submit the lowest bid. This immediately pits the owner and architect against the general contractor, since the contractor has been placed in a position where there is no extra money to cover unforeseen costs. The problems associated with this type of procurement can be minimized by carefully pre-qualifying the general contractors that bid, and preparing complete and thorough bid documents. This allows the contractors to know that they will all basically be bidding at the same quality level, and therefore provides a more consistent level of competition.

Negotiated Bid

Change orders, with their unpredictable costs, comprise the single largest complaint owners have about the building process. A negotiated bid is a way to minimize these costs, by making the general contractor a member of the design team. By involving the general contractor early on in the process, they can have input into materials and methods, allowing for greater cost control. This method allows just one contractor to establish a price for the work, working in conjunction with the owner and design team. The problem with this method is that owners are not sure that they are receiving the lowest cost, since competition is minimized. In addition, many contractors have a very difficult time in projecting the actual cost for the project before construction documents are complete, thus eliminating some of the initial cost estimating advantages associated with this method. This method is one of BHA's favored methods for projects, since the contractor is part of the project team and potential change orders can be identified early and eliminated to the largest degree possible.

Construction Manager

This method is much like a negotiated bid method, except that the construction manager is paid a fee for services and then bids the work out to sub-contractors as the owner's agent. The idea is that the owner has an experienced construction management/ cost estimating team as part of the design team. The same problems exist with this method as with a negotiated bid; contractors have trouble establishing costs until all the documents are completed, thus minimizing some of the cost control features and not totally eliminating cost overrun potential. This method is good for more complicated jobs where there needs to be research regarding different construction methods, or where the project schedule is extremely tight.



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Guaranteed Maximum Price (GMP) This is basically the same as negotiated bid, except instead of fixing the quantity of work, the price becomes fixed and the quantity of work is reduced as required to meet the budget. This method works well on building types that are largely standardized, as costs can be accurately projected early into the project based on industry accepted standards.

Design Build This is much like GMP methods except the architect and the contractor are under one contract, thus giving the owner single source accountability. The problem with this method is that the owner now has the architect, the owner's traditional ally, as part of the construction team. The owner has no one who is representing his or her interests, and is left to deal with the design build unit. Design Build is a great way to approach highly repetitive type projects, such as warehouses, etc. Its potential of lack of competitive pricing and conflict of interest is more difficult to resolve in complicated projects, which may make other methods of delivery may be more advantageous.

There are many different hybrid methods of procurement based on the above methods. One of BHA's favorites is to bid the project to a group of pre-qualified contractors, select the lowest bidder, then give the contractor a period to review the drawings for conflicts and possible change orders. Based on this review between the architect and contractor, a final contact price can be negotiated. This allows the contractor input into the process, and at the same time, assures the owner that the lowest reasonable price has been obtained. The downside with this process is that it requires time, which may not be available to the owner.



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