

Understanding Contract Administration

by Harwood W. Loomis

Administration of the Construction Contract is one of the most important and least understood aspects of the construction process. The normal duties of the architect during the construction administration phase occupy over a full page of the standard AIA Owner-Architect agreement. They involve a lot of review and documentation that frequently is never seen by the client.

OBSERVATION OF CONSTRUCTION

One of the most important duties is periodic visits to the site to observe the construction for conformance to the contract documents. On the job site, there inevitably are questions that emerge from unforeseen conditions or the inability of the contractor to interpret the intent of the design documents. If this has been anticipated and a contingency fund budgeted, such things can be handled in an expeditious manner. However, periodic visits to the site may not suffice if the construction activity is intensive or complex. Because of this, the architect may also be asked to provide one or more



SNET Headquarters, New Haven CT. Photo courtesy of SNET

persons to be on site full time, to avert problems before they get built in and covered up. Still, there are many more workers on the site than there are people to watch them. Thus, it is impossible to see everything. Even so, the architect and his representatives provide the best effort possible to assure that the

work is in conformance with the documents.

Another duty is to review submittals from the contractor to verify that he will be using the materials specified, weigh the advantages and disadvantages of any alternates proposed by the contractor and decide whether or not to accept substitutions. Where contractors are allowed to substitute materials and deviate from the contract details at will, there is usually a reduction in quality without a corresponding saving to the owner. On the other hand, contractors may be more accustomed to working with a different brand of material than that specified, or executing a particular detail in a different way. These factors are considered in the Architect's review.

A CHANGE IN THE ARCHITECT'S ROLE

The architect's role undergoes a subtle shift after the execution of the construction contract. During the preparation of the contract documents, there is no question that the architect is working for the owner,

preparing documents to describe as well as possible just what the owner wants and expects out of the project. Once the construction contract has been executed, however, the architect is required by both the standard Owner-Architect agreement and the standard General Conditions of the Contract for Construction to become an unbiased intermediary. Both documents express this in identical language:

The Architect will be the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder by both the Owner and Contractor.

In the event of a disagreement between the owner and the contractor, this may mean that the architect may be in the uncomfortable position of telling the party who is paying him that the other party is right. It is to the owner's benefit to have the architect conscientiously carry out this duty. There are many ways a contractor can cheat on a project without being caught, and an ordinarily honest contractor may find himself virtually forced to do so if he finds that he is losing money because he cannot recover the costs for legitimate extras. Also, an owner with an architect who has developed a reputation for being fair to contractors with regard to interpreting the contract documents usually finds that there is less likelihood of a protracted argument in those instances when the ruling is against the contractor.

PAYMENTS TO CONTRACTOR

On most construction projects, the contractor is paid monthly on the



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basis of an Application and Certification for Payment. The application portion is completed by the contractor, which is then submitted to the architect for review. On the basis of the architect's periodic visits to the site, if he feels that the application is correct, he signs the certification at the bottom of the form and forwards it to the owner for payment. If the architect disagrees, he may certify a different amount than applied for and attach a letter of explanation or, in the event of a substantial disagreement, return the application to the contractor and ask that it be resubmitted.

This seemingly routine exercise may have important consequences. If a contractor is not paid promptly, he may fail to pay his subcontractors who, in turn, may respond by filing liens against the owner's property. If there is a legitimate reason to

deny all or part of a contractor's application, the owner is in a much stronger legal position when denial is made on the basis of the architect's recommendation. If an owner does not involve the architect and then chooses to withhold payment, he may have a difficult time establishing in court that he had sufficient justification for doing so.

Surprisingly, problems can also come from overpaying a contractor. This may occur when there is a performance bond and/or a labor and materials payment bond covering a project. If the contractor refuses or is unable to complete the contract, the bonding company (surety) has the responsibility of doing so. When the surety takes over a project, they feel that the owner is committed to spend up to the amount of the contract, and that they are only responsible for any excess costs necessary to complete the work. If the contractor has been overpaid, the cost to complete the project will be more than the money unspent by the owner at the time of the takeover. If the shortfall is at all substantial, the surety may either refuse to pay or take the owner to court to recover it. Therefore, an owner who does not use the architect to verify the amount of completion and who routinely accepts and pays the contractor's invoices may be placing himself at risk in the event that the contractor defaults.

ARCHITECT'S INVOLVEMENT DURING CONSTRUCTION

The architect's involvement during construction is also important in dealing with unforeseen problems. These can occur not only in rehabilitation or renovation projects

but also with new construction. Manufacturers may change products or details, discontinue systems and materials, or make other changes that render a specified material inappropriate for a project. If the architect is not involved, even a quality contractor may not be able to resolve the problem because he may not understand the criteria that led to the detail or choice of material. The architect can respond to such situations by making a prompt evaluation of the condition and devising an alternate detail or recommending a substitute product. This is often done in consultation with the contractor to derive the benefit of his experience as well, and the contractor can offer better advice if he understands the reasoning behind the original decision.

Once changes to a project become necessary, the owner is best served by having the architect in place to act as the interpreter of the contract documents. Since the architect prepared the documents, he is in a position to interpret what their intent is. Even where the ruling is that an extra cost is legitimate, the architect can provide valuable input in keeping the cost of the extra at a reasonable amount. He will also act impartially to work out the solution to a problem that is best for the project, while some contractors will look for the solution that will allow them to make the most money.

FINAL PAYMENT TO CONTRACTOR

Finally, it is the architect who determines when the contractor is finished and can collect his final payment. The construction contract requires that the contractor perform



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the work called for, in accordance with the terms of the contract. Once he has done that, he is entitled to be paid. Where work has not been completed or is not in conformance with the contract documents, the architect will not certify release of final payment, and the owner is protected to some extent by holding the money. Once the work has been done, payment should be made and further problems handled under the warranty provisions.

SUMMARY

In summary, the architect's role in contract administration is to endeavor to protect the owner against defects in construction, to interpret the contract documents fairly to resolve disputes, and to respond to unforeseen conditions in order to keep the process moving and maintain the intent of the project. It is a role that demands that the architect facilitate communication between

the owner and the contractor, even when they are in an adversarial position. It is not a guarantee of the construction; only the contractor can do that. Nor is it a guarantee of the absolute perfection of the construction documents, because absolute perfection is not possible. It is an effort to help take the project from the realm of concept to three-dimensional reality as smoothly and as effectively as possible. The client who recognizes that construction is an uncertain process and who tempers his expectations with reality can derive substantial benefits from the input of the architect as construction contract administrator.



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services

Representative Projects

Our specialists in building rehabilitation detect and design solutions to masonry, curtain wall, window system, roofing, finish and detail problems. Waterproofing, fireproofing, mechanical systems and structural integrity analyses are all a part of the comprehensive services we provide.

In addition to preparing survey reports, we provide plans and specifications for remedial construction, assist in the selection of contractors, and provide construction administration and fulltime project observation services. The following is a representative listing of recent work:

Real Estate Consulting

A review of plans and specifications and a building condition survey of the 100 year old Exchange Place Building and its 46 story addition in Boston for Aetna Realty Investors, Olympia & York and Salomon Brothers, Inc.

A building condition survey of a 22 story office, retail and garage complex in Ft. Lauderdale, Florida for Dean Witter Realty, Inc.

A building condition survey of a three building office complex in Atlanta for DIHC (Dutch Institutional Holding Company) Management Corporation.

A review of construction documents of a marina in Westport, Connecticut for The Travelers Insurance Company.

Roofing

Hoffmann Architects prepared plans and specifications and is providing contract administration services for the following:

The terrace outside of The Rainbow Room, atop the 65 story RCA Building in New York City, partial reroofing of 1230 Avenue of the Americas and 10 Rockefeller Plaza for Rockefeller Center Management Corporation, at Rockefeller Center.



Photo courtesy of Rockefeller Center Management Corporation

The former Port of New York Authority Building, 111 8th Avenue, which covers an entire city block in New York City, for Sylvan Lawrence Company.

The International Club Building in Washington D.C. for Carey Winston Company.

Facade Rehabilitation

Design work connected with the re-

placement of windows atop the 50 year old RCA Building in New York City for Rockefeller Center Management Corporation;

A survey of the granite stone masonry and original wood windows of the University Club of New York City, designed by McKim, Mead and White in 1898;

Preparation of drawings and specifications for rehabilitating the limestone facade of the Art Deco headquarters building of the Southern New England Telecommunications Corporation in New Haven, Connecticut.

Structural Engineering

Preparation of contract documents for the strengthening of the concrete slab in the Philadelphia warehouse of U.S. Plywood Corporation.

Investigating the structural capacity of the Shain Library roof at Connecticut College, New London, Connecticut to support new roof top equipment.

Parking Deck Reconstruction

Parking deck reconstruction at the Central Office building in Norwalk, Connecticut for the Southern New England Telecommunications Corporation.

Parking deck rehabilitation at the Temple Street Garage, New Haven, Connecticut for the New Haven Parking Authority.

Glossary of Construction Contract Terminology

Addendum (pl. Addenda) - A written or graphic instrument issued by the Architect, prior to the execution of the Contract, which modifies or interprets the Bidding Documents by addition, deletion, clarification or correction.

Alternate Bid - Amount stated in the bid to be added to or deducted from the amount of the Base Bid if the corresponding change in project scope or alternate materials and/or methods of construction is accepted.

Application For Payment - Contractor's written request for payment of amount due for completed portions of the Work and, if the Contract so provides, for materials delivered and suitably stored pending their incorporation into the Work.

Approved Equal - Material, equipment or method approved by the Architect for use in the Work as being acceptable as the equivalent in essential attributes to the material, equipment or method specified in the Contract Documents.

Arbitration - A means of resolving contractual disputes without recourse to the courts, by presenting the facts of the dispute as viewed by each party to an impartial arbitrator or panel of arbiters, usually arranged under the auspices of the American Arbitration Association. The A.I.A. General Conditions provide for disputes to be submitted to arbitration. Generally, arbitration findings may not be appealed in court, but awards made by arbiters may be enforced by courts if not paid. Some clients, particularly governmental agencies with attorneys on staff, prefer not to submit to arbitration.

Architect's Project Representative - An observer of the construction process on-site, acting for and employed by the Architect to augment the services provided by the construction administrator. Normally, an on-site project representative is not provided under an architect's basic services agreement, but may be provided for an additional fee when requested by a client.

Architect's Supplemental Instructions - A written order issued by the Architect and signed by the Contractor that modifies or clarifies the Contract Documents but does not result in a change to either the Contract Time or the Contract Sum. The Owner's signature is not required. [A.I.A. Document G710]

Award - A Communication from an Owner accepting a bid or negotiated proposal. An award creates legal obligations between the parties.

Bid - A complete and properly signed proposal to do the Work or designated portion thereof for the sums stipulated therein, supported by data called for by the bidding requirements.

Bid Bond - A financial guarantee that a Bidder, if awarded a contract, will execute said contract for the dollar amount stated in his Bid. Bid Bonds are usually required to be ten percent (10%) of the amount of the Base Bid. If the bidder refuses or fails to execute the Contract, the Bid Bond is used to pay the difference between his bid and that of the next bidder to whom the project is awarded. [A.I.A. Document A310]

Bidding Requirements - Those documents providing information and establishing procedures and conditions for the submission of bids. They consist of the notice to bidders or advertisement for bids, Instructions to Bidders, Invitation to Bid, and sample forms.

Certificate For Payment - A statement from the Architect to the Owner confirming the amount of money due Contractor for Work accomplished or materials and equipment suitably stored, or both.

Certificate Of Insurance - A form supplied to the Owner by the Contractor's insurance agent or company, certifying the insurance coverages in force, the limits of liability for each type of coverage, and the expiration date(s) of the policy(ies). [A.I.A. Document G705]



Field Representatives monitor construction

Certificate Of Occupancy - Document issued by governmental authority certifying that all or a designated portion of a building complies with the provisions of applicable statutes and regulations, and permitting occupancy for its designated use.

Change Order - A formal modification of the Owner-Contractor agreement, used when the modification changes either the Contract Sum or the Contract Time. Usually signed by the Architect, the Contractor and the Owner, although in some instances change orders are prepared by the Contractor on a form that does not provide for the Architect's concurrence. [A.I.A. Document G701]

Changes In The Work - Changes ordered by the Owner consisting of additions, deletions or other revisions within the general scope of the Contract, the Contract Sum and the Contract Time being adjusted accordingly. All Changes in the Work, except those of a minor nature not involving an adjustment to the Contract Sum or the Contract Time, should be authorized by Change Order.

Clerk Of The Works - An observer of the construction process on-site, acting on behalf of and usually employed by the Owner to ensure that the work is being performed in accordance with the requirements of the Contract Documents. Similar to the Architect's project Representative.

Consent Of Surety Company To Final Payment - A form used, when there are Performance and Payment Bonds, for the bonding company to indicate their consent to the Owner's releasing retainage and making Final Payment. Some courts have recently held that the Owners and architects may be liable to sureties for premature release of retainage, making this form an important prerequisite to making final Payment. [A.I.A. Document G707]

Construction Change Authorization - A written order signed by the Architect, the Owner, and the Contractor that authorizes the Contractor to make a change in the work that will affect the Contract Price and/or the Contract Time by an amount that cannot readily be determined in advance. After the authorized change has been executed, the Contractor submits documentation on the actual cost or time expended and an appropriate Change Order is then issued. [A.I.A. Document G713]

Construction Cost - The cost of all of the construction portions of a Project, generally based upon the sum of the construction contract(s) and other direct construction costs. Construction Cost does not include the compensation paid to the Architect and consultants, the cost of the land, rights-of-way or other costs which are defined in the Contract Documents as being the responsibility of the Owner.

Contract Documents - All those documents which, together, describe the contractual relationship between Owner and Contractor. Usually, include a Form of Agreement, General Conditions, Supplemental Conditions, Technical Specifications, Drawings and (often) one or more Addenda.

Contract Limit - A limit line or perimeter line established on the Drawings or elsewhere in the Contract Documents defining the boundaries of the site available to the Contractor for construction purposes.

Contract Sum - The amount of money an Owner agrees to pay a Contractor for performing a contract. The Contract Sum may change (either up or down) during a project if the Owner and Contractor agree to modify the agreement by Change Order.

Contract Time - The period of time allowed under an agreement within which the Contractor must complete or substantially complete his work.

Contractor's Affidavit Of Payment Of Debts And Claims - A form submitted by the Contractor at the conclusion of the project before release of final payment, which certifies that he has paid or otherwise satisfied all debts arising out of the project for which the Owner might be held responsible. [A.I.A. Document G706]

Contractor's Affidavit Of Release Of Liens - A form submitted by the Contractor at the conclusion of the project, before release of Final Payment, transmitting waivers of lien for himself and all subcontractors, material suppliers, or other parties who may have lien rights against the Owner's property, unless specifically listed as an exception. NOTE - This form is *not* a waiver of lien for the Contractor, although it is often erroneously used as such. [A.I.A. Document G706A]

Final Payment - Payment made by the Owner to the Contractor, upon issuance by the Architect of the final Certificate for Payment, of the entire unpaid balance of the Contract Sum as adjusted by Change Orders.



Reroofing Ridgefield High School. Ridgefield, CT

General Conditions - That portion of the Contract documents that defines the roles and responsibilities of the various parties involved and describes the procedures to be followed for certain standard circumstances such as insurance coverages, periodic payments, change orders, defaults, termination of the contract and the like. Often a standard, pre-printed document is used for the General Conditions. A.I.A. Document A201 is one such; professional engineers' groups have another, and many governmental agencies provide their own.

Indemnification - A contractual obligation by which one person or organization agrees to secure another against loss of damage from specified liabilities.

Instructions To Bidders - That section of the Bidding Documents that informs prospective bidders of the procedures and prerequisites for submitting a Bid.

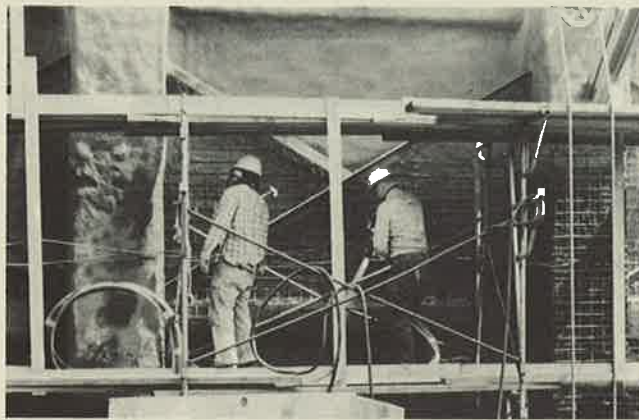
Invitation To Bid - A portion of the bidding requirements soliciting bids for a privately financed construction Project.

Labor And Materials Payment Bond - A financial guarantee that the Contractor will pay all suppliers of labor and materials expended on a project. [A.I.A. Document A311]

Lien - A legal attachment placed against a property for nonpayment of debts incurred for materials or labor used to improve or construct the property.

Liquidated Damages - Where late completion of a project will result in financial losses to the Owner that would be difficult to determine exactly, an agreement is reached between Owner and Contractor to have the Contractor pay the Owner a pre-agreed amount as liquidated damages. This usually is on the basis of a set dollar amount for each day the work exceeds the Contract Time. Courts generally hold that, to be enforceable, the amount specified as Liquidated Damages must be reasonably related to probable actual financial damages.

Performance Bond - A financial guarantee that the Contractor will satisfactorily complete the project, or the issuer of the bond will pay (up to the face amount of the bond) some other party to do so. [A.I.A. Document A311]



Building Rehabilitation

Progress Payment - Partial payment made during progress of the Work on account of work completed and/or materials suitably stored.

Project Manual - A book containing all written Contract Documents except the Drawings. This may include the Bidding Documents, sample forms, General and Supplemental Conditions, Division 1 documents (which spell out particular conditions of a specific project) and Technical Specifications. [Often referred to as "W the Specifications W."]

Retainage - A portion of the money earned by the Contractor, withheld from periodic payments and held by the Owner as assurance that the Contractor will complete the project.

Samples - Physical examples furnished by the Contractor for the Architect's review and approval, which illustrates materials, equipment or workmanship, and which establish standards by which the Work will be judged.

Schedule Of Values - A breakdown of the Contract Sum into amount related to various trades or major portions of the Work. When approved by the architect, the Schedule of Values is used to review requests for periodic payment, with work being billed shown as a percentage completed of each line item. Usually prepared on A.I.A. Document G703, or a comparable form furnished by engineers' professional societies. Some government agencies require the use of their own form for the Schedule of Values.

Shop Drawings - Detail drawings prepared by the Contractor or his subcontractor or supplier to show the exact configuration of an item or assembly proposed for use on the project, and how it fits into the surrounding construction. Shop drawings are reviewed by the Architect (and consulting engineer, where appropriate) for overall conformance to the specifications and design intent of the Contract Documents. It is the Contractor's duty to verify all critical dimensions at the site and to confirm that the item or assembly can be installed as shown in the shop drawings.

Specifications - Customarily taken to refer to the book of written material that, along with the Drawings, constitutes the Contract Documents describing in full the requirements and terms of the agreement between Owner and Contractor. More properly the Technical Specifications. [See "W Technical Specifications W" and "W Project Manual W."]

Subcontractor - Usually a contractor engaged in a specific trade, such as an electrician or a plumber, who undertakes to perform the work of that trade on a project for the prime contractor ("W Contractor W"), who frequently performs only certain trades with personnel employed directly by him. Most contract forms and general conditions stipulate that the Owner has no contractual agreement with any subcontractor. However, subcontractors usually do have lien rights when they perform work on a property.

Substantial Completion - That point in a project when the Owner may occupy the premises for the purpose intended (beneficial occupancy), even though not all items of work may be one hundred percent complete. Under standard A.I.A. forms of agreement, most monies withheld are released to the Contractor upon certification of substantial Completion. Use of the term may not be appropriate in repair and renovation contracts where the Owner occupies the premises throughout, because dispute frequently arises as to what constitutes "W substantial W" completion.

Supplemental Conditions - A document prepared to modify or delete provisions of the General Conditions or to add other provisions in order to adapt standard, pre-printed General Conditions to the needs of a particular project.

Surety - Bonding company or other financial interest that provides a monetary guarantee of the contractor's satisfactory performance, typically in the form of a Performance Bond and a Labor and Materials Payment bond.

Technical Specifications - Those portions of the Project Manual that describe the scope of work, materials and procedures required of the various trades whose work makes up the construction of a project.

Unit Price - An amount established in the Contract Documents or stated in the Bid as a price per unit of measurement for materials or services as described in the Bidding Documents or in the proposed Contract Documents.

Waiver Of Lien - A legal document executed by a supplier or a subcontractor, stating that lien rights against the Owner's property are waived to the extent of payments received (normally stated as a dollar amount).

Work - All labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.

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DUTIES, RESPONSIBILITIES AND LIMITATIONS OF AUTHORITY OF THE ARCHITECT'S PROJECT REPRESENTATIVE

AIA DOCUMENT B352

Recommended as an Exhibit When an Architect's Project Representative is Employed

1. GENERAL

1.1 The Architect and the Architect's Project Representative have authority to act on behalf of the Owner only to the extent provided in contractual agreements to which the Architect is a party. The Project Representative shall confer with the Architect at intervals and on occasions appropriate to the stage of construction. The Project Representative shall communicate with the Owner through, or as directed by, the Architect; and shall not communicate with Subcontractors unless authorized by the Contractor and the Architect.

2. DUTIES AND RESPONSIBILITIES

2.1 Observe the progress and quality of the Work as is reasonably necessary at that stage of construction to determine in general that it is proceeding in accordance with the Contract Documents. Notify the Architect immediately if, in the Project Representative's opinion, Work does not conform to the Contract Documents or requires special inspection or testing.

2.2 Monitor the construction schedule and report to the Architect conditions which may cause delay in completion.

2.3 Review Contract Documents with the Contractor's superintendent. Obtain necessary interpretations from the Architect and transmit them to the Contractor.

2.4 Consider the Contractor's suggestions and recommendations, evaluate them and submit them, with recommendations, to the Architect for a final decision.

2.5 Attend meetings as directed by the Architect and report to the Architect on the proceedings.

2.6 Observe tests required by the Contract Documents. Record and report to the Architect on test procedures and, where applicable, the results. Verify testing invoices to be paid by the Owner.

2.7 Maintain records at the construction site in an orderly manner. Include correspondence, Contract Documents, Change Orders, Construction Change Authorizations, Architect's Supplemental Instructions, reports of site conferences, Shop Drawings, Product Data, Samples, supplementary drawings, color schedules, requests for payment, and names and addresses of contractors, subcontractors and principal material suppliers.

2.8 Keep a diary or log book recording the Project Representative's time and activities related to the Project, weather conditions, nature and location of Work being performed, verbal instructions and interpretations given to the Contractor, and specific observations. Record any occurrence or Work that might result in a claim for a change in Contract Sum or Contract Time. Maintain a list of visitors, their titles, and time and purpose of their visit.

2.9 Assist the Architect in reviewing Shop Drawings, Product Data and Samples. Notify the Architect if any portion of the Work requiring Shop Drawings, Product

Data or Samples is commenced before such submittals have been approved by the Architect. Receive and log Samples which are required to be furnished at the site, notify the Architect when they are ready for examination, and record the Architect's approval or other action. Maintain custody of approved Samples.

2.10 Observe the Contractor's Record Drawings at intervals appropriate to the stage of construction and notify the Architect of any apparent failure by the Contractor to maintain up-to-date records.

2.11 Review Applications for Payment submitted by the Contractor and forward them to the Architect with recommendations for disposition.

2.12 Review the list of items to be completed or corrected which is submitted by the Contractor with a request for issuance of a Certificate of Substantial Completion. Inspect the Work and if the list is accurate, forward it to the Architect for final disposition; if not, so advise the Architect, and return the list to the Contractor for correction.

2.13 Review and report to the Architect on conditions of the portions of the Project being occupied or utilized by the Owner or separate contractors, to minimize the possibility of claims for damages.

2.14 Assist the Architect in final inspection of the Work. Receive from the Contractor and prepare for transmittal to the Owner the documentation the Contractor is required to furnish at the completion of the Work.

3. LIMITATIONS OF AUTHORITY

The Project Representative shall NOT:

3.1 Authorize deviations from the Contract Documents.

3.2 Approve substitute materials or equipment except as authorized in writing by the Architect.

3.3 Personally conduct or participate in tests or third party inspections except as authorized in writing by the Architect.

3.4 Assume any of the responsibilities of the Contractor's superintendent or of Subcontractors.

3.5 Expedite the Work for the Contractor.

3.6 Advise on, or issue directions concerning, aspects of construction means, methods, techniques, sequences or procedures, or safety precautions and programs in connection with the Work.

3.7 Authorize or suggest that the Owner occupy the Project in whole or part.

3.8 Issue a Certificate for Payment or Certificate of Substantial Completion.

3.9 Prepare or certify to the preparation of Record Drawings.

3.10 Reject Work or require special inspection or testing except as authorized in writing by the Architect.

3.11 Order the Contractor to stop the Work or any portion thereof.

A Guide to Improving Construction Contracts

by James P. Groton

The construction process involves a complex series of contractual relationships among dozens of different organizations. If the written contracts that reflect these relationships do not conform to the realities of the construction process or are not reasonably uniform and consistent, chaos can occur.

Because of the unique nature of the construction process, conventional legal approaches to an individual construction contract which do not take into account the established customs, practices, and language of the construction industry or which fail to anticipate the effect that one contract can have on the entire process, can often create unintended results that are actually counterproductive.

This article provides a basic guide for the preparation of well thought out, consistent construction contracts that will facilitate, not interfere with, the construction process.

PREPARATORY STEPS

Before attempting to prepare a construction contract, go through the following preparatory steps.

1. Determine methods of project delivery and pricing. There are a



number of different methods for delivering a project and many different ways of calculating prices for construction. The characteristics of the project and the owners' objectives will usually dictate the project delivery and pricing methods. The following methods are most often used, alone or in combination:

Lump-Sum Contract Method (through bidding or negotiation);
Cost-Plus-Fee Contract Method;
Unit-Price Contract;
Method Construction Management Contract Method;
Design/Build Contract Method;
Combination Methods.

2. Make a checklist of major points to be covered in the contract.

Printed standard forms of contract serve as excellent checklists to make certain that nothing important is left out of the contract. One useful

checklist source is a document entitled "Uniform Location of Subject Matter", jointly issued by American Consulting Engineering Council (ACEC), American Institute of Architects (AIA), Construction Specifications Institute (CSI), and National Society of Professional Engineers (NSPE).

3. Consider how risks are to be allocated.

Depending upon the method of project delivery, consider which risks are to be borne by which party. The best principles for allocating responsibility are that controllable risks should lie with the party who is in control; risks that cannot be controlled should be allocated to the party best able to protect against or absorb unexpected risks. Generally, careful risk allocation will result in greater competition, lower bid or negotiated prices, and more efficiency in job execution. This is because there will be fewer contingencies, reduced contractor risk, greater contractor confidence in contract administration, and greater productivity from construction talent. Also, intangible factors of mutual confidence are greatly improved by following this approach.

4. Select the Standard form contract which most closely fits the project's requirements.

In light of the foregoing considerations, examine the standard forms of construction contract which are currently available from authoritative construction industry sources and select the form which most closely fits the requirements of the particular project, for use as a base document for the preparation of the contract, to be modified as necessary and only as necessary to adapt to the project's needs.

CONSIDERATIONS IN USING STANDARD FORM CONTRACTS

Printed standard forms of contract are a virtual economic, administrative, and practical necessity in the construction industry. They should reflect accepted norms within the industry, be familiar to all contracting parties, employ accepted definitions and language to have achieved a degree of certainty through long use and court interpretation, and be coordinated with each other. Standard forms provide consistency, avoid "reinventing the wheel," and eliminate many of the uncertainties that can affect bid prices and relationships during the course of the project. By providing uniformity in contract terms and conditions, they focus competition on such substantive matters as quality, competence, and price.

The following organizations publish and distribute standard forms of construction contracts:

American Institute of Architects
(AIA)

Engineers Joint Contract Documents Committee (E) CDC
Associated General Contractors
(AGC)

PREPARING CONSTRUCTION CONTRACTS AND ALTERING STANDARD FORMS

No individual attorney or group of attorneys, regardless of their construction industry experience, could possibly duplicate the scope, quality, and thoroughness of the accepted construction industry standard forms of contract documents. If all the terms of these standard documents do not fit the special requirements of the particular project or owner, the documents can easily be amended with supplementary conditions that preserve the basic format and advantages of the standard forms.

When modifying form contracts, the following factors should be kept in mind:

1. Standard form contracts need to be used intelligently. They can be extremely useful when they fit the needs of the project. If they do not fit the particular project delivery method that is needed, or if conditions peculiar to the project require modification, great care must be taken in using the standard forms.
2. Be aware that the same subject may be covered in more than one document and in more than one place in the same document. Changing one provision can have an unintended effect on other provisions in the same document or in other documents. When changes are made, the entire document or series of documents should be completely and carefully reviewed in order to eliminate inconsistencies.

3. When, in rare instances, it is necessary to rewrite completely a form of contract, following the traditional and familiar format of the well-known standard form contracts has a number of advantages: (1) it provides a disciplined and logical structure, as well as a checklist, for amendments; and (2) it provides useful cross-references from section to section, so that when one section is revised, other sections which will be affected by the revision are easily identified.

CONCLUSION

The construction industry has come to rely upon tested, balanced, and accepted standard forms of construction contracts to eliminate or solve problems. The prudent and judicious use of such standard forms should reasonably assure that parties are communicating through common language and concepts, and that the documentation of their relationships will conform to the realities of the construction process. ■ ■ ■

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Asbestos Update

Building owners and managers and, particularly, architects and engineers may have come across literature promulgated by a relatively new organization called the Safe Buildings Alliance (S.B.A.), which has offices in Washington, D.C. This group is arguing strongly *against* abatement of asbestos conditions in existing buildings. While one keystone of their argument (that asbestos in a building is not hazardous to occupants unless fibers are released into the air) is correct, Hoffmann Architects feels that our readers should be aware of who is behind this information.

"The Safe Buildings Alliance is an incorporated association of manufacturers who previously supplied or whose subsidiaries previously supplied asbestos-containing materials for the construction industry." ["What You Should Know About Asbestos in Buildings", Published by The Safe Buildings Alliance.]

The S.B.A. implies that removal of asbestos containing materials "often" or "usually" results in increased fiber release, "...even when careful work practices are followed." While we agree that removal may not always be necessary or even the most desirable course of action, we do not feel that proper removal creates a greater hazard than other methods of abatement control. The S.B.A. downplays the impact of having to institute and maintain an asbestos control plan in buildings known to contain asbestos. An asbestos control plan includes the following elements:



photo courtesy of Kaselaan & D'Angelo Associates, Inc.

keeping track of locations of asbestos in a building and monitoring its condition; training workers in the building on procedures for working with and around the asbestos; making certain the workers follow the procedures; purchasing and maintaining special equipment such as HEPA vacuums and respirators; maintaining records on these activities for at least 25 years.

We recommend that our clients who suspect or know they have asbestos in their buildings engage a qualified asbestos consultant (not a contractor or just a testing laboratory) to prepare a complete asbestos hazard assessment. Only then can the proper decisions be made regarding removal or other forms of abatement/control. Once again, we strongly recommend against ignoring the problem. If you know it is in your building, it won't go away by itself, and it may in the future affect rentals and/or sale of the property.



Fire Shutter Alert

Overhead shutters are sometimes used to isolate atrium spaces from open balconies and walkways during fires. This can prove to be almost as hazardous as the fire itself.

First of all, the rate of descent of most fire shutters is controlled by a governor that determines how fast the shutter falls. Other shutters, and those which have not been correctly installed or tested, will drop with guillotine-like force, in many cases, enough to decapitate anyone unfortunate enough to be leaning out over the balcony.

Secondly, the fire shutters are usually activated by fusible links. This is a system where the switch must reach a certain temperature before it works. This is all well and good when the flame is directly below the fusible link. However, the main cause of fire-related deaths is not the *flame* but rather *toxic smoke* given off by the combustion of such normal items as furniture, wallcoverings, insulation, etc. Oftentimes, an apparent flame is not even necessary to kill people — smoldering furniture and carpeting will do the same thing. Thus, the fusible links will not help to isolate toxic smoke from the rest of the building.

Third, the hydraulic fluid used in the fire shutters may not be able to withstand the extremely high temperatures that quickly develop during fires. Thus, even if the fire shutter is regulated to drop safely, and the fusible links activate the

staff and technical notes

Alert continued

system before the smoke spreads, the fire shutter may not close at all, due to breakdown of the hydraulic fluid.

Finally, if the shutters work correctly, if someone should by chance be caught on the wrong side of one, *there is no getting back*. The doors are too heavy to lift, and cannot be manually operated once they have automatically dropped. We don't need to tell you the consequences. . . . ■ ■ ■

While Hoffmann Architects/Journal attempts to provide the most accurate information on general subjects, it is not intended to be a substitute for professional architectural/engineering services. We strongly urge you to consult a qualified rehabilitation architecture/engineering firm (ours) for answers to specific questions.

Staff News

ACCOMPLISHMENTS

Walter E. Damuck, CSI, AIA was a recent speaker at Arbitration Day, Hartford, Connecticut. Walter's topic was "Writing the Arbitration Clause." He was also a speaker for the Construction Specification Institute on asbestos. He spoke about various types of asbestos, testing for its presence, legal implications and impact on building owners.

John J. Hoffmann, AIA and **Karen Warseck** were recently published in the 25 September issue of PLANT ENGINEERING. The article was a joint effort, entitled "Detecting and Identifying Roof Maintenance Problems." **Hoffmann** was also quoted in the "Roofing Review '86" article that appeared in the October 1986 issue of BUILDINGS DESIGN JOURNAL.

Hoffmann Architects Journal was included in a book called FORTY EFFECTIVE NEWSLETTERS BY PE FIRMS, written by Joan Capelin of Capelin Communications.

RECENT ADDITIONS TO OUR FIRM

Brian W. Schafer is the newest member of our Atlanta, Georgia office. He holds the position of Marketing Manager. Brian is originally from Omaha, Nebraska and is a graduate of Kearney State College.

If you would like more information about the services we offer, contact Peter Borgemeister in the Connecticut office or Brian Schafer in Atlanta.

THE FOLLOWING STAFF MEMBERS ATTENDED RECENT SYMPOSIUMS

Theodore F. Babbitt, AIA	The Window Conference and Exposition for Historic Buildings	Boston, MA
Walter E. Damuck, AIA	New York City Eastern Region Asbestos Abatement Conference	New York, NY
John J. Hoffmann, AIA	Building Thermal Envelope Coordinating Council	Fort Worth, TX
Amy C. Kilburn, AIA	How to Conduct Plans Review and Inspection of Automatic Sprinkler Systems	San Diego, CA
Harwood W. Loomis, AIA	The Window Conference and Exposition for Historic Buildings	Boston, MA
Bruce R. Soden	Better Understanding of Roofing Systems Institute	Lakeland, CO