

This guide explains the progression of a typical project from an idea through construction of an actual building. Projects progress through phases, and while not all projects require all the phases discussed, most architects follow a similar course, customizing the procedure as necessary.

While most architects provide similar services, how those services are accomplished can vary widely. The architect's objectives, specialties, personal preferences and styles can have an effect on their work and relationships with clients. Discuss these issues with an architect you are considering working with to get a feel for compatibility with you and your project.

## THE PROCESS

### Project Phases

Phases bring order to the design process. Each phase has a purpose and a level of development that the client can expect to see. In general, the phases are sequential and the architect will require the client to sign off on the completion of each phase, permitting the project to move forward based on decisions made up to that point. The timeframe to complete each phase varies depending on the complexity of the project. There are six phases:

- Phase 1** Pre-Design / Programming
- Phase 2** Schematic Design
- Phase 3** Design Development
- Phase 4** Construction Documents
- Phase 5** Construction Procurement
- Phase 6** Construction Observation

### Phase 1 – Pre-Design

*Objective: Determine the owner's criteria for the project.*

*Fee Breakdown: 5-10% of total fee.*

### Before Design

Pre-Design services can vary greatly depending on the complexity of the project and the experience of the client. Sometimes, typically with residential projects, clients will have much of the pre-design criteria already established.

More often, however, clients need help to properly determine the project's requirements. The Pre-Design phase typically involve the following services:

#### Programming

Programming consists of establishing and documenting detailed requirements for the project relating to the design objectives, space requirements, relationships between spaces, flexibility, expandability, special equipment, systems, and site requirements.

#### Space Schematics

In certain projects an architect will produce space schematics that may include: diagrammatic studies, conversion of programmed requirements into net area requirements, general space allocations, adjacency, special equipment, flexibility and expandability.

#### Budget Analysis

The budget should have estimates for both "hard" and "soft" costs in the project. Hard costs are construction related, including material, labor, and the contractor's overhead and profit. Soft costs are non-construction related, including the architect's and consultants' fees and expenses, city or agency fees, bank fees, interest, and insurance. It's also important to generally assess if the budget is adequate to complete the project, given project type and quality.

#### Schedule Development

The following are just a few of the factors that contribute to the project schedule:

Client’s schedule	Client’s decision turnaround time
Architect’s schedule	Consultants’ schedules
Project complexity	Permit process
Contractor’s availability and schedule	

Code Analysis

With building projects, misunderstanding code requirements will directly affect the budget and the schedule. Different sets of rules govern many aspects of the project. The architect’s experience in researching and understanding codes is critical to preventing costly errors.

Surveys of Existing Facilities

Remodeling projects and additions to existing buildings require a record of what is already built. Most clients do not have drawings of their existing buildings; so as-built drawings need to be created. The building is measured and accurate CAD drawings are created to use as a base to develop the new design.

Site Analysis and Selection

The architect needs to analyze a project’s site to determine its opportunities as well as what needs improvement.

**Consultants needed**

Aside from the architect’s services in the Pre-Design phase, many projects require the use of specialized consultants to prepare the following two documents:

Site Survey

This is a map depicting the boundaries, topography, utilities, and existing buildings on a particular site.

Soils Report/Geotechnical Investigation

Soil borings and laboratory tests are performed to determine the strength, compressibility and other characteristics of the site’s soil conditions

**End of the Phase**

The Pre-Design phase ends when the client signs off on the approved program, budget, schedule, and code analysis.

**Phase 2 – Schematic Design**  
*Objective: Utilizing the criteria established in the pre-design phase, graphically explore alternative design concepts. In consultation with the client, these options are narrowed to one preferred concept.*  
*Fee Breakdown: 15-25% of total fee.*

**Beginning Design**

Schematic Design begins with sketches, floor plan studies, and, if needed, rough models. Several meetings with the architect will be necessary to make decisions and determine a design direction. At the end of this phase it is common to have the following documents, depending on how the architect has organized the project.

- 1. Site Plan** A drawing depicting the building’s location on the site.
- 2. Floor Plans** Drawings of each floor showing the sizes and locations of the various rooms and functions.
- 3. Elevations** Drawings of the exterior appearance of the building to convey conceptual design direction for the project.
- 4. Sections** Cut-through drawings of the building depicting the heights and relationships of the various floors and roof.
- 5. Area Analysis** A summary of the sizes of the various spaces/functions in the building.
- 6. Cost Estimate** A preliminary estimate of the construction cost.

These drawings will be loose in nature; their intent is to determine a design direction in which to proceed into the next phase.

### End of the Phase

The Schematic Design phase ends when the client signs off on the drawings, giving approval for the design up to this point.

### Phase 3 – Design Development

*Objective: Refine and develop the design to the point where most of the major design decisions have been made. Incorporate major systems into the design.*

*Fee Breakdown: 15-25% of total fee.*

### Finalizing the Design

The Design Development phase includes finalizing the size and relationship of spaces, selecting exterior and interior materials, determining the project’s engineering systems, and refining aesthetics. This phase will also include several meetings with the architect to finalize design decisions, so that the detailed documentation can commence in the next phase.

### Interiors

Clients often ask what level of interior design is provided as part of basic services. The architect will usually design everything that is built-in to a project, such as basic cabinetry or finish materials like tile. It does not include furniture, stand-alone light fixtures, open office furniture, etc. Detailed interior design services are typically available at additional cost, or the architect may collaborate with an interior designer of your choosing. One important note: interior design is often confused with interior decorating – these are not interchangeable terms.

### Systems consultants

During this phase, systems consultants begin to design and document their portions of the work. There are many types of consultants and some perform in multiple capacities. Which consultants are necessary is dependent upon the complexity of the project. It is the architect’s job to coordinate the work of these various consultants, incorporating their specific designs into the overall design of the project. Please refer to *Consultant Coordination* later in this guide for more information.

### Documents

At the end of the Design Development phase, the previously listed documents from the Schematic Design phase will be updated with more detail. It is common to have the following documents as determined by the architect:

- |                                   |   |
|-----------------------------------|---|
| <b>1. Outline Specification</b>   | Preliminary written description of the project’s major systems and materials.                     |
| <b>2. Interior Elevations</b>     | Drawings depicting the vertical relationship and material choices of the projects interior rooms. |
| <b>3. Reflected Ceiling Plans</b> | Drawings of the ceiling depicting locations of lighting, equipment, and level changes.            |
| <b>4. Interior Schedules</b>      | A detailed list of the type and location of interior finishes.                                    |
| <b>5. Door/Window Schedules</b>   | A detailed list of the type, size, and location of all the doors and windows in the project.      |
| <b>6. Details</b>                 | Technical drawings of specific elements within the project.                                       |

**7. Consultants' Drawings** This will vary with the project. It may include structural, civil, electrical and mechanical drawings.

### End of the Phase

The Design Development phase ends when the client signs off on the drawings, giving approval for the design up to this point.

#### Phase 4 – Construction Documents

*Objective: Prepare technical documents that explain the construction requirements of the project and obtain government agency approvals.*

*Fee Breakdown: 25-35% of total fee.*

### Instructions for Building

The Construction Documents phase involves adding significant detail and technical information to the design documents so that a contractor can build the project as designed. Although this set of instructions is relatively complete, the contractor is responsible for many aspects of constructing the project.

The architect may need to occasionally consult with the client, but this phase is more about the architect and consultants working through the technical aspects of the project.

### Permits and Approvals

Near the end of this phase, the project is submitted to the local building department for review. During this process, various city agencies review the submitted documents for code compliance. The client will generally be required to pay a fee to the city when the documents are submitted. The timeframe for this process varies depending on the project's size, complexity and the speed of the local jurisdiction.

After the various agencies review the project, they will return the documents with comments. Every project receives some degree of comments and possibly corrections. This does not mean that the work was done improperly. The architect and consultants will address these comments in order to meet the agency's approval. The client will then be allowed to obtain a permit to build the project.

### Documents

At the end of the Design Development phase, the previously listed documents from the Schematic Design and Design Development phases will have been updated to full detail. Additional documents may also be created as part of this phase and can vary greatly depending on the scope of the project. A completed construction document set is highly technical and can be quite extensive.

### End of the Phase

The Construction Document phase typically ends when the building permit is processed and construction begins.

#### Phase 1 – Construction Procurement

*Objective: Assist the client in the selection of a builder to construct the project*

*Fee Breakdown: 2-10% of total fee.*

The Construction Procurement phase may overlap with one of the other phases, depending on the method of selecting the contractor.

### A Contract For Building

It's important to note that the documents prepared by the architect and consultants in the Construction Documents phase are actually legal contract documents.

The information on the drawings and in the specifications does more than explain how the building should look. The builder is also agreeing to construct the project and to provide materials per the information shown. For example, if the specifications call for an American Standard model 123 kitchen sink, the builder may not provide a Delta model 567 sink instead. Similarly, if the drawings show a steel beam spanning an opening, the builder may not substitute a wood beam in its place.

Before anything in the contract documents can be modified, the builder must follow a specific, defined process to ensure that the client, the architect, and any consultant whose work a change may affect, be made aware of the potential modification and given the opportunity to approve or reject it. Without following this process, a builder is at risk of having to rebuild according to the contract documents, or issue the owner a credit if applicable.

In addition to the documents, there is a more traditional contract that must be signed between the “Owner and the Contractor.” (At this point in the project, the term “client” typically changes to “owner.”) The architect can help determine the type of contract to be used.

## Contractor Selection

When it comes to hiring a contractor the owner typically has two choices:

**1. Bidding** The construction documents are made available to two or more builders who then submit bids detailing what it will cost to build the project, including the contractor’s fee. The owner can then select whichever bidder they want, even if the builder did not have the lowest bid. (For projects involving public funds, these rules are different.)

**2. Cost Plus Fee** Rather than bidding, a builder is selected based on qualifications, capabilities and/or referrals. Once a particular builder is chosen, the owner negotiates terms with the contractor, including a management fee of about 10% to 15% of the construction cost.

## Which Method is Better?

There are positives and negatives to both processes. Either way, it’s important to determine the method of contractor selection early on in the process. The architect can help you determine which contractor selection method is right for you.

Competitive bids can help ensure that the contractor is being diligent in preparing a cost-effective bid on the project. However, competitive bidding can also create an adversarial working atmosphere in what should be a collaborative team effort. The builder needs to make a profit, but knows an estimating mistake will cause them additional costs. As a result, the bid may include some financial padding to take potential errors and omissions into consideration. In the worst case, it could result in mistakes being hidden or frequent bills for “extras.” Consequently the architect has to ensure that no costs are being passed along to the owner that should have been absorbed by the builder.

Many clients feel that competitive bidding is the only way to get the best price for their project. This is unfortunate because the alternative method, the Cost Plus Fee method, has certain advantages that can make the entire construction process less stressful for all concerned.

A Cost Plus Fee contract typically involves the builder early in the design process, sometimes as soon as the completion of the schematic design phase. This is the main advantage to this method; the builder becomes an active participant in the design and construction document phases.

The builder develops pricing and adjusts it as the design and construction documents develop. This helps the client manage their expectations of the finished product. The cost of adding higher quality windows or changing wood flooring to carpet is immediately apparent, and the client can adjust their priorities as design progresses. Costs in these projects are transparent, unlike competitive bids where expenses are typically not itemized.

Perhaps the most valuable aspect of the Cost Plus Fee approach is teamwork. Adversarial relationships are awkward and a disservice to the client, who is most likely unfamiliar with the construction process and relying on the professionalism and knowledge of the architect and builder.

### **End of the Phase**

The Construction Procurement phase ends when the builder is selected and has signed a contract with the owner.

#### **Phase 6 – Construction Observation**

*Objective: Observing the construction of the project for general compliance to the construction documents. Assisting the client with builder payment requests, and handling requests for changes during construction.*

*Fee Breakdown: 10-20% of total fee.*

### **The Owner's Agent**

During the Construction Observation phase the architect will act as the line of communication between the owner and contractor. Once construction commences it is important to keep the architect involved in the project to assist the owner with the following tasks:

#### **Observation Services**

The architect will visit the construction site at appropriate intervals to observe the work for general conformance to the construction documents.

#### **Evaluate contractor requests for payment**

Assisting the owner in processing payments to the builder. This is done, in part, by visiting the construction site and evaluating the construction, to determine if the work described in the payment request has been completed to the degree claimed.

#### **Process submittals**

The builder will submit shop drawings, product data and samples for review by the architect. Products are evaluated and approved or rejected for their conformance to the contract documents and the design intent.

#### **Review results of tests and inspections**

Keeping the owner informed about the progress of tests (if any) and inspections during the construction process.

#### **Supplemental documentation**

The architect can provide supplemental documents to clarify design intent for the builder.

#### **Handle requests for changes**

The builder, architect, or owner may need to change something during construction. The architect administers this process and prepares the necessary construction document revisions.

#### **Resolve claims between the owner and contractor**

The architect acts as the mediator between the owner and contractor if a dispute arises. This is the first and least expensive step to conflict resolution during construction.

**Administer the project closeout process for the owner**

Assisting the owner with the various processes and steps that occur as construction ends.

**End of the Phase**

The Construction Observation phase ends when the construction is complete and the project is ready for the owner to use.

## PROJECT ADMINISTRATION

Many tasks are performed concurrently with the work described in the six project phases. Projects require a significant amount of management, administration, and coordination to achieve their desired goals. These are usually included in the fee for basic design services.

**Keeping the Project on Task**

Communication and organization are imperative for a smooth administrative process. Examples of general administration on a project may include:

- Phone, e-mail, & fax correspondence
- Meetings and presentations with clients, consultants, and government agencies
- Preparation of meeting agendas and minutes
- Internal coordination of staff
- Internal coordination of files and documents
- Invoicing

## CONSULTANT COORDINATION

Design and construction are team processes. There are often many parties involved outside of the client-architect relationship. Consultant coordination involves focusing the activities of the various consultants required or desired for your project.

**Required Consultants**

Government agencies responsible for construction projects require certain consultants be involved because their expertise is crucial to public safety. The type and number of consultants required will vary from project to project, and depend on your project's location, type, and size. Some of the required consultants may include:

- |                              |                        |
|------------------------------|------------------------|
| Surveyor                     | Energy Consultant      |
| Structural Engineer          | Mechanical Engineer    |
| Electrical Engineer          | Civil Engineer         |
| Landscape Architect          | Environmental Engineer |
| Soil & Geotechnical Engineer | Geologist              |

**Optional Consultants**

As the client/owner, it's your choice to bring in other consultants to assist with specialized portions of the project. These can greatly enhance the design of a project:

- |                     |                        |
|---------------------|------------------------|
| Landscape Architect | Lighting Designer      |
| Kitchen Designer    | Interior Designer      |
| Pool Consultant     | Environmental Engineer |
| Acoustic Engineer   | Cost Estimator         |

## Working with Consultants

Architects take care of most of the communication and organization of consultants. Clients are assisted with consultant coordination in the following ways:

1. Assisting the client in determining the necessary consultants for their project.
2. Suggesting appropriate consultants in each field.
3. Preparing requests for proposal (RFPs) for the various consultants.
4. Assisting the client in selecting the various consultants based on their price, experience, skill, and professionalism.
5. Coordinating the various consultants' services throughout the course of the project. This involves communicating the design intent of the project to the consultants and coordinating their drawings with the architect's drawings.

After coordinating the consultant choice with the client, the architect will usually retain the services of the chosen consultants, billing for their services as a reimbursable expense. This charge may include a markup for coordination and administration of the consultant's work.

## AGENCY COORDINATION

Government agencies play a key role in getting a project designed and built. Each project can have a unique set of applicable codes and processes through which to navigate.

## Services

Agency coordination occurs throughout the various phases of a project and will vary greatly depending on the type, size, complexity and location of your project. These services may include the following:

1. Preparation of documents for a city planning approval process
2. Presentation at a public hearing if required
3. Environmental review process
4. Historical restoration review procedure
5. Preliminary plan check review
6. Plan check submittal
7. Obtaining a building permit

## Fees

Due to the uncertainty of how much agency coordination will be necessary on any given project, these services are not usually included in the basic fee, but are billed on a separate hourly basis.

## Thank You

Thanks for taking the time to read this guide. Hopefully, it has helped you understand the intricacies of how architects organize and carry out building projects. Now that you have a clearer idea of what this process entails, if you're ready to get started on a project you've been thinking about, we're ready to help. Please contact Identity Design, PLLC with any questions you may have about this process or anything architecture/building related. Please don't hesitate to [contact us](#) for some friendly advice.

## RECOMMENDED READING

Johnston, Amy. *What Your Contractor Can't Tell You: The Essential Guide to Building and Renovating*. [S.l.]: Shube Pub., 2008. Print.

Krapf, Richard D. *Considerations on Hiring An Architect: Architectural Fees*. N.p.: n.p., 2013. Print.

Krapf, Richard D. *Considerations on Hiring An Architect: I Don't Need An Architect! Common Myths and Misconceptions*. N.p.: n.p., 2013. Print.

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## ACKNOWLEDGEMENTS

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