

# Construction Phase: Observation

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\*A maximum of 40 hours of core credit may be earned in this experience area.

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# Construction Phase: Observation

## Introduction

By completing the activities in this chapter, you will gain an understanding of the field activities involved in construction phase observation.

The following information is taken from the NCARB IDP Guidelines:

### Construction Phase: Observation

Minimum Construction Phase Observation Experience: 120 Hours

Definition: Tasks carried out in the field include observing construction for conformance with drawings and specifications and reviewing and certifying amounts due to contractors.

### Tasks

At the completion of your internship, you should be able to:

- Conduct on-site observations
- Document and communicate status to owner and constructor
- Resolve constructability issues

### Knowledge Of/Skill In

- Constructability
- Construction procurement
- Contract negotiation
- Contracts (e.g., professional services and construction)
- Electronic communications (e.g., virtual offices, video-conferencing, web-based networking)
- Interpersonal skills (e.g., listening, diplomacy, responsiveness)
- Invoicing for services
- Oral and written communications
- Permit and approval processes
- Project budget management
- Project delivery methods
- Project records management
- Risk management (e.g., professional and general liability)
- Team building, leadership, participation
- Attend, conduct, and record meetings
- Document project status and progress

## resources

Download the current Intern Development Program (IDP) guidelines at [www.ncarb.org/Experience-Through-Internships.aspx](http://www.ncarb.org/Experience-Through-Internships.aspx).

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The American Institute of Architects. Demkin, Joseph A., ed. *The Architect's Handbook of Professional Practice*. 14th ed. Hoboken: John Wiley & Sons, 2008.

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The American Institute of Architects. Demkin, Joseph A., ed. *The Architect's Handbook of Professional Practice*. 13th ed. New York: John Wiley & Sons, 2001.

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The American Institute of Architects, *The Architecture Student's Handbook of Professional Practice*. 14th ed. Hoboken: John Wiley & Sons, 2009.

## Narrative

The architect's services during construction begin on the date established in the owner-contractor agreement or set out in the notice-to-proceed. From this point forward, project meetings are normally conducted at the construction site rather than in the owner's conference room, and many new team members participate. Each meeting agenda includes the status of construction phase activities, and the contractor and primary subcontractors report on the progress of construction in their areas. Requests for information, project change documents, submittals, and payment applications are among the items architects monitor and track as part of their services. The architect's primary goal is to protect the owner's interest at a time when great amounts of the owner's money are being spent in a short amount of time. You are required to report on the progress and quality of the work while keeping the submittal review flowing and maintaining control of the contract documents.

It can be exciting to travel to a job site and represent the owner during construction, but it is also challenging to juggle paperwork and site responsibilities. Issuing site observation reports, reviewing submittals, and documenting changes in a timely manner requires careful planning, an organized schedule, and efficient execution.

This chapter addresses tasks generally carried out by the architect at the project site during the construction phase of project delivery. The material presented here duplicates to some degree that in [Chapter 3B - Construction Administration](#), which stresses construction increment services provided from the architect's office. It is suggested that you review both chapters to gain a full perspective on the scope of the architect's services during construction.

## Team Relationships

Team relationships during the construction increment of traditional design-bid-build project delivery center on the three primary players—the owner, the architect, and the contractor. The architect and the contractor have a direct contractual relationship with the owner but no contractual relationship with each other. Nonetheless, the architect serves as a direct line of communication between the owner and contractor, and the contractor must perform largely to the architect's satisfaction. The owner holds a contract that requires a specific performance from the contractor, and the architect is the judge of that performance. The owner looks to the architect to determine if the contractor has met his contractual obligations. That is why the owner must provide the architect with a copy of the owner-contractor agreement if you are expected to administer that contract.

In addition, all three players may have contracts with consultants or subcontractors who are actively involved in construction activities. Because of the contractual structure, the architect does not communicate directly with the contractor's subs, and the contractor does not communicate directly with the architect's consultants.

## notes

*Take brief notes while reading the narrative and list key resources you used to complete the activities. Note discussion outcomes from meetings with your supervisor, mentor, or consultants. When finalizing the activity documentation (PDF), include your notes and the Emerging Professional's Companion activity description.*

# Construction Phase: Observation

## Preconstruction Conference

The preconstruction conference is used to introduce the project team, review the timeline, establish communication channels, and organize the activities that will take place during construction. In the design-bid-build method of project delivery, this meeting is typically scheduled and chaired by the architect, who uses it to establish project procedures for an orderly construction administration process.

“Suggested Agenda Topics for a Preconstruction Conference,” in the Resources side bar, can be used as a reminder of topics that may be covered during the preconstruction conference.

## Construction Observation Activities

The architect’s responsibilities for observing construction and determining if the contractor is supporting the design intent fall into six categories: construction observation, document clarification, submittal review, payments to the contractor, certification of completion, and project closeout.

### Observing Construction

The architect is typically required by contract to keep the owner apprised of construction progress and quality. The owner relies on these reports to keep up with the progress and quality of the work, and a close owner architect relationship can result from this direct form of communication. To document what the architect has observed in the field and enable the delivery of this information to the client, the architect can use AIA Document G711™, Architect’s Field Report. As with all document types issued repeatedly during a project, each report should be dated and sequentially numbered.

### Clarifying Construction Documents

Construction documents typically have not been drawn to indicate specific product dimensions and characteristics. This may change as integrated project delivery gains greater status in the profession. In any case, they can never be detailed enough to answer every question a contractor or subcontractor may have, thus a primary activity of the architect during construction is to provide clarifications and interpretations. The primary vehicle for conveying the contractor’s questions to the architect has become the request for information (RFI). AIA Document G716™, Request for Information (RFI), is a convenient form to use in that it is generic and can be used by any member of the project team.

The architect responds in an appropriate manner, perhaps by simply answering the RFI or by issuing supplemental instructions that do not change the contract sum or time. AIA Document G710™, Architect’s Supplemental Instructions, is available for this purpose. Should a document clarification result in a change in the contract scope or a change in the construction schedule, a change order will be required to make the proper adjustment in the contract.

Construction is not an exact science, and project participants may propose

## resources

### Suggested Agenda Topics for a Preconstruction Conference

- *Notice to proceed.* The owner may issue written notice to proceed to the contractor; any questions should be discussed.
- *Explanation of chain of command.* Includes routing of shop drawings, catalogs, samples, project reports, scheduling reports, and maintenance instructions.
- *Project meetings.* Scheduling, agenda, and attendance at project meetings are discussed.

Find more suggested preconstruction conference agenda topics in the excerpt, “A Sample Preconstruction Conference Agenda,” from *The Architect’s Handbook of Professional Practice*, 13th. ed.

### AIA Contract Documents

AIA Contract Documents are considered the industry standard. Learn more at [www.aia.org/contractdocs](http://www.aia.org/contractdocs). In addition, samples of AIA Contract Documents are available for interns. [View the list of sample contract documents and resources for interns.](#)

# Construction Phase: Observation

different resolutions to an issue. The contractor's plan for constructing portions of a project may not be consistent with the architect's response to an RFI. AIA Document G716™ provides for the sender to propose a solution to the question, thus allowing the contractor, who usually has the best solution to the problem, to provide the architect with a viable alternative.

This frequently speeds up the RFI review process when the architect agrees with the proposed solution. The caution that the architect must take is to determine if the contractor's proposed solution adds to the contract sum or time.

With some RFIs, a meeting may be required to discuss the issues and determine a solution that is acceptable to all parties. The architect must therefore be ready to go to the site on short notice and stay until the issue is resolved. Activities can involve walking the site to review the built condition and discuss alternatives. If the site is not near the architect's office, digital images can be emailed for discussion. The architect's objective in responding to a challenging RFI is to research the condition, provide the necessary information and assistance, and bring the issue to closure as quickly as possible. Suggested steps for resolving difficult issues brought up by the contractor include the following:

1. Identify the problem
2. Gather relevant information
3. Consult appropriate resources for information required for resolution
4. Involve appropriate participants
5. Require representation from authoritative participants
6. Develop possible solutions
7. Analyze options
8. Recommend a solution
9. Execute the owner's decision

This seems like a lot of steps to cover in a short period of time, and it usually is. That is why effective construction administration should be proactive instead of reactive. The more involved the architect is in the construction administration process, the more quickly questions can be answered. A very important requirement for the efficient resolution of issues is to have people with decision-making authority involved in the resolution process. If authorized decision-makers are not involved, the process will not move as quickly. In addition to the ongoing tasks of interpreting the design documents and issuing clarifications, the architect must manage a number of routine tasks during construction. These are outlined in the following text.

## Managing and Reviewing Submittals

Although the submittal review process is typically administered in the architect's office, as discussed in [Chapter 3B - Construction Administration](#), some submittal-related tasks must be undertaken on the project site. Since submittals are detailed depictions of how the contractor will execute the work, they are essential to reviewing the work for conformance to the construction contract. The contractor typically is required to keep an up-to-date set of approved submittals on the job site, and the architect can reference these when performing site observations and duties. If a full-time project representative has been employed, a complete

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# Construction Phase: Observation

set of approved submittals is usually maintained in the architect's on-site office.

AIA Document A201™, General Conditions of the Contract for Construction, requires the contractor to review and coordinate the various submittals of its subcontractors. General conditions documents preceding A201™ required the contractor to provide a signed approval stamp on the documents before the architect was obligated to review it. The 2007 revisions do not require the stamp and signature, but instead state that the submission of a submittal by the contractor is a representation that he or she has reviewed or taken appropriate action on the document.

Contractor's stamp or no stamp, the true indication of the contractor's review of the submittal is marks and notations. Remember that one of the contractor's primary duties is to coordinate the subcontractors and prepare a plan for the work. It is only logical that submittals prepared by separate subcontractors will require coordinating marks and notations.

Accordingly, pristine submittals should be viewed with caution, and if the contractor's review is not taking place, the documents should be returned for proper review as required by A201™. However, care should be used to avoid delaying the review process with these actions. A more expedient response would be to take the submittal to the site and confront the contractor face to face.

Since the submittal process typically does not end until well into construction, the status of submittals should be a standard agenda item during project meetings. The requirement for the contractor to provide a submittal schedule should be strictly enforced, and the architect should stay on top of outstanding submittals and endeavor to avoid delays in reviewing and processing them.

Delinquent and poorly prepared submittal schedules are more common these days than we all would like, and immediate action should be taken to enforce this important contract requirement. The architects will be held accountable for the RFI review and response status, which will likely be advertised in the project meeting, so it is only proper that the contractors are held accountable for the submittal schedule as well.

One approach to enforcement is to send an RFI to the contractor requesting the submittal schedule. Remember that A201™ requires that the schedule be acceptable to the architect, and an unacceptable schedule is as much in default as a nonexistent one. RFIs originating from the architect are still somewhat new to many owners and contractors, so establishing this process in the preconstruction conference is recommended.

## Reviewing and Approving Applications for Payment

Payment for the contractor's work must be timely to avoid disrupting the labor force or supply of materials and to enable payment to the contractor in accordance with contract terms. The payment process has many participants and takes time to administer. The architect is required

## resources

### Submittal Stamp Examples

Ask to see your firm's submittal stamp as an example.

You can also view an example submittal stamp via the AIA Architect's Knowledge Resource (AKR): [www.aia.org/akr/Resources/Documents/AIAB079691](http://www.aia.org/akr/Resources/Documents/AIAB079691)

# Construction Phase: Observation

to be aware of the general progress and quality of the work and act timely in reviewing and approving the contractor's applications for payment.

The AIA standard documents provide two forms for certification of the contractor's application for payment—G702™, Application and Certificate for Payment, and G703™, Continuation Sheet. The contractor fills out G703™ to show the status of the work to date, broken into portions in accordance with the schedule of values (costs) submitted in accordance with the requirements of the general conditions of the contract for construction. A summary of these figures, as well as a statement of previous payments, is then entered on G702™ to serve as the contractor's application for payment. The contractor certifies under a notary's seal that the document is correct and the work has progressed as represented. The architect's approval (or certification) of this application is also made on the G702™.

The payment process takes time, and delays in processing the contractor's payment can result in protective actions by the contractor in the form of liens or a work stoppage. AIA Document A201™, General Conditions of the Contract for Construction, requires the architect to respond to the application for payment within seven days of receiving it from the contractor. The architect's certification represents that the architect has evaluated the work and the data comprising the application for payment and determined, to the best of the architect's knowledge, information and belief, that the work has progressed to the point indicated by the contractor, and that the quality of the work is substantially in accordance with the contract documents. An effective way to handle this task is to schedule a site visit just before the application is submitted. This will allow the architect to walk the site with the contractor using a draft, or "pencil" copy of the application to compare to the work in place. Any revisions the architect requires to more accurately reflect work conditions can then be made by the contractor, avoiding subsequent reviews or challenges after the application is submitted.

Certification of the application for payment allows the contractor to be paid for stored materials that have not been installed on the project. These materials are often stored off site in an approved bonded warehouse. The architect should schedule time during a site visit to observe the stored materials indicated on the application. Evidence is typically required from the contractor that the warehouse is bonded and that the listed materials are stored there.

If the size of the project site allows, the materials may be stored on-site. In this case, the architect should conduct a review to determine if the materials are present and properly stored. It is not the architect's responsibility to count rebar or metal studs, so written confirmation by the contractor evidencing the materials may be required.

Work performed under the construction contract that is the design responsibility of licensed engineers must be reviewed and certified for payment by these design professionals for completion and quality. Consultants such as structural and M/E/P engineers must visit the site and review the progress and quality of the work at payment time just like the architect does.

## notes

# Construction Phase: Observation

Some State licensing boards have ruled that certification of payment for the engineering design scope by the architect constitutes the practice of engineering. Accordingly, the architect must require these engineers of record to provide independent certifications for payment for their portion of the work. This can be accomplished with a letter or a memorandum. It is recommended that all design professionals reviewing the work coordinate their visitation schedules for this purpose.

## Sustainable Design and LEED Certification

Sustainable design and construction practices are gaining in popularity and frequency. When a project is pursuing a LEED certification, there are opportunities for the contractor to achieve certification credit through sustainable practices and the use of sustainable materials during construction. It is important that the construction administrator be aware of related sustainable activities when administering the construction contract on a LEED certified project. It is also important that the architect reviews and observes that the sustainable aspects of the design, particularly those required for LEED certification, are being executed as called for in the construction documents.

## Integrated Project Delivery

Integrated project delivery (IPD), is quickly becoming the rule rather than the exception. For many years, related components of IPD such as design/build and fast-track scheduling have been practiced. When IPD is fully developed, the architect's activities during the construction phase may vary significantly from those practiced in today's market.

## Project Completion And Closeout

### Determining Completion

During the construction phase, the architect is responsible for determining two types of project completion—substantial completion and final completion.

Substantial completion is the stage in a project when the owner can occupy or use a building for its intended use, as defined in the general conditions (A201™, §9.8). AIA Document G704™, Certificate of Substantial Completion, is a standard form for recording the date of substantial completion.

The certificate establishes the date of substantial completion and the responsibilities of the owner and contractor for security, maintenance, heat, utilities, damage to the work, and insurance requirements. It also establishes a date by which the contractor must complete all items on the punch list that relates to the certificate. Warranties required by the contract commence on the date of substantial completion of the work or designated portion thereof unless otherwise agreed.

On larger projects, several substantial completion certificates may be used to cover designated portions of the work. In this case, the project is typically certified substantially complete by defined areas, such as individual floors in multi-level buildings or separate wings of a single-story building. The contractor and the architect typically agree on a schedule

## resources

AIA Contract Documents are considered the industry standard. Learn more at [www.aia.org/contractdocs](http://www.aia.org/contractdocs). In addition, samples of AIA Contract Documents are available for interns. [View the list of sample contract documents and resources for interns.](#)

Garner, Bryan A. *Black's Law Dictionary, Standard Ninth Edition*. N.p.: West, 2009.

The American Institute of Architects. *Integrated Project Delivery: A Guide*.



# Construction Phase: Observation

for the substantial completion inspections. Although the contractor is contractually responsible for preparing the list of items for completion or correction, the architect and architect's consultants must review the list for completeness and add any missing information. The architect is not responsible for the completeness of the list, however, and subsequent discoveries of incomplete or incorrect work can be added.

The list of items for completion or correction, also known as the “punch list”, can take a variety of forms. The most popular is the narrative, and it is typically prepared initially on a hand-held voice recorder. The information is transcribed on site or at the architect's office and published to the contractor.

Other methods of preparing punch lists include the plan method, where a copy of the floor plan is used in conjunction with a numbered or lettered key indicating repetitive conditions. Yet another method is the room data sheet, where a list or enlarged room plan is prepared on a single page for each room or area. A numbered or lettered key, a list, or a narrative of conditions is entered on the page and affixed in the room or on the door. As the contractor and his subcontractors complete or correct the items on the list, they sign off on the room data sheet. This is a popular approach with contractors.

## Nonconforming Work

Completed projects almost always contain nonconforming work that has been accepted by the owner, as permitted in the general conditions (A201™, §12.3). Although these conditions may be minor in nature, they should be documented in the certificate if known by the architect. Lenders and purchasers typically rely on certificates of substantial completion as accurate representations of the status of the work, and omitting information about non-conforming work accepted by the owner can increase the architect's risk should the certificate be challenged.

The nonconforming work can be documented by listing it on a separate page that is attached to the certificate of substantial completion. Owners and lenders typically do not realize that the nonconforming work must be documented, so advance discussions are recommended, preferably in the preconstruction conference.

As in review of applications for payment, consultants who work under the architect's contract must review the work that is their responsibility for substantial completion. These consultants should review the project at substantial completion and certify to the architect that their portion of the work is substantially complete. This review includes going over the contractor's punch list and comparing it to the work in place. Since AIA Document G704™, Certificate of Substantial Completion, has no place for consultants to sign, a separate letter or memorandum attesting to this condition is acceptable.

The inspection of the work to determine substantial completion is different from scheduled reviews of the work by the architect, which are considered to be “observations.” This distinction is made because, according to Black's Law Dictionary, the term “inspection” means more than just observation. To inspect is to examine carefully or critically, or investigate and test officially, especially in a critical investigation or scrutiny.

## notes

# Construction Phase: Observation

## Undertaking Project Closeout

The owner's needs increase with occupancy of a project. Building sophistication and complexity require that necessary records and easy-to-use documentation be available when a building is ready to be occupied. A smooth transition to building occupancy will strengthen the relationship between architect and owner because ultimately the owner will remember more about building start-up and initial operations than the issues that were argued and debated during construction.

Upon written notice from the contractor that the work is ready for final inspection and acceptance, and upon receipt of a final application for payment, the architect and appropriate consultants inspect their respective portions of the work. When the work is found acceptable under the contract documents and it has been determined that the contract was fully performed, the architect issues a final certificate for payment supported by the respective consultants' payment certifications. Both the inspection and the issuance of the certificate are to be carried out promptly.

The conditions for final completion and final payment are defined in §9.10 of A201™, General Conditions of the Contract for Construction. The architect does not issue a certificate of final completion but only a final certificate for payment. This is because certifying final completion would legally represent that the architect has more than general familiarity with the work completed, which is a services limitation explicitly stated in §4.2.2 of A201™. Only the contractor is responsible for the completion and conformance of the work.

Before the owner makes the final payment to the contractor, §9.10.2 of the general conditions requires submittal of specific documents and representations. These include a certificate from the contractor's insurance provider that insurance required by the contract documents will remain in force after final payment and will not be cancelled or allowed to expire without 30 days prior written notice to the owner. A written document is also required stating that the contractor knows of no substantial reason the insurance will not be renewable to cover the periods required by the contract documents. AIA Document G707™, Consent of Surety to Final Payment, is also typically required for final payment.

The owner may require other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests, or other encumbrances arising out of the contract. AIA documents G706™, Contractor's Affidavit of Payment of Debts and Claims, and G706A™, Contractor's Affidavit of Release of Liens, may be used for these purposes.

The architect cannot find the contract to be fully performed until all required closeout documents and services have been completed. The specifications typically set out the requirements for closeout. Closeout documents include record copies of the contract documents, as well as required markups made by the contractor to indicate the as-built conditions and warranties.

Substantial completion certificates and the final certification for payment are critical documents for the owner and the contractor. The owner assumes control and responsibility for the building at substantial completion, including the cost of insurance, maintenance and utilities. The owner's loan may be affected, and lenders are naturally very interested in the certificates. Contractors often receive their profit for the project with the final certificate for payment as well as make final payment to their subcontractors.

Considering these significant documents that are finalized by the architect, it is an opportune time for the architect to settle any outstanding accounts. If the architect or its consultants has a fee outstanding for additional services, or if there is a balance remaining in the basic services fee, this is a good time to resolve these issues while everyone has cards on the table.

## Documents And Tools For Construction Observation

Construction administration services consist of many intangible activities—making decisions, communicating instructions, observing the work—and participants are judged by the timeliness and the accuracy of their

# Construction Phase: Observation

performance. Accordingly, these activities are recorded in writing or in digital form, even if they have first taken place orally. This record is then available to support the quality of services rendered should anyone's actions later be called into question.

Meetings, discussions, decisions, and approvals can be recorded in meeting reports, document logs, transmittal letters, memoranda, or a personal journal. A number of AIA documents are available for use in important communications between the architect and the contractor. Today, the architect in the field often has a laptop, a mobile phone and/or a tablet to help him or her stay on top of the details involved in construction contract administration.

## Reference Contracts

The architect has a contract with the owner that requires him or her to administer the owner's contract for construction according to established general conditions. Accordingly, the architect must be knowledgeable about these key documents.

The architect should become completely familiar with the owner-architect agreement before becoming involved with the project. How can the architect administer duties if they do not know what those duties are? Next, the architect should become completely familiar with the owner-contractor agreement and the general conditions of the contract for construction if he or she expects to know how and what to do during the construction phase.

To facilitate this objective it is recommended that the construction contract administrator keep copies of these key documents with their journal or in their laptop. Issues can and usually do arise that require reference to these documents. Should the requirements of these documents differ from the language of the AIA documents, it is suggested that the construction administrator note the differences for easy reference. Owners may not understand the importance of the architect having a copy of the owner-contractor agreement, and they may be reluctant to provide it. AIA Document B101™, Standard Form of Agreement Between Owner and Architect, §5.11, requires the owner to provide a copy of the owner-architect agreement to the architect including the general conditions. If the general conditions agreed upon between the owner and the contractor differ from A201™, the construction administrator should become familiar with the differing requirements and determine if architectural services consistent with the standard of care can still be provided. If not, negotiated revisions in the owner-contractor general conditions is advisable. In any case, the owner should be advised of this discrepancy.

## Reference Set of Contract Documents

The architect who visits the project site during construction will want to have a personal set of drawings and specifications for reference. This can be a hard copy set of drawings, or it can be digital media stored on the laptop hard drive. When a sheet is re-issued in a hard copy set, the new sheet is placed in the set on top of the old sheet, and the old sheet is marked to indicate that it is no longer valid. This set of documents provides a complete record of revisions so the architect can quickly reference old details and conditions.

## notes

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## Transmittal Letters

Because architects are judged on how quickly they act and react during the construction increment of project delivery, the transmittal letter is a valuable tool for documenting time sensitive administrative activities.

## Memoranda

Memoranda are used to record instructions, notices, decisions, conversations, or other important information. If you do not have a standardized format, a blank sheet of paper or an email will suffice to document a message or event.

## Personal Journal

To keep a personal record of project communications, architects may choose a sketchbook, binder, or some form of digital documentation. As long as the information is organized and accessible, the format is less important. Such a journal is used to keep track of critical topics or activities, and it becomes a log of events and decisions.

## Request for Information

AIA Document G716™, Request for information (RFI), used to ask for information on a project, can be initiated by the owner, architect, or contractor. The contractor is typically the most active sender, and since contractor questions are often time sensitive, it is important that all RFIs be responded to in a timely manner. A frequently required turnaround time for reviewing RFIs is two business days.

RFIs are discussed in more detail in [Chapter 3B - Construction Administration](#) as they are typically administered from the architect's office. However, if the architect has an on-site project representative, that person should receive copies of all RFIs in the event a physical observation is needed to resolve an issue.

## Architect's Field Report

An effective way of maintaining uniform site observation reports is to use AIA Document G711™, Architect's Field Report. This form can also be used by an on-site project representative to maintain a daily log of construction activities. Each report should be dated and sequentially numbered. A report should be easy to follow and have appropriate references to project areas; photographs are often included. A field observation report should be filed after each visit to the site.

## Architect's Supplemental Instructions

The architect can issue additional instructions or interpretations or minor changes in the work that do not change the contract sum or time by using AIA Document G710™, Architect's Supplemental Instructions. This document is intended to help the architect perform its obligations as interpreter of the contract documents in accordance with the owner-architect agreement and the general conditions. Like all recorded project information, it should be numbered, tracked, and logged.

## resources

As you research and look for more information on topics presented in the *Emerging Professional's Companion*, remember that a quick internet search of keywords can be incredibly useful to completing your Activities.

## Documents for Changes in the Work

The documents required for changes in the work are addressed in detail in [Chapter 3B - Construction Administration](#). Activities related to changes that occur on site can include:

- Observation and research of change issues
- Delivery of change documents to the owner and contractor
- Contractor pricing review meetings
- Observation of change-related construction
- Review of constructed changes for payment certification

Managing the change process is one of the architect's most important tasks because of the effect changes can have on the contract sum or time. Any change initiated after the start of construction has a potential for extending time and increasing general conditions costs. Unanticipated changes can increase the construction cost beyond the owner's established budget.

The most traumatic contract change for the architect is one that is caused by an error or omission in the drawings. The best recourse is to respond quickly and keep communication open, with the goal of avoiding delay or demolition costs. Many errors and omissions, if acted upon quickly, can be resolved without affecting the contract sum or time.

The construction phase is the time in the project when critical activities are time-driven and the owner's money is being spent at a high rate. Proactive construction administration allows the architect to better fulfill construction phase responsibilities and it demonstrates to the owner that the architect is actively involved with contracted construction phase responsibilities.

*Written by James B. Atkins, FAIA*

*Jim is a senior vice president/principal with HKS Architects in Dallas, where he is involved with project management, construction services and risk management. He chaired The Architect's Handbook of Professional Practice, 14th Edition Task Group, and he has served on the AIA Risk Management Committee and the AIA Documents Committee.*

## notes

# Construction Phase: Observation

## Tracking Issue Resolution During Construction

*Supplemental Experience for eight (8) Core IDP Hours*

A primary characteristic of effective construction contract administration (CCA) is the ability to identify, take action, and resolve problematic issues during construction. This characteristic marks the difference between just getting the job done and being a truly effective CCA.

This activity will track the identification and resolution of problematic issues that arise during construction.

Resolution requires specific steps to be efficient and to move the process toward conclusion.

1. Identify the problem
2. Gather information
3. Assemble relevant participants
4. Develop options
5. Determine solution
6. Implement

## Activity - Core

Select a project your firm or your mentor's firm completed with records that document issue resolution. The documents can include meeting reports, action item lists, journal entries, RFIs, and field observation reports. Prepare reports on three issues that were resolved during the construction phase. Use a chronological, timeline approach that addresses meetings held, details generated, documents used, changes made to the contract and the resolution of the issue.

As you prepare your timelines, answer the following questions:

- What caused the problem?
- Was the problem avoidable?
- How long did it take to resolve?
- Who were the parties involved?
- Did it cost the owner money?
- Did it cost the architect money?

The objective of this exercise is to identify similar trends or actions in how the issues were resolved.

Necessary components for achieving resolution are:

- Involvement of relevant parties
- Participants must have authority
- Everyone must have a desire to resolve the issue

Evaluate the three reports for anomalies such as missing participants or missing steps. Summarize your findings.

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

## Tracking the Change Process on Site

*Supplemental Experience for eight (8) Core IDP Hours*

The change order is the primary method of making changes in the work after the owner-contractor agreement has been executed. AIA Document A201™, General Conditions of the Contractor for Construction states, “The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work...”

The administrative tasks for preparing a change order with related construction documents are typically done in the architect’s office. However, the cause of the change and the change itself typically occurs on the site. There is also follow-up required on the application for payment.

This exercise involves tracking the change process on the project site. This process will be a confirmation that the change was fully administered and the owner received full benefit.

## Activity - Core

Please reference the following source:

- [MASTERSPEC](#), Section 012600

View and download the following sample documents for reference:

- AIA Document A201™, General Conditions of the Contract for Construction
- AIA Document G701™, Change Order
- AIA Document G702™, Application and Certificate for Payment
- AIA Document G709™, Work Changes Proposal Request
- AIA Document G711™, Architect’s Field Report

Select a project in your firm that is under construction and has experienced change orders. Review the change order log, and select two areas where the project scope has been changed. Assemble all documents related to the two changes. These can include emails or notifications of the need for the changes, the work changes proposal requests, the change orders, field observation reports noting the construction of the changes, and the application for payment that includes the change order summary.

Prepare a summary of the two changes following the path of the changes from their origin through the certificate for payment. Give complete information including nature of the changes, trades involved, and include all related documents.

Establish a time line noting the time required for the following activities:

- Time to prepare the change orders and related contract documents
- Time for the contractor to price the change
- Time for the change to be approved in a change order review session
- Time for the change to be constructed
- Time for the owner to pay for the change

As you prepare your summary, answer the following questions:

- Did the changes add to the contract time as well as the sum?
- Did they originate from an RFI?
- Did they originate from an ASI?
- Were allowances or contingencies involved?

Share your work with your IDP supervisor or mentor and make suggested changes.

# Construction Phase: Observation

## Performing a Payment Application Site Review

*Supplemental Experience for eight (8) Core IDP Hours*

AIA Document A201™, General Conditions of the Contractor for Construction states, "...the Architect will review and certify amounts due the Contractor and will issue Certificates for Payment in such amounts." Review is accomplished by visiting the site at appropriate intervals to, "...determine in general if the Work observed is being performed...in accordance with the Contract Documents."

The accepted interval for applications for payment is monthly, so on at least one site visit each month the architect observes the overall work to compare it to the amount represented in the application as being at a specific stage of completion. The contractor may accompany the architect in the review in the event the architect requires substantiation or has questions about portions of the work.

The contractor often provides the architect with a "pencil" copy of the payment application to use in the review. This is a draft copy on which the architect can make changes if the status of work completion does not match the application. This activity involves the preparation and execution of a payment application site review.

## Activity - Core

Please reference the following source:

- [MASTERSPEC](#), Sections 012900, 012100, 012200, and 012300

[View and download](#) the following sample documents for reference:

- AIA Document A201™, General Conditions of the Contract for Construction
- AIA Document G702™, Application and Certificate for Payment
- AIA Document G703™, Continuation Sheet

Select a project in your firm or your mentor's firm that is in construction. It is preferred that the project is far enough along so that the applications for payment include architecture. If possible, accompany the construction contract administrator on the site visit to conduct the payment application site review. As you conduct the review, answer the following questions:

- What is the status of work completion?
- What is the represented status reflected on the application?
- Are stored materials involved?
- Is the contractor's application signed and notarized?
- Is the Schedule of Values in order?
- Are allowances involved?
- Are contingencies involved?
- Are Waivers of Mechanic's Lien forms attached?
- Is the Change Order Summary accurate and up to date?

When observing the work, make notes as to the completion status and whether or not it aligns with the application. Take note of items in the application that are represented to be complete. If stored materials are listed, ask where they are stored, and if they are off-site, check to see if documentation is included that confirms storage in a bonded warehouse. Write a report summarizing your findings. If you have found that the work represented to be complete is not accurate, list the request amount that you feel is reasonable for the work actually completed. If you reduce the certified amount, write an explanation for those actions to the contractor. Check the retainage amounts to determine if they are being administered properly. When early work has been completed, such as pier drilling or concrete reinforcing, the retainage for that work is often released early. Check the application for such conditions.

Share your work with your IDP supervisor or mentor and make suggested changes.



## Preparing a Certificate of Substantial Completion with Amended Punch List

*Supplemental Experience for eight (8) Core IDP Hours*

Substantial completion is a significant contractual milestone in that it determines if the contractor has met contract completion requirements, it allows the owner to occupy that portion of the project, and it begins the tolling of legal statutes for the architect.

### Activity - Core

View and download the following sample documents for reference:

- AIA Document G704™, Certificate of Substantial Completion
- AIA Document G810™, Transmittal Letter

Choose a project your firm or your mentor's firm is close to completing and ask to accompany the team members when they perform their inspection to determine substantial completion. Observe carefully and take notes as you walk through the project, and listen carefully to the observations of others.

After the inspection, use your notes to prepare a punch list by room. Sequence the rooms geographically so you can move through the building in a linear fashion. As you review each room, note any deficiencies. Use active statements; for example, "Touch up paint on door at east wall" instead of "Paint on door at east wall should be touched up." Put the project name and the date of the inspection at the top of the list. As you prepare your punch list, answer the following questions:

- Is this portion of the project ready for substantial completion inspection?
- Has the contractor prepared a punch list to review during the inspection?
- Should I use narrative, floor plan, or individual room plan as the format?
- Are some discrepancies repetitive, and if so, should I use a key with a symbol?
- How many certificates of substantial completion are appropriate on this project?

Complete AIA Document G704™, Certificate of Substantial Completion. There should be two dates on the form—one indicating the date of substantial completion, and the other indicating the date the certificate is issued. An entire project can be certified as substantially complete, or multiple certificates can be issued covering designated portions. The decision should be based on the size of the project, the sequence of completion, or the stages of owner occupancy. If multiple certificates are issued, the designated area on the final certificate should include the wording, "all remaining portions of the project," to avoid the possibility that an area was not specifically described.

The certificate in this assignment applies only to the building interior, and the designated area described on the form should indicate as such. The building shell in this case is covered by another contract and will require a separate certificate.

A section at the bottom of the form indicates the time period within which the contractor agrees to resolve the punch list items. Mark a time limit of two weeks. There is also a section where the owner can indicate specific conditions for assuming the costs for operating the building. When all parties sign the certificate, they are agreeing to the conditions set forth in it.

Draft a transmittal letter for sending the certificate and punch list to the contractor for signature. Provide instructions to forward the signed certificate to the owner. If possible, compare your work with the certificate and punch list actually prepared for the project.

Share your work with your IDP supervisor or mentor and make suggested changes.

# Construction Phase: Observation

## Evaluating Project Closeout in Preparation for Final Completion

*Supplemental Experience for eight (8) Core IDP Hours*

Project closeout is a critical step in the ultimate success of a project. The owner will remember more about this stage of the project than most others because it is the fulfillment of their investment of time and money. At this time the architect must determine whether unfinished punch list items are completed and whether the client has all of the project documentation required by the construction contract.

This activity is intended to help you determine if a project has been constructed as it was designed and if the client is satisfied with the final result. The level of completeness of project closeout will influence the extent to which you will be able to make your evaluation because accurate and complete records are necessary for comparing as-built conditions to as-designed plans.

### Activity - Core

Please reference the following sources:

- MASTERSPEC, Section 017700

View and download the following sample documents for reference:

- AIA Document A201™, General Conditions of the Contract for Construction

With the guidance of your supervisor or mentor, select an appropriate completed project for a project closeout evaluation. Assemble all project records and review them thoroughly. In particular, include the following in your study:

- Meeting reports
- Field observation reports
- Change order log
- Record drawings
- Certificate(s) of substantial completion
- Punch lists
- Correspondence related to closeout
- Warranties and guarantees
- Field observation reports and correspondence after project completion
- Final application for payment
- Final change order

Note significant scope changes, problematic issues, and late arrival or completion of products or systems. Read the requirements for project closeout in A201™ and in MASTERSPEC, Section 1. Review the contractor's closeout documents and compare them to the requirements of the project specifications. Has the contractor met these requirements? Review the punch lists and certificates of substantial completion to determine the amount of work required to inspect for final completion. Prepare a schedule for walking the building to review punch list items. Will the review take more than one site visit?

If your firm or your mentor's firm agrees, contact the building operator and schedule a visit to the project to review completed conditions. Your firm or mentor may wish to have the project manager make the contact and accompany you. As you review the project, answer the following questions:

- Have the punch list items been resolved?
- Is warranty information available for the owner?
- Is the contractor's closeout information neatly assembled and easy to follow?
- Was a final change order issued?
- Was a final certificate for payment issued?

Prepare a written report and submit it to the project manager or principal in charge. Note how the research you prepared before your visit did or did not correspond to what you encountered on site or was noted by the building operator. Retain the report in your personal portfolio for use in future project closeout evaluations. Share your work with your IDP supervisor or mentor and make suggested changes.

## The Owner-Architect-Contractor (OAC) Meeting

*Supplemental Experience for eight (8) Elective IDP Hours*

The Owner-Architect-Contractor meeting, also known as the project meeting, is the primary means of communicating between the three parties during the construction phase. It is typically conducted based on a standard agenda, and it usually contains action items assigned to specific team members with set completion dates. It is typically held on the project site at the same time of the week or month. Attendees typically include the owner's representative, the architect, the architect's consultants, owner consultants, and the contractor.

In the meeting, project issues and activities relating to project completion are discussed. These issues are typically critical and time driven. Tasks are assigned to specific parties with defined completion dates. In this scenario, you are providing contract administration services on a retail strip center. The contractor has been selected through a negotiated contract, and the first OAC meeting is scheduled for next week. The meeting will be held weekly, and it will follow a set agenda. You will conduct and report on the meeting. Your objective should be to generate the meeting report as soon as possible after the meeting so that team members can act upon their assigned tasks.

Typical attendees at the meeting will include the following: Owner's designated representatives, Architect's designated representatives, Architect's consultants, Architect's site representative, Contractor's designated representatives, and Contractor's prime subcontractors. Others may attend such as the owner's separate contractors, testing lab representatives or special consultants.

## Activity - Elective

Please reference the following sources:

- *The Architect's Handbook of Professional Practice*, 14th ed. Chapter 12.5 - Construction Contract Administration
- MASTERSPEC, Section 1

View and download the following sample documents for reference:

- AIA Document A101™, Standard Form of Agreement Between Owner and Contractor
- AIA Document A201™, General Conditions of the Contract for Construction
- AIA Document B101™, Standard Form of Agreement Between Owner and Architect

Read the reference documents thoroughly; you may wish to consult relevant documents from an existing project as a guide. Prepare a standard agenda for the OAC meeting. In preparation, answer the following questions:

- What are the owner's typical issues?
- What are the ongoing issues, such as submittal status, RFI status, and change status?
- What are the contractor's issues, such as project schedule and quality control testing?
- What special issues may arise, and how can they be accommodated by the agenda?

There will be ongoing issues that require attention by specific team members and required resolution dates. Include a means of tracking these issues until resolution. This is called the "action item" format, and they include specific responsibility, assigned party, and date to complete.

Prepare the meeting report format that will be used throughout the project. Determine the copy distribution for the report and the content format. As you prepare the report, answer the following questions:

- Will images be included?
- What will be the format, action item or narrative?
- What others in addition to the owner and contractor will be on the distribution list?

Share your work with your IDP supervisor or mentor and make suggested changes.

# Construction Phase: Observation

## Architect's Field Report

*Supplemental Experience for eight (8) Elective IDP Hours*

The architect's field report is the document commonly used for keeping the owner informed about the progress and quality of the work. Preparation of a field report requires knowledge of the contract documents, knowledge of construction, and access to the work.

A field report may contain brief statements addressing the work status and work conformance. Images can be included in the report to give the reader a visual point of reference on the project. Images can also be used to indicate a nonconforming condition.

Field reports should be succinct and factual, without emotional commentary. The information should be logical and progressive with clear subheadings. It should be easy for the reader to identify the portion of the project being addressed.

Reports should be numbered, dated, and indicate the project name and number. Distribution should include all primary participants on the project unless otherwise directed by the owner.

In this scenario, you are visiting a project site to perform site observations and prepare a field observation report for the owner. The project is United Development, and the project number is 1400.

## Activity - Elective

[View and download](#) the following sample document for reference:

- AIA Document G711™, Architect's Field Report

**Note:** If a project under construction is not available, use a completed building such as your office or your home.

Prepare a field report addressing the status of construction, and list discrepancies in construction and finishes. Format the report with subheadings for each room, building façade, or exterior area.

As you prepare your report, answer the following questions:

- Who will be reading the report?
- Will images be included?
- To whom will it be distributed?
- Are there areas that were not observed on the last visit?
- Should consultant field observation reports be attached?

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

## Understanding Construction Activity Pollution Prevention

*Supplemental Experience for eight (8) Elective IDP Hours*

The prerequisite for sustainable site credit in LEED certification is construction activity pollution prevention. The intent is to reduce pollution from construction activities by controlling soil erosion, water sedimentation and airborne dust generation.

This is achieved by implementing an Erosion and Sedimentation Control (ESC) plan for all construction activities associated with the project.

The Plan describes the measures implemented to accomplish the following objectives:

- Prevent loss of soil during construction by storm water runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving system.
- Prevent polluting the air with dust and particulate matter.

ESC plans are created during the design phase of a project, and they are implemented during the construction phase.

## Activity - Elective

Please reference the following sources:

- *LEED Reference Guide for Green Building Design and Construction*. U.S. Green Building Council, 2009. If your company does not have a copy it can be ordered at [www.usgbc.org](http://www.usgbc.org).
- An example Erosion and Sedimentation Control plan

Review an ESC plan from an existing project pursuing LEED certification. The plan is submitted as a construction submittal during the construction phase. Review the plan and check for the following documentation:

- Copies of project drawings documenting the erosion and sediment control measures implemented on the site.
- Confirmation of the compliance path taken by the project.
- A narrative describing the erosion and sedimentation control measures implemented on the project.

Review the civil engineering documents for notations and instructions regarding the plan.

Prepare a report on your findings. Include discussions with the project team members regarding the additional efforts required to administer the ESC along with typical construction phase activities.

As you prepare your report answer the following questions:

- Did the contractor meet all of the LEED requirements?
- Did the civil engineer give the ESC plan a favorable review?
- Did the project achieve its LEED certification objective?

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

# Construction Phase: Observation

## Omitted Fireproofing on Structural Steel

*Supplemental Experience for eight (8) Elective IDP Hours*

The work you design as an architect must conform to code. If the design is not in conformance, occupancy certificates could be withheld until corrections are made. In this exercise, a nonconforming condition is discovered late in the construction process. The exercise illustrates the need for timely, decisive action.

In this scenario, you are providing construction administration services for the renovation of a historic building. The renovation includes the addition of structural steel columns and beams to support a concrete deck balcony around the perimeter of the lobby. The steel frame is wrapped with a high-finish Venetian plaster. The underside has a gypsum board ceiling with recessed light fixtures and sprinkler heads.

The project is on schedule and nearing completion. You are visiting the site to prepare an architect's field report when you discover that the required fireproofing on the steel frame was omitted on the drawings. The plaster is in place, along with the rough-in of the lights and sprinklers. The only work remaining is the gypsum ceiling and the lighting and sprinkler trim.

The city's code review apparently missed the absence of fireproofing, but the city's failure to find the problem will not exonerate you from your errors or omissions.

## Activity - Elective

Prepare an outline for a plan to correct the problem. It will be necessary to inform the owner and the contractor of the problem. List the steps required to evaluate the problem and develop a solution. As you prepare the plan, answer the following questions:

- What are the options for achieving an approved solution?
- Who should be involved in the resolution?
- What consultants are needed?
- What subcontractors will be affected?
- What will be the impact on the construction schedule and project completion?
- What temporary work may be required to avoid a delay in the project opening?

Write a memorandum to the owner and contractor describing the problem. Explain that you have developed a plan for correction and request a meeting to review and discuss.

The solution will be implemented by the contractor and must be approved by the city. Develop agendas for the required meetings.

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

3C

## Owner Decision Affecting Public Safety

*Supplemental Experience for eight (8) Elective IDP Hours*

Owner accepted nonconforming work exists on almost all projects, and the AIA documents allow for the owner to accept such work. However, nonconforming work that affects health, safety and welfare is another matter. The architect must reject such work and insist that it be brought into conformance.

In this scenario, you are providing construction contract administration services in a retail center for a 10,000 square foot stand-alone shoe store. The client has elected to provide some of the building products for contractor installation. One such product is the building door hardware; however, it was included in your contract.

As the project nears substantial completion, the client informs you that you are not to inspect owner-furnished, contractor-installed items for substantial completion. The owner advises that he will do that with his own forces.

Your certificate of substantial completion covers all portions of the construction contract, including owner-furnished, contractor-installed items. You think about how you will explain to the owner that you must inspect all of the work under the contract.

As you are preparing your punch list, you notice that the exit door from the stock room to the building exterior does not have panic hardware, an obvious code violation. Instead, it has been fitted with a less expensive lockset.

## Activity - Elective

Please reference the following source:

- [AIA Code of Ethics and Professional Conduct](#)

[View and download](#) the following sample document for reference:

- [AIA Document A201™, General Conditions of the Contract for Construction](#)

Review A201™ to determine the requirements for the work to conform to applicable codes. Review the architect's responsibilities for inspecting for substantial completion and citing all nonconforming conditions. Prepare a memorandum to the owner rejecting the condition as nonconforming work and informing her of the requirements for code compliance. Cite the [AIA Code of Ethics](#) requirement for you to contact local building officials if the condition is not remediated.

Prepare a memorandum to the local code official to send in the event the owner does not cooperate. As you are preparing your work, answer the following questions:

- What type of documentation is required for the nonconforming work?
- If a change order had been written deducting the panic hardware, what actions would be required to correct the construction contract?
- Can the correct hardware be installed on the rated door without violating the rating?
- How can you best explain to the owner that this situation is not a matter of choice for either of you?

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

# Construction Phase: Observation

## ADA Noncompliant Doors

*Supplemental Experience for eight (8) Elective IDP Hours*

One of the most important aspects of architecture services is their impact on the health, safety, and welfare of building occupants. These exercises illustrate the importance of your professional design responsibilities as they affect use by the general public.

In this scenario, you are providing construction contract administration services on a health care facility. The fire separation in the building is achieved in part by rated doors in the hallways. The hallways are 5'-0" in clear width and the door width is 3'-0". In order to comply with ADA, the latch side of the door must be at least 15 inches from the hallway wall. This will leave a balance of less than one foot on the hinge side.

You are walking the project performing a site observation, and the light-gauge interior metal framing has just begun. As you move through the hallways, you notice that the framed opening for the rated hallway doors is centered in the hallway.

You return to the job trailer and check the contract documents. They indicate that the doors are centered. This condition will not result in the 15 inch offset required by the ADA. You sit back in your chair and think about the appropriate actions to take.

## Activity - Elective

Review the documents in a similar project to determine which drawing sheets are affected by such a discrepancy. List the affected sheets.

Write a memorandum to the owner and contractor identifying the discrepancy. Provide a time line for revising and reissuing the documents. Request that the contractor provide a cost for re-framing the hallway doors as well as an assessment of the impact on the construction schedule. As you prepare your memorandum, answer the following questions:

- Which change document is appropriate to use in this instance?
- How do you best explain to the owner how the mistake occurred?
- Should you mention in the memorandum that you are not charging fee for the correction?

When preparing your memorandum, answer the following questions:

- Should you avoid referencing the project in the communication to keep from creating risky documentation?
- How can you present your critique in a non-threatening accusatory way?
- Should you suggest hiring an ADA consultant on future projects?
- What quality control (QC) approach should you recommend on future projects?

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.



## Mold Discovered at Site

*Supplemental Experience for eight (8) Elective IDP Hours*

This activity involves the discovery of a sensitive environmental condition and the actions required for mitigation.

In this scenario, you are walking the site, observing the work and preparing your field report. It has rained heavily over the past week. Although the contractor has taken measures to protect the building with plastic sheeting, water has pooled in some areas on the building slab.

You walk through the stacks of drywall and metal studs stored on the floor, to the northeast corner, where drywall already has been installed. As you move toward the stair at the edge of the building slab, you see wet drywall with black mold two feet up from the slab.

## Activity - Elective

View and download the following sample documents for reference:

- AIA Document A201™, General Conditions of the Contract for Construction
- AIA Document G711™, Architect's Field Report
- AIA Document G716™, Request for Information (RFI)

Prepare an architect's field report noting the mold on the drywall at the northeast stair tower. Cite specific locations and reject the work where the mold is present. Note that the drywall containing the mold will have to be removed and replaced, and the metal studs at the mold location will require antimicrobial treatment. As you prepare the report, answer the following questions:

- How will you format the report for clarity?
- What article(s) of the general conditions should you reference?
- What wording should be used to reject the work so that it is consistent with contract requirements?
- Should you recommend that an environmental consultant be retained to manage the remediation?

Prepare an RFI to send to the contractor, requesting a complete description of locations where mold is present. Set a time limit of one week for receipt of a response. Request a plan for drying in the building and remediating the wet drywall and mold. The contractor's Plan of Action must address the following:

- Extent of mold contamination
- Source(s) of water intrusion
- Method of cleanup and decontamination
- Future preventive efforts
- Construction phasing (dry-in/work sequencing)
- Collateral damage to work
- Time line for accomplishing the work

Write a memorandum to the contractor rejecting the damaged area. Advise that the areas in question may require destructive investigation to determine whether mold is inside the walls.

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

# Construction Phase: Observation

## Nonconforming Ceiling Grid

*Supplemental Experience for eight (8) Elective IDP Hours*

The purpose of site observations is to report the progress and quality of the work to the owner. Sometimes the work may appear to be correct, but on closer review discrepancies may be observed. The nonconforming condition may function as well as the original design, but unless the owner chooses to accept the nonconforming work, it must be corrected or replaced.

In this scenario, you are providing construction contract administration services on a medical office building. The job is a little behind schedule, and the contractor is working extra hours to complete on time. The contractor has informed you that the ceiling grid has been installed, and if you want to do an above-ceiling punch, you should do it before the ceiling tiles are installed.

The project has a reception area with a 2'-0" x 2'-0" suspended acoustical ceiling that has a higher ceiling height than the remaining areas of the building. The grid has been installed, but not the ceiling tiles. No shop drawings were submitted for the ceiling grid layout. The contractor informed you that the grid would conform to the reflected ceiling plans.

As you observe the grid you notice that it is installed with a full tile against one wall and a 6 inch wide tile on the other. You remember that the specifications call for centering the grid so that the partial tiles on each opposing wall will be equal. You pull out your half-size set of drawings, and you note that the grid is centered.

## Activity - Elective

Please reference the following source:

- [MASTERSPEC](#), Section 095123

View and download the following sample document for reference:

- AIA Document A201™, General Conditions of the Contract for Construction

Write a field observation report noting the nonconforming condition. Reference the location of the work in the building.

Prepare a memorandum to your MEP consultant requesting they confirm that the lights and mechanical grills will function properly with the nonconforming grid in the event the owner chooses to accept it.

Prepare a memorandum to the owner and contractor rejecting the nonconforming work and requesting a meeting to discuss the condition. The owner can decide in the meeting if she wants to accept the nonconforming work.

As you prepare the report, answer the following questions:

- What section of MASTERSPEC should be cited for enforcement of the nonconforming work?
- What article in the general conditions should be cited for the contractor's requirement to correct nonconforming work?
- What article in the general conditions should be cited relative to the owner's acceptance of nonconforming work?
- How can I best present the options to the owner for acceptance or rejection?

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

3C

## Consultant is Also Subcontractor

*Supplemental Experience for eight (8) Elective IDP Hours*

Because contractors have specialized knowledge about their products and systems, designers sometimes use them as consultants. A common example is the hardware supplier who may assist in preparing the hardware specification only to appear later as the installing subcontractor. As both consultant and subcontractor, he prepares his own shop drawings and answers his own requests for information.

In this scenario, you are providing construction contract administration services on an office building on the Florida coast. In this locale, wind loads are much greater than in inland areas. There is a requirement for hurricane shutters on all windows, and you have designed a large ornamental window at the building entrance. You have researched available markets, and you can find only one company that has built a hurricane shutter of this size, so you are compelled to use this company as a design consultant. You obtain approval from the owner, cautioning her that this supplier may inevitably be the installing subcontractor.

Construction progresses and soon it is time for the hurricane shutters to be installed. The window supplier has submitted shop drawings through the general contractor, and you have routed them back to the supplier for review and approval. When your office reviewed the supplier's comments on the drawings, no one notices the note in the corner of the sheet that read, "Attachment as required."

Soon after the window installation begins, the general contractor informs you that larger metal clips are required to install the large window due to the wind loads. She says that no clips were shown on the drawings, and they will be an addition to the contract. The owner, who is already unhappy about the cost of the large window and the shutters, refuses to consider an add change order. She asks why you used the supplier to design the window in the first place.

## Activity - Elective

Please reference the following source:

- [MASTERSPEC](#), Section 1

[View and download](#) the following sample document for reference:

- AIA Document A201™, General Conditions of the Contract for Construction

List the conflicting issues that can arise when a subcontractor is also the design consultant. Consider conflict of interest, contract status, communications, approvals, and design quality. Review the documents for requirements for subcontractors. Prepare a memorandum to the general contractor and owner summarizing the development of the shutter design, and request a meeting to resolve the issue.

Prepare a meeting agenda for the resolution meeting with relevant topics listed in the order of importance. Prepare a narrative for presenting this issue at the meeting. Be mindful that the owner does not work in construction and your terminology and jargon must be understandable. Explain thoroughly for those that may not easily understand. As you prepare your work, answer the following questions:

- Who should attend the meeting?
- The contract anticipated a complete system, and the designer is also the contractor. Shouldn't the clips already be in the price? How do I express this at the meeting?
- Shouldn't the contractor have coordinated the shutter attachment?
- What documents should be cited for contractor coordination requirements?

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

# Construction Phase: Observation

## Late Glass Installation Results in Water Intrusion

*Supplemental Experience for eight (8) Elective IDP Hours*

The contractor is responsible for the sequencing and procedures used to put the work in place. However, if the sequencing is such that the work is damaged, or may become damaged, the architect may question the contractor's means and methods.

In this scenario, you are administering the construction contract of an eight-story office building. The contract has a bonus clause for the contractor for every day the project is completed in advance of the contractually scheduled date. The building frame has been topped out, and the roof has been installed. The work is several days ahead of schedule, and the contractor vows to finish a month early.

The contractor allowed the curtain wall subcontractor to start early, and the curtain wall frame has been installed to the sixth level. The glass delivery is not scheduled for three more weeks.

The day is overcast, and you want to get your building walk-through completed before it starts to rain. As you enter the building, you hear the buzz of an electric screw gun. You remember that metal studs were already in place on your last walk-through. You wonder if they are finishing up the stud framing or if they are correcting a problem.

As you walk through the door, you see the drywall subcontractor installing drywall in the perimeter offices. The sound of thunder can be heard in the distance.

## Activity - Elective

Please reference the following source:

- [MASTERSPEC](#), Section 1

[View and download](#) the following sample document for reference:

- [AIA Document A201™](#), General Conditions of the Contract for Construction

Compose an email to send immediately to the contractor, with copy to the owner, citing the contractor's responsibility for protecting the work. Advise the contractor of the consequences if drywall is damaged.

To prepare for this notice, review [AIA Document A201™](#) for the contractor's responsibilities for protecting the work. Also review [MASTERSPEC](#), Section 1 for contractor responsibilities for sequencing and protecting. As you prepare to send the notice, answer the following questions:

- What language in [MASTERSPEC](#) should be cited?
- What language in [A201™](#) should be cited?
- What will be required to document damaged drywall?
- Should inclement weather be accepted as an offset for lost time in remediating damages work?

Assume that the weather damaged the perimeter drywall.

Prepare a memorandum to the contractor rejecting the damaged work and requesting an action plan and schedule for remediation. Advise the contractor on your decision as to whether the rain constitutes a weather delay. Remember that if the building had been protected, the damage would not have occurred.

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

## Work Installed Without Approved Shop Drawings

*Supplemental Experience for eight (8) Elective IDP Hours*

Shop drawings are the means by which the architect determines if the contractor's interpretation of the design concept is acceptable. Accordingly, A201™ prohibits the contractor from performing work that requires a shop drawing until the shop drawing is approved by the architect or its consultants. When the contractor installs work without an approved shop drawing, he is in breach of his contract and he performs the work at his own risk.

In this scenario, you are providing construction contract administration services on a replacement hospital, and the building structural frame has just been topped out. The contractor has begun installation of light gauge metal framing at the lower level. You have received and approved the shop drawings for the metal framing, but you have not yet received the submittals for the hollow metal door frames.

You are performing a site visit to observe job progress to review an application for payment. You notice that the contractor is requesting payment for hollow metal door frames. You remember reviewing a substitution request for component knocked down (KD) hollow metal door frames, but you rejected it because your specification requires full profile welded frames.

As you walk through the first floor you see workmen installing component metal door frames. The contractor has not only purchased nonconforming materials, but he is installing the work without approved shop drawings.

## Activity - Elective

Please reference the following sources:

- MASTERSPEC, Section 013300
- MASTERSPEC, Section 081113

View and download the following sample document for reference:

- AIA Document A201™, General Conditions of the Contract for Construction

Prepare a memorandum to send to the owner and contractor rejecting the nonconforming work and advising that no payments will be certified for the hollow metal frames. Cite language from A201™ that prohibits the contractor from installing work without approved shop drawings. Cite language from MASTERSPEC, Section 013300 that sets out the requirements for submittal procedures and a submittal schedule. Cite language from MASTERSPEC, Section 081113 requiring “full profile welded” frames.

Request a submittal schedule and a schedule for removing the nonconforming frames from the site and submitting complying shop drawings for frames that meet all specification requirements. The schedule must address the impact to the overall construction schedule. As you prepare your work, answer the following questions:

- What actions can be recommended to expedite the review of the hollow metal submittal?
- Should the next payment certification be contingent on the contractor providing a submittal schedule?
- How do I best explain to the owner the quality difference between the two types of frames?
- What actions need to be taken if the owner elects to accept the nonconforming hollow metal door frames?
- How would the credit for the cheaper frames be determined should the owner accept them?

Share your work with your IDP supervisor or mentor and make suggested changes.

# Construction Phase: Observation

## Revising the Design Review Board Standards & Zoning Code

*Supplemental Experience for eight (8) Elective IDP Hours*

In this scenario, you are a member of the Our Town Planning Commission. The Town Council has appointed you to lead a Task Force of Commission and Design Review Board members (and with the assistance of certain staff members) to revise and update the town's Design Review Board (DRB) Standards and Zoning Code for new housing. The Council is particularly interested in the Standards and Zoning Code as they relate to the design, density and massing for projects where the property is zoned for multiple housing units. The reason for the rewriting of the Standards and Code is that there is a lack of affordable housing in the community. As the value of property increases it has become harder and harder for the town to create new affordable housing without increasing the density. The Council would like you to study the problem and report back with your task force's recommendations.

Some civic groups in Our Town are backed by developers and residential contractors that are pushing to allow greater density. In addition, they would like to see the DRB reduce or eliminate most of the visual and design requirements presently in place because this just "adds money to the project". They are calling for "25% Design". A project that utilizes 25% Design has the front or street facing elevation meet the DRB standards for detailing, materials and colors. The other 3 elevations are "stripped" of the detailing and use materials not currently allowed by the Standards such as stucco. In most of these projects, there is a lack of screening and so these views are highly visible from the street and to the neighbors of the development.

The staff is not convinced that the DRB Standards are helping to create better design. They tend to agree with the 25% Design approach outlined by the developers and contractors but think that heavy landscape grading and planting to screen the sides and rear elevation is the most appropriate solution for these projects.

Your neighbors and friends who live in the community are very concerned about the effect that the increased density and lowered design standards would have on their property values. They are also concerned about traffic, noise, increased infrastructure costs and the impact to an already burdened school district that this density will bring to the neighborhood.

How will you organize the Task Force and assign priorities? What types of issues will you deal with as you review the Standards? How do you achieve the goals of affordable housing and address the concerns of the existing neighborhood? How will you respond to staff's attempts to influence the writing of the new Standards? How will you respond to local housing developers and the public's influence?

## Activity - Elective

Study the design review board standards and zoning codes in a local city or town. Make an appointment with a DRB member and/or zoning official to discuss the issues of this scenario. Use this opportunity to discuss some of the local politics of the town. Write a 400-500 word analysis of how you would approach this task. In addition, provide a written response to the following questions:

- As a professional, where do you draw the line between the best interests of the property owner and the needs of the overall community
- As a Task Force Leader, what recommendations would you make to City Council
- Describe what other pressures you anticipate will be brought to bear on your Task Force and by whom.

Share your work with your IDP supervisor or mentor and make suggested changes. Document the final version as a PDF.

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## notes

*Take brief notes while reading the narrative and list key resources you used to complete the activities. Note discussion outcomes from meetings with your supervisor, mentor, or consultants. When finalizing the activity documentation (PDF), include your notes and the Emerging Professional's Companion activity description.*

# Construction Phase: Observation

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