Prevention of construction defects: guidelines for building construction

Introduction

Construction defects continue to be one of the most costly claims that contractors may experience. Claims such as water intrusion, mold, structural failure and subsidence can often be traced to a flaw in the construction process. With today’s legal climate, this places an even greater burden on the controlling contractor. In some cases, you might follow every code, every specification, turn over your work to a happy customer and then 10 or more years later, find you are being sued for an alleged defect in your work.

Purpose

In an effort to aid our customers in meeting these challenges, Travelers has developed guidelines. These guidelines can help you record your company’s efforts to follow proper procedures during the construction process. Documentation of responsibilities and inspections is a key element in protecting your most valuable asset – the good name of your company.

Please note: It must be understood that the checklist items and inspections mentioned in this guide are not all inclusive. These guidelines should not be considered a replacement for local, state, or national building codes, regulations, OSHA regulations, applicable ANSI standards or applicable industry associations; nor should they be considered a replacement of contract specifications and manufacturer instructions. They should be considered as additional evidence of the care that you take in your work.

Key information

In order to make the most of this information, it is critical to have a good understanding of the following key elements:

- Contract drawings and specifications
  In some cases, claims arise when work commences based on original or outdated plans rather than the final, approved specifications and drawings. Ensure that no work is performed or initiated until a complete set of current contract drawings and specifications have been approved. If the specifications and/or drawings are incomplete, questionable or ambiguous for any reason, the controlling contractor should issue a written and documented request for information to the architect. The controlling contractor should also inspect all delivered materials to ensure they are as required by those specifications and free of damage. Field modifications should not be allowed unless approved in writing by the design engineer, architect and owner.

- Building codes
  It is important to follow building and engineering codes as they have the force of law. In some locales, they may be adequate to prevent construction defects from occurring. However, codes – and the enforcement of codes – will vary greatly from one jurisdiction to another. Even where building codes are strict, the public inspector will typically spend only a few days on the site. In most cases, simply relying on meeting the minimum requirements of codes will NOT prevent construction defects.

- Quality assurance/quality control program
  The most pro-active contractors have implemented an ongoing Quality Assurance/Quality Control (QA/QC) program. An effective QA/QC program is not just a written statement, but is a systematic approach to ensuring that work is performed correctly. Key components will include such areas as: assigning internal responsibility and authority for QA/QC activities; providing adequate support staff; educating/informing owners of potential problems; reviewing new technology/materials/work methods; selection of materials; inspections; internal training; and accountabilities for the quality of work performed. Of course, senior management should document its full support to QA/QC activities. If your company does not have a working QA/QC program, implementing one should be your first step to prevention.
• **Subcontractor management**

Very few projects will be performed by only one company. The special skills and knowledge of subcontractors will be needed to successfully complete your project. However, sometimes selection of subcontractors is based only on the low dollar bid. Appropriate criteria for the qualification of subcontractors should be a major element in your QA/QC program. A subcontractor’s “track record” in successfully performing work of appropriate scope, size and nature should be carefully considered, as well as any nationally recognized certification. Your QA/QC program should preclude any work starting without a signed, state-specific contract that has been reviewed by your legal advisor. The contract is also the place in which to address certificates of insurance and further subcontracting of work without your company’s written approval. You should also require that your subcontractors name you, the owner and other required parties as an “Additional Insured” on a primary and non-contributory basis. This coverage should include completed operations coverage, preferably to the state statute of repose.

• **Inspections**

“What gets inspected - gets done” is an old saying and a true one. Critical components in the construction process must be inspected, whether by your company, the subcontractor or an independent third-party inspector. Regardless of who conducts the inspection, it is vital that he or she is qualified to make that inspection and that a proper sign-off is obtained.

It is also important to inspect the inspection. Is a true inspection being conducted, or are marks being made on paper? If test cylinders of concrete are to be pulled, are they being pulled from the correct point in the delivery? If bolt torque is to be tested, is the tester using a torque wrench? Although this may sound basic, defect claims have originated on items this simple. Effective QA/QC programs will provide multiple levels of inspection and visual observations on critical items and operations.

In areas where water intrusion around windows and doors may be an issue, it is advisable to document flashing detail prior to installation of doors and windows. Take photos, and reference photo numbers to the “as built” that are kept in your job files.

It is also important to know your limitations. While you may have great working knowledge in one field, few of us are experts in EVERY field. Know when you need to hire a specialty expert.

Lastly, correction of any noted deficiencies should be re-inspected and confirmed in writing.

• **Communication**

Effective documented communication among all parties will help prevent defects and claims. We usually think of communication between prime and subcontractors, but communication with owners and designers is also a major element in effective QA/QC programs. Does your plan require documentation of information provided to the customer on key items such as warranty information and required maintenance? What about the phased “turn-over” of your project to the owner? If it’s not in writing, can you prove it happened? Many contractors document these items with written “close out” procedures, with a copy being given to the owner. As a practice, contractors should also contact the owner during (and after) the warranty period to determine if there are any issues.

**Suggested instructions for use of the forms**

The two forms to use are broken out for each major phase of operation for a typical building construction job, from site work to roofing. They are (1) the Practice Guidelines form and (2) the Master Sign-Off Document Supplement form. The intent is for a controlling contractor to assign and/or track responsibility for each inspection until final completion. It will also assist in ensuring that multiple levels of inspections are routinely occurring both internally and externally, and that recommendations are followed. In the Practice Guidelines form, the various phases of operation can be found by clicking on the tabs at the bottom of the spreadsheet to obtain the form specific to the type of operation. In the Master Sign-Off Document Supplement form, the phases are listed on a single worksheet. Either can be electronically filled out or printed and completed by hand.
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Practice Guidelines form
1. Complete General Information at the top of the form. The controlling contractor should be completing the form.

2. Review the list of Inspection/Tests under inspection criteria for the particular phase of operation or construction process. If there are inspections/tests that are not mentioned, add them to the bottom of the list under “other”.

3. Designate status of inspections in the Inspection Type columns. Consider using the following designations when completing:
   - “X” – To designate the inspection was initiated.
   - “N/A” – To designate the inspection is not applicable to your site or operation.
   - “NC” – To designate if a test is required, but not conducted for any reason.

The ideal situation would be to conduct both third-party and internal inspections to ensure there are multiple layers of inspections occurring, although that may not always be the case. Also, please do not include building department inspections on this form.

4. The Description section contains some general information on what the inspection is and the minimum criteria to consider. This is NOT a complete list and will vary depending on your job. The person responsible for that particular inspection should develop a list of complete criteria, using items mentioned in description as minimum guidelines only.

5. Designate the person and Name of Entity responsible for the inspection. Multiple names could be filled in if both boxes are checked under inspection type.

6. Designate who contractually hired the inspection company/person. Note the name of the company or “Owner,” “Owner Rep” and “Controlling Contractor” if defined in the General Information section.

7. Under Certification of Completion, the controlling contractor completing the form should certify when the final inspection was received, reviewed, completed and that all corrections were made to any noted deficiencies.

   Under Certification of Completion, the controlling contractor completing the form should certify when the final inspection was received, reviewed, completed and that all corrections were made to any noted deficiencies. Each final inspection report from the responsible entity should also include a cover sheet with certification and acknowledgement and engineer/architect stamps, if applicable. Complete copies of inspection reports, observations and testing data should also be attached for filing in the project file, at a minimum. The sign-off sheet utilized or developed should also be reviewed by a legal advisor for proper wording.

Master sign-off document supplement form
The Master Sign-Off Document Supplement form is a summary of the Practice Guidelines and could be used as an additional quality check. This supplementary document is not to take the place of the Practice Guidelines form, but to be completed along side it.

The best way to utilize both most efficiently would be for the field team to print and complete each section of the Practice Guidelines form as construction progresses through the various phases. Once each phase is complete, another person in the field team or corporate QA/QC team could review the completed Practice Guidelines form for that phase and then complete the appropriate section on the Master Supplementary Sign-Off Document form. After all phases have been completed, the controlling contractor could then give one final check over the supplementary form for final sign-off.
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At the end of the project, you should have multiple levels of documentation that would include:

1. Documentation, inspection data, and sign-off with applicable P.E stamps for each individual inspection whether from internal, third party, or the owner’s representative.

2. A completed Practice Guideline form for each major phase of operation that documents that all the inspections were conducted, reviewed, followed up on and filed.

3. A completed Master Supplementary Sign-Off Document form showing that the Practices Guidelines were completed and then rechecked.

This will give you multiple levels of inspection and documentation, which in addition to holding people accountable, are critical to any QA/QC program.

Again, our goal at Travelers is to provide our policyholders with information, tools and resources to help reduce exposures to loss.

For more information, log in to the Risk Control Customer Portal at travelers.com/riskcontrol. (Need help? Read our Registration Quick Guide.) You also can contact your Risk Control consultant or email Ask-Risk-Control@travelers.com.