

**OWNER, ARCHITECT, CONTRACTOR RELATIONSHIPS:**

**A Project Guide**

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This booklet, authored by Richard Casale AIA, John Frazier AIA, Miller Day Malcom, Leonard Stolba AIA, and Robert Vogel AIA for the Massachusetts State Associate of Architects/AIA is designed to acquaint you, as a first time owner or buyer, with the process of design and construction from initial decision to final completion, and especially the major and critical role you play in the process and in determining its outcome.

You are facing one of the few situations in which the buyer is required to commit time, effort, and money to a final product which you cannot see, touch or experience before buying, and in which major responsibility for the success of the product in terms of beauty, utility, and final cost rests with the buyer, not the producer. The Design Professional – Architect, Engineer, Landscape Architect, Space Planner – can translate your needs and desires into detailed instructions – drawings and specifications – which a contractor can translate into reality. However, you have a most important role in this process. The materials presented here will show how you can work effectively with the Design Professional to assure that the reality will meet all your requirements and expectations.

The authors have reviewed many existing documents – publications of the American Institute of Architects, the American Society of civil Engineers, and the Associate of General Contractors, and have drawn 85 years of combine professional experience in order to define the role and responsibilities of the owner during the design and construction process. We do not wish to present this material as gospel – either of the construction industry, or of the design professions. Nor does the material represent legal or advisory positions of the Boston Society of Architects or any other professional organization. However, the concepts and sequence of events presented here have proved typical for many projects.

The Design and Construction process usually involved three principals – the Owner, the Architect, and the Contractor. (Throughout this booklet, reference will be made to “the Architect” for convenience only, the process described applies equally to projects involving other Design Professionals.) Each principal has a particular role to play and specific responsibilities at each step of a project. Many of the Owner’s responsibilities are quite obvious, but others are substantially less so. It is critical that you as the Owner be aware of and understand each component of the process. Only in this way can the proper transfer of information

between you, the Architect, and the Contractor be achieved. Communication is the most important factor in assuring a successful project.

A description of the design and construction process is presented here in two parts. The first is simply a list of the various steps involved. The list contains, for each step, only the word or phrase commonly used within the design professions to denote the step, and an indication of who is responsible to initiate action or documents, who is responsible to review, and who is responsible to approve. The steps are grouped into six major project phases, which correspond to those recognized by the American Institute of Architects as practical divisions of the design and construction process. The phases and the steps within each are listed in chronological order for a typical project. This is the process in brief format, condensed to a checklist, easily used as a briefing document. Your Architect can use the list to assure you that each step has been considered, anticipated, or accomplished. You can use it to anticipate your responsibilities as owner and client. You will note each phase and step have been given a number keyed to explanatory material on the pages following. Therein each step is defined and more fully explained.

This booklet documents a process which includes full development of a design and its complete description in drawings, technical specifications, and contract requirements. This package, generally referred to as the Contract Documents, forms the basis for competitive construction bids by contractors. There are alternative methods of design and construction which may be appropriate in given situations. For example, the advantages of a completely competitive bid situation may be outweighed by the need for an unusually accelerated design and construction process. Fast-track, design-build, and construction management are some methods employed to insure adherence to strict time and/or budget constraints. Your Architect can acquaint you with the operation, advantages, and drawbacks of each.

The timely and accurate transfer of information between the Owner, the Architect, and the Contractor is of primary importance to the success of any project. Your awareness of the how, why, and when of the process will greatly assist in this transfer. Consideration of the overall process and each step before time and events become critical will insure carefully reasoned decisions, fewer misunderstanding, and ultimately a successful project.

## **A. PRE-DESIGN**

### **A.1 Initiate the Project**

You, the Owner, have a need for space which cannot be met by leasing, renting, or buying an existing facility. Something triggers action: a piece of land, a vacant building, growth, or change. What follows are steps that construction projects usually take in one form or another. The purpose of this checklist is to make you familiar with the process and cognizant of the responsibilities involved.

### **A.2 Select the Architect**

You utilize the talents of many professional in transforming your thoughts about a project into reality. The Architect is among the most important. There are several methods by which an Architect is chosen: your prior knowledge of his or her work; a recommendation received by someone whose opinion you value; a request to one or more firms for written and/or graphic proposals; personal interviews with one or several candidates; occasionally a formal competition. The relationship between you and your Architect is very important. It should be close, and like all close relationships will have moments of great satisfaction, but may also have moments of frustration. Therefore, select an Architect with whom you feel comfortable and whose work you admire. It is common practice to notify the Architect of his or her selection in writing.

### **A.3 Confirm Basic & Additional Services**

Explain the project to your Architect as you envision it. Based upon this explanation, he/she will develop a scope of work including basic and additional services to be provided. AIA Document B141 describes typical basic and additional services.\*

### **A.4 Discuss Methods of Compensation**

After the scope of work has been defined, discuss different methods of compensation. Each method can be appropriate for a specific project, depending upon the scope and the unknowns in the required work. When the scope is unclear, direct cost times a multiplier can be used until a more defined scope of work is developed. Two other types of contracts which may be appropriate are cost times multiplier with a "not to exceed" figure, or a "lump sum" based upon a percentage of the construction cost. Your Architect reviews these with you and recommends

\* American Institute of Architects (AIA) documents are published for the profession. They may be used wholly or in part or modified to fit the requirements of a specific job. They are available through your Architect or from the Boston Society of Architects or the Massachusetts State Society of Architects.

which is appropriate. He/she then prepares an Owner/Architect agreement which you both sign. AIA Document B141 includes typical Owner/Architect agreements.

### **A.5 Develop the Project Program**

The first step in the process is for your Architect to fully understand your needs. You must outline the spaces, systems, and materials you require. Your Architect must question, probe, and investigate until he/she clearly understands what the final project will include. At this time, you must express your wishes, desires, likes, dislikes, and comments. everything should be verbalized including your reactions to the site, potential views, orientation of the building and any style preference, until the Architect thoroughly understands what you have in mind. This date becomes the Project Program.

### **A.6 Develop the Project Budget**

It is imperative that you establish, from the start, the amount of funds available for the project. Give this information to your Architect and develop with him/her a realistic budget which includes all costs, fees, and appropriate contingencies.

### **A.7 Develop the Project Schedule**

Develop a realistic schedule, including adequate time for review and the possible reworking of the documents. Anticipate weather delays, strikes, and other contingencies. If you have any conflicts between the time available and the completion date, your Architect may consider alternative methods of design or construction.

### **A.8 Determine the Project Site**

If the site is already determined, your Architect will confirm the adequacy of the site as per A-9 below. If several sites are to be considered, he/she, as an additional service, can use these same parameters in the process of reviewing each site and making a recommendation of the optimum site for your project.

### **A.9 Initiate Site Investigation**

Basic information regarding zoning, codes, and environmental consideration is assembled by your Architect. He/ she can initiate required surveys, borings, and geophysical studies on your behalf. The cost of those studies is not included in the Architect's basic fee and is normally billed directly to you. Site conditions such as roads, utilities, surrounding buildings, topography, vegetation, view, prevailing winds, etc. are noted, as they will influence the design.

## **A.10 Explore Financing**

With the foregoing information, you should explore your financing, confirming that provision has been made for pre-construction expenses, construction loans, and permanent financing as required.

## **A.11 Select Primary Consultants**

Your Architect selects his/her consultants for the project; civil, structural, mechanical, and electrical engineers are typical primary consultants. They are hired by the Architect and paid out of the Architect's basic fee.

## **A.12 Determine the Need for Specialized Consultants**

Depending upon the nature, size, and complexity of the project, your Architect may recommend the use of specialized consultants (e.g., food services, acoustics, soils, special equipment, furnishings, graphics, lighting, cost estimating, landscaping, or historic preservation). The cost of their services are normally in addition to the Architect's basic fee.

## **A.13 Discuss Types of Contracts**

Your Architect briefs you on various types of construction procedures and contracts. He/she makes an appropriate recommendation for your approval.

## **A.14 Discuss Status of the Construction Industry**

Your Architect advises you of industry factors which may affect your project (e.g., labor and materials availability or shortage; recent bid results; expected cost escalations; and potential strikes.) He/she may recommend pre-ordering, pre-purchasing, and/or the specification of alternate materials or methods of construction.

## **A.15 Authorize Schematic Design**

After you have reviewed and approved the foregoing information, you authorize your Architect to proceed with schematic design.

## **B. DESIGN**

### *Schematic Design*

#### **B.1 Prepare Relationship Studies**

Your Architect studies the project program spaces regarding size, circulation, functional relationships, exterior views, sun, access, vegetation, topography, and other factors. Schematic relationships may take the form of circles connected by arrows – a "bubble diagram."

#### **B.2 Prepare Conceptual Building Studies**

Your Architect prepares one or more sketches consisting of small scale, one line drawings of the building and its site. Simple three dimensional representations may also be included.

#### **B.3 Describe Proposed Materials & Systems**

Your Architect develops a list of major construction materials, structural and other systems, and building components for the project.

#### **B.4 Estimate Probable Cost**

Your Architect develops a rough cost estimate using recent experience with similar building types, forecasts of costs, square foot and/or cubic foot totals developed in the conceptual building studies, and an appropriate contingency factor.

#### **B.5 Review, Approve & Confirm Financing**

You review the Schematic Design documents, select among alternates where appropriate, incorporate any new requirements, and give you Architect written authorization to begin *Design Development*. Project financing should be confirmed based upon the current estimate.

#### **B.6 Payment Requisition**

Upon receipt of your written authorization to begin development, your Architect submits a bill which includes fees and expenses due per contract plus costs incurred on your behalf. Typically, such requisitions follow the completion of each of the major project phases.

### *Design Development*

#### **B.7 Prepare Definitive Project Drawings**

Based upon the approved schematic design your Architect prepares site plans depicting the general nature of site improvements (building location, new and existing utilities, parking, roads, and other special needs) floor plan; major exterior views (called elevations) and interior views (called cross sections). When completed, he/she reviews these plans with you. The final design documents will be based on this information.

#### **B.8 Outline Materials & Systems**

Your Architect prepares a written description outlining principal building materials, structural, heating, ventilating, air conditioning, plumbing, electrical and special systems (e.g., elevators) for your review and approval.

## **B.9 Prepare Preliminary Cost Estimate**

Based upon this more defined information, your Architect prepares a cost estimate. With reasonable contingency factors included, this estimate can be compared with the original budget to insure that this important aspect of the project is on track.

## **B.10 Seek Regulatory Agency Approval**

You and/or your Architect should request a compliance review with any local, state, or federal agencies having jurisdiction over the project. Particular attention should be paid to the local building department and planning board plus the appropriate funding agencies (FHA, HUD, bank) and other agencies (e.g., public health, public safety).

## **B.11 Review, Approve & Confirm Financing**

At this point you review the Design Development drawings, make any minor changes, authorize *Final Design* in writing and confirm project financing based upon the current estimate.

*Final Design*

## **B.12 Confirm Methods of Contract Award & Construction**

Your Architect reviews with you appropriate methods of contract award (e.g., public or private bid, general or selected bidders, fast-track, phased or general construction, lump sum, negotiated or cost plus fee) and you select a method.

## **B.13 Confirm Construction Services**

Based on previous decision, you Architect reviews services he/she and his/her consultants will provide during the bidding and construction periods.

## **B.14 Prepare Construction Documents**

Construction documents consist of drawings and a project manual. Drawings are detailed graphic descriptions of the project including plans, sections, elevations, and typical details. The project manual consists of technical specifications, descriptions of materials and methods of construction, general and special project conditions, plus miscellaneous bid forms, wage rates, contract forms, etc. The total product is a legal document upon which all future contractual agreements will be based.

## **B.15 Prepare Final Cost Estimate**

Based upon the final design documents, a detailed estimate is prepared by you Architect and/or a cost

specialist. This estimate is compared with the preliminary cost estimate and any variance explored.

## **B.16 Establish Bid Contingency**

With the final cost estimate, a final budget can be developed. This budget should include a sum for bidding contingencies. Items not strictly essential to the project may be isolated and their inclusion in or exclusion from the project used to meet budget requirements. Such items are termed add or deduct alternates. They must be carefully defined in the documents and their costs specifically requested as addition to or subtractions from the "base bid". You should carefully review and alternates and the budget and approve them in writing.

## **B.17 Review Documents**

Confirm by a thorough study that final design documents contain what you approved in the design development stage and any subsequent changes. As appropriate, have your legal, insurance, and financial advisors review and approve these documents.

## **B.18 Approve & Sign All Documents**

You indicate approval by signing all documents and by sending you Architect an approval letter which references each document by title and date.

# **C. PRE-CONSTRUCTION**

## **C.1 Authorize Bidding**

After you have approved the plans, specifications and cost estimate, established a final budget and reconfirmed financing, you authorize the bidding process to begin.

## **C.2 Advertise for Bids**

Contractors are invited to bid. This may be public and formal (newspapers, periodicals, letters of invitation) or private and informal (telephone, word-of-mouth). The purpose is to advise interested contractors how to obtain the necessary documents and submit bids.

## **C.3 Issue Contract Documents**

Documents are typically issues from a single source during prescribed hours in order to maintain a complete record for communication regarding addenda, pre-bid conference, time extensions, etc. A deposit from the bidders sufficient to assure return of the documents after the bid period may be

required. These returned documents are given to the successful bidder for his/her use during construction.

#### **C.4 Hold Pre-Bid Conference**

A meeting may be held for all prospective bidders during the bidding period. The purpose is to receive questions regarding the bid documents. Following this conference, an addendum is issued answering all questions received to that point.

#### **C.5 Issue Addenda**

Addenda (plural; the singular form is addendum) change scope, clarify drawings, supplement specifications, and/or answer questions asked during the bidding period. Ideally, there are none. In practice, and depending on the complexity of the project, there may be several. Addenda become part of the contract documents.

#### **C.6 Receive Bids**

Contractors submit bids to you. There is usually a bid deadline after which bids are not accepted. The bid opening is a process of receiving, reading aloud, and recording all bids. This is normally done with representatives of the bidding contractors present. Especially on large or complex projects, your Architect takes all material received to his/her office for evaluation.

#### **C.7 Evaluate Bids**

You Architect evaluates the bids to make sure they meet all conditions of the contract documents (proper bid form, authorized signature, acknowledgement of addenda, etc.) He/she presents to you a compilation of all valid bids and recommendations as to contractor selection. If your Architect feels the bids are non-responsive (e.g., all are over budget, all or most are invalidated due to technical deficiencies, or there are too few bids for adequate competition) he/she may recommend rejection of all bids and rebidding. A rebid may be based upon the same contract documents, or revised documents which include clarifications and/or revisions of the project scope. Similarly the list of bidders may remain unchanged or may be modified at this time.

#### **C.8 Confirm Construction Budget & Financing**

With an acceptable bid recommended by your Architect and approved by you, the construction budget can be established. It should include construction contingencies appropriate for the

complexity of the project. You should confirm construction and permanent financing based upon this budget.

#### **C.9 Issue Letter of Intent**

When you are satisfied with the cost of the project and have confirmed financing, you formally accept the successful bid with a Letter of Intent. The successful contractor can begin his/her mobilization while formal contracts are being prepared.

#### **C.10 Prepare & Execute Contract**

Your lawyer will prepare a construction contract between you and the contractor. All bid documents are incorporated as part of this contract. You Architect may recommend a Standard AIA contract form, such as A101. After review, you and the contractor will sign the contract.

#### **C.11 Hold Pre-Construction Conference**

Your Architect assembles people who will be involved with the project; your project representative and your onsite representative; the Contractor's project manager, superintendents, coordinators for mechanical, electrical, etc., and the Architect's project manager and field representative. The agenda for this meeting should include addresses, phone number, relationships to be established and procedures to be followed (e.g., construction schedule, shop drawings, requisitions, change orders, unforeseen conditions, meeting schedules, inspections, insurance.)

#### **C.12 Confirm Insurance**

You and the Contractor each produce proof of insurance as required by the contract. Such proof is required before any activity on the site can begin.

#### **C.13 Issue Notice to Proceed**

You send a formal letter via your legal representative authorizing the Contractor to begin activity on the site.

### **D. CONSTRUCTION**

#### **D.1 Inspect Project**

You Architect makes periodic observations to confirm that the work is in conformity with the contract documents. For all but the smallest and least complex projects your Architect will normally recommend you retain an independent testing agency to monitor and approve critical aspects of the work (e.g., structural concrete and steel, and

roofing). When required, full-time project representation may be contracted for.

## **D.2 Review Progress**

Your Architect chairs regularly scheduled job meetings with you and the Contractor. The purpose is to review progress, resolves problems, and monitor schedules. Typical scheduling devices used are the bar chart, critical path method (CPM), and project evaluation review technique (PERT).

## **D.3 Authorize Payments**

The Contractor prepares a schedule of values showing his projected expenditures vs. construction time and/or attainment of project milestones. Based upon this schedule, inspections, job meetings, and progress photographs, you Architect evaluates the percentage of the job which is completed, and reviews, adjusts if necessary, and approves the Contractor's requisition for payment. It is normal for the Owner to pay the Contractor for work done to date (both labor and materials) but to "retain" an agreed-upon percentage of each requisition as insurance against final completion of the contract. As the project becomes more complete, the retainage may be reduced.

## **D.4 Issue Approvals**

Throughout the construction period, via shop drawings, supplemental sketches, and equipment and material submittals, your Architect gives final approval of the design. You are involved in this process to the extent you request.

## **D.5 Issue Change Orders**

Changes are a fact of life in construction. They are required by site conditions, material availability, contractor requests for substitution, revision in the program, and oversights. Changes may or may not affect construction cost. This device for accomplishing these changes is termed a "Change Order". Change Orders are reviewed by your Architect who then recommends them to you for payment or other action. When approved and signed by all parties, they become part of the construction contract.

## **D.6 Determine Substantial Completion**

Prior to occupancy of any portion of the project, an inspection is conducted by you, your Architect, and the Contractor. Items or systems that are not satisfactorily completed are listed. This list is called a "Punch List". Once agreed upon, it constitutes the basis for preparation of a substantial completion

certificate, which is a legal record of your acceptance of the project (or portions thereof). Your acceptance specifically excludes Punch List items and typically states a time by which specific obligations of the Contractor end and specific responsibilities of the Owner begin.

## **E. PRE-OCCUPANCY**

### **E.1 Transfer Insurance**

The Contractor terminates and you initiate insurance coverage (fire, liability, flood, contents, etc.).

### **E.2 Transfer Security**

The Contractor generally uses a construction key system during the project. At substantial completion he re-keys the building to your lock system, usually by replacing the lock cylinders. Other systems like fire or vandal alarms become your responsibility.

### **E.3 Transfer Utilities**

Typically the Contractor, under the terms of his contract, pays all of the project-related utility charges up to the substantial completion date, and then transfers financial responsibility for water, electric, sewer, gas, oil, etc., to you.

### **E.4 Terminate Easements**

The Contractor terminates any temporary easements which have been granted during construction or records any permanent easements required by the contract.

### **E.5 Consider Other Items**

You complete furnishings, install artwork, make office assignments, establish door numbers, phone lists and all the myriad details necessary prior to having a functioning facility. In many cases portions of these items are the contractual responsibility of the Contractor or subcontractors specifically hired by you and independent of the prime contractor. It is important to remember that there is a great deal of coordination, not always the responsibility of the Contractor, and you must be on top of the situation to be assured that the final results meet with your approval.

## **F. OCCUPANCY**

### **F.1 Issue Certificate of Occupancy**

The Certificate of Occupancy is issued by the town or city certifying that the building (or a portion thereof) meets code requirements and may be occupied for a specific use. By statute the Owner must apply for this document.

### **F.2 Reduce Retainage**

Retainage is reduced per the construction contract at this time. If not otherwise called for in the contract, it is normal to withhold an amount of money adequate to cover completion of items outstanding on the Punch List.

### **F.3 Close Out Project**

Prior to or after occupancy, the Contractor provides the following as may be required by the contract:

- A. Material and equipment warranties.
- B. Manuals containing catalog cuts and instructions for equipment operation (training of your maintenance personnel may be included).
- C. Certificated releasing you from material supplier's or sub-contractor's liens.
- D. Drawings corrected to show "as built" conditions (also called "Record Drawings").

### **F.4 Make Final Inspection**

When advised by the Contractor, your Architect, (often with you) conducts an inspection to verify that all Punch List items have been satisfactorily completed. Based upon the results of this inspections, additional retainage may be released.

### **F.5 Make Final Payment**

Within a specified period of time after the final inspection (typically 45 days) all payments to the Contractor are due.

### **F.6 Confirm Warranty Period**

A period of time is specified in the contract (usually one year) during which the Contractor is responsible for materials, workmanship, and satisfactory systems performance. This can be the most controversial portion of the construction process and should be discussed thoroughly between all parties prior to initiating construction.

### **F.7 Enjoy**

Although the process of conceiving and constructing a project is not without birth pains, be

assured your care and concern will be repaid many times over in utility, beauty, value, and general satisfaction.