

## Project Closeout

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You can see the light at the end of the tunnel. The project is nearing completion and you are looking forward to moving on to the next big project or taking a long, well-deserved vacation. However, do not start packing your suitcase just yet—there is much to be accomplished between now and the issuance of the final pay application. Whether you are the owner, architect, design consultant, contractor, subcontractor, or supplier, many tasks must be completed before the project can be officially closed out.

Project closeout is the period of construction that provides the systematic transition of the project to the owner until the cessation of all construction activity on the project site (except for any work associated with the correction period, discussed later). Project closeout can be as short as a week for very small projects to as long as three months or more for large, complex projects.

The closeout transition can be explained as a two-phase process: the *pre-substantial completion phase* and the *post-substantial completion phase* (See Figure 1).<sup>1</sup> As the phase names imply, the pivotal point between the two phases is the date of substantial completion. Therefore, depending on the project, the project closeout process should be scheduled based on the scheduled date of substantial completion.

### Substantial Completion

The date of substantial completion is very critical in regard to project closeout. *Substantial completion* is defined in AIA Document A201-2007, *General Conditions of the Contract for Construction*, as the

stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

<sup>1</sup> The two phases described in this article are not defined or utilized by standardized contract documents (e.g. AIA, EJCDC, ConsensusDOCS, etc.). The phases are used in this article solely for the purpose of categorizing closeout activities in relation to the date of substantial completion.

As the above provision alludes, substantial completion is not limited to a single date—multiple dates of substantial completion may be issued for various portions of the work. However, it is the final substantial completion date that is of significance to project closeout.

Contractually, the date of substantial completion establishes the point when the contract time ends. If the date of substantial completion is beyond the contract time, then the contractor may be subject to liquidated damages or penalties if provisions for those are in the contract. Conversely, if the contractor achieves substantial completion before the end of the contract time, the contractor may receive a bonus if a penalty/bonus clause exists in the contract.

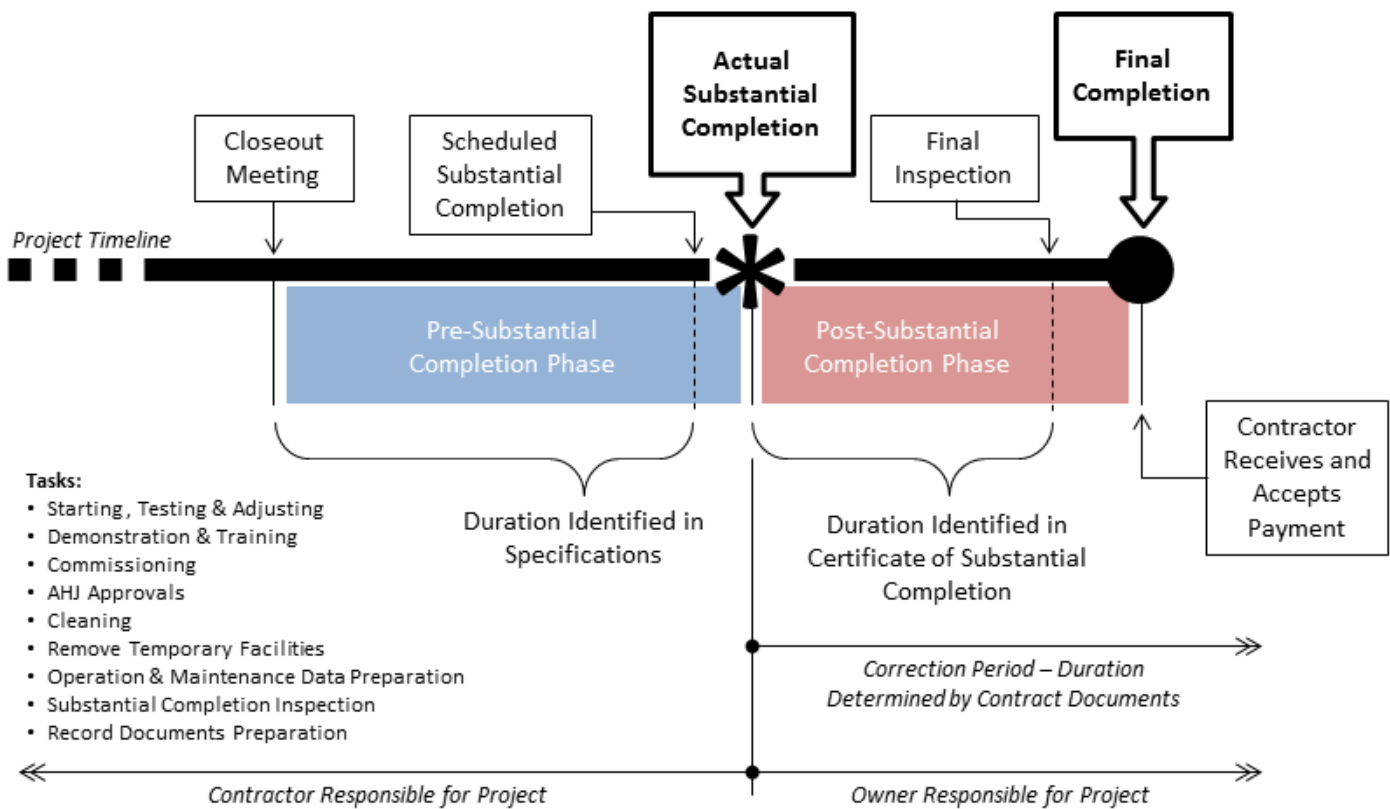
According to AIA Document A201, the architect is the person who certifies the date of substantial completion. The contractor is required to notify the architect when the contractor believes that substantial completion has been, or will be, achieved. The architect will then conduct an inspection to verify that the work has, in fact, reached substantial completion. If the architect concurs with the contractor's assessment, then the architect will prepare and distribute a *Certificate of Substantial Completion* that establishes the specific date, as well as other items, such as insurance and maintenance responsibilities, and a list of incomplete items.

At this point, the owner assumes responsibility for the work (unless otherwise stated in the Certificate of Substantial Completion) and is permitted to occupy the building.

### PRE-SUBSTANTIAL COMPLETION PHASE

The pre-substantial completion phase is the period of buildup to the eventual transition of the project from the contractor to the owner. During this phase the contractor retains full control of activities on the project site. Division 01 should specify the individual tasks that must be accomplished and the items that must be submitted by the contractor prior to establishing the date of substantial completion.

The initiation of this phase should be started on a date appropriate to the project that ensures sufficient time to complete required tasks.



**Figure 1 - Diagram of the Project Closeout process.** The closeout process starts on the date of the closeout meeting, which is based on the contractor's scheduled substantial completion date. Majority of the closeout tasks occur within the Pre-Substantial Completion Phase. Owner assumes responsibility for the project after substantial completion, but contractor is required to complete punchlist items within the Post-Substantial Completion Phase. The scheduled substantial completion and the actual substantial completion may or may not be the same date.

## Project Closeout Meeting

The event that signals the beginning of the closeout process is the project closeout meeting. This meeting may be conducted by either the architect or contractor, but the timing of the meeting should be determined in the contract documents. In Division 01 "General Requirements" of the specifications, the meeting date should be determined by specifying the minimum number of days prior to the *scheduled* date for substantial completion the meeting should be held.

The closeout meeting agenda should cover all requirements in the contract documents associated with the full completion of the project. Topics on the agenda typically include the following:

- Procedures that must be accomplished prior to substantial completion, such as contractor's preparation of list of incomplete items, or punchlist.
- Starting, testing, and adjusting systems.
- Procedures for commissioning, if applicable.
- Preparation, submission, and review of record documents.
- Preparation, submission, and review of operations and maintenance data.
- Training of owner's personnel on operation and maintenance of the facility.
- Inspections by building and fire code officials and other authorities having jurisdiction (AHJs).
- Procedures that must be accomplished prior to final completion.
- Procedures for final change order, release of retainage, and final pay application certificate.

In essence, the closeout meeting is to make sure that everyone involved with the project—owner, architect, consultants, contractor, and subcontractors—knows the details and timing of closeout activities to assure a smooth transition.

### **Starting, Testing, and Adjusting**

During this phase of the closeout process, the contractor and its subcontractors need to startup all building systems and make any adjustments necessary to ensure proper operation. This may be part of a commissioning process if specified in the contract documents. The contractor should notify the architect when tests and system startups are scheduled so the appropriate design consultants can be present.

Any tests required by the contract documents and not performed during the regular course of construction should be accomplished at this time. If a test is associated with system startup, then the test should be accomplished following the startup in accordance with the manufacturer's instructions. Tests should be conducted in sufficient time to allow performance of the test, analysis of results, preparation of reports, and distribution of reports prior to the date of substantial completion.

### **Demonstration and Training**

The owner must be capable of operating and maintaining the building once the owner occupies it; therefore, the owner should be properly trained. Demonstration and training can include anything from operating motor-operated roller shades to the complete heating, ventilating, and air conditioning system.

The demonstration and training should be provided for owner's personnel who will have direct responsibility for the management of the facility and should be conducted by qualified trainers. Division 01 of specifications should establish requirements for demonstration and training.

### **Operation and Maintenance Data**

Operation and Maintenance (O&M) data are a compilation of documents that usually consist of manufacturers' printed manuals and instructions that explain how to operate and maintain the systems, equipment, and finishes installed on a project, and typically include manu-

facturers' warranties. O&M data should be submitted by the contractor and approved by the architect before demonstration and training is conducted so the data can be used as training materials.

Format of the O&M data should be specified in Division 01 of the specifications. The format commonly submitted is a bound hardcopy, but electronic documents saved on CD-ROM or other media are rapidly becoming the norm.

### **The Punchlist**

The contractor is required, prior to substantial completion, to prepare a list of incomplete items per AIA Document A201, Section 9.8.2, commonly referred to as the "punchlist":

...the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Although contractors are assigned the task of preparing the punchlist, architects frequently assume responsibility for the preparation. Reasons why architects prepare punchlists vary from lack of detail in contractor-prepared punchlists to architects desire for greater control in the process. Regardless of the reason, the punchlist is the contractor's "to-do list" that must be fully accomplished before final completion.

The General Conditions require the contractor to notify the architect when the project is ready for substantial completion. The architect and its consultants conduct an inspection that adds to the contractor's punchlist. If the architect determines that substantial completion has been achieved, the punchlist becomes an attachment to the Certificate of Substantial Completion.

### **Record Documents**

Sometimes called "as-built" documents, record documents are those documents submitted and turned over to the owner as a record of the construction during the closeout process. The term "as-built" is not appropriate for these documents as it gives the connotation that the documents indicate work as it was actually installed. The reality is that the documents convey the installed

work to best of the contractor's knowledge, since much of the information is provided by subcontractors.

Record documents may consist of marked up copies of the drawings and specifications, a complete set of submittals, all addenda and contract modifications, reports, and any other documents required by the contract documents. Division 01 of the specifications should identify the required record documents and the format. Like O&M data, record documents are increasingly being submitted in electronic form for ease of storage and retrieval.

### Commissioning

If commissioning is required, whether it be systems and equipment commissioning or total project commissioning, then the activities for the commissioning process should begin during this phase of the project closeout. Commissioning is typically conducted by a third party (*i.e.* commissioning authority) hired by the owner.

The purpose for conducting commissioning during this phase is to determine if the building is ready for occupancy and identify deficiencies that may be added to the project's punchlist. Commissioning activities may be integrated with starting, testing, and adjusting, as well as demonstration and training. Commissioning may also assist in verifying accuracy and completeness of O&M data.

### AHJ Approval

One of the key elements in determining substantial completion is the approval of the project by authorities having jurisdiction (AHJ). The approval usually comes in the form of a *certificate of occupancy* for occupied buildings or a *certificate of completion* or equivalent for unoccupied structures or shell buildings. Without approval by the AHJ, the owner may not "occupy or utilize the Work for its intended use," thus, the definition of substantial completion has not been met.

### Other Activities

Other tasks that may be required prior to substantial completion may include the transfer of utilities to the owner, delivery of keys and cores to the owner, removal of temporary facilities, and general cleaning of the work. The contract documents may specify other tasks that

must be accomplished in order for the architect to certify substantial completion.

Additionally, the contractor may request payment for work completed and release of retainage; however, a sufficient amount of money (either retainage, money for uncompleted work, or a combination of both) should be held by the owner to cover the cost of completing and correcting the remaining work if the contractor fails to do so.

### POST-SUBSTANTIAL COMPLETION PHASE

Once the date of substantial completion has been certified by the architect, the project enters the next phase of closeout, which will take the project to final completion. At this point, most of the closeout activities have been accomplished. The owner has occupied, or is permitted to occupy, the building and typically assumes responsibility for its operation, maintenance, security, and insurance unless stated otherwise in the certificate of substantial completion.

The date of substantial completion also signifies the beginning of the correction period, which is typically one year per AIA Document A201. During the correction period the contractor is required to correct any deficiencies discovered. Also, the time periods indicated in project warranties also begin at this time.

### Final Acceptance

The contractor's main task during this phase of the project is to complete or correct the items identified on the punchlist. Since the owner typically assumes responsibility for the security of the project at substantial completion, the contractor may have to schedule access with the owner.

Since the period for correction and completion of items on the punchlist overlaps the correction period stated in the General Conditions, there may be a need to specify how deficiencies discovered between substantial completion and final completion are handled—they may be added to the punchlist to be corrected prior to final completion, or added as corrective work associated with the correction period.

Once all the items on the punchlist are completed, the contractor must notify the architect that the project is ready for the final inspection. This notification is re-

quired to be in written form and should be accompanied with a copy of the contractor's final application for payment per Section 9.10.1 of AIA Document A201:

Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection...

The architect, after receiving the written notification from the contractor, will inspect the project to verify that all punchlist items have been addressed. Additionally, the architect should ensure that any remaining closeout submittals (*e.g.* extra materials, O&M manuals, record documents, etc.) have been submitted.

## Final Payment

Upon completion of the final inspection and verification that the project is complete, the architect certifies the contractor's application for payment. However, before the application for payment can be prepared and submitted by the contractor, final costs need to be determined.

Outstanding proposal requests and change order requests need to be incorporated into a final change order. Any claims in which a disagreement exists can remain open to be handled later through mediation, through arbitration, or in court.

Also included in the final change order are any final adjustments to allowances. Outstanding authorizations for allowances are determined and any unused funds are added to the change order as a credit to the owner.

Finally, the final change order may also adjust the contract time through requests for extension. If time extensions are approved, they must be included prior to any application of a penalty/bonus or liquidated damages clause. If penalties or liquidated damages are to be assessed, they need to be deducted from the final application for payment before certification by the architect. Likewise, any applicable bonuses need to be added to the application before certification.

After certifying the final application for payment, the architect will forward the certified application to the owner, who, in turn, makes payment within the time period required by the contract documents. When the contractor accepts the payment, then *final completion* is deemed achieved.

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As the end of a project rapidly approaches, everyone on the project team is eager to wrap things up and move on to the next task at hand. The contractor may have reassigned the superintendent to another project that is starting up and replaced him or her with another individual with little knowledge of the project, or the contractor may have brought in a team that specializes in project closeouts. Regardless of who is on the jobsite, project closeout is not the time to relax enforcement of the contract documents. The provisions in the contract regarding project closeout should be closely followed to ensure a smooth and complete transition is accomplished.

Since this is the time when the owner assumes responsibility for the project, the architect should ensure that the owner is aware of its responsibilities and is regularly informed on the closeout progress. In addition to the demonstration and training activities, the owner or its representatives (*e.g.* facilities manager, maintenance team, etc.) can be invited to participate in other closeout activities such as the substantial completion inspection, final inspection, and commissioning.

This article provides an overview of the project closeout process, which is only a part of the architect's role during construction contract administration. For more in-depth information on the project closeout process, refer to the Construction Specifications Institute's *Construction Contract Administration Practice Guide*.

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