

QCIP

The Quality Control Inspection Plan (QCIP) is the master document that controls the quality of the project requirements and includes:

- methods for dealing with revisions and changes during the process of the project.
- reference to inspection sheets for each construction discipline.
- specific procedures, methods and work instructions to be applied
- quality targets to be achieved in relation to the clients project technical and contractual requirements.
- specific assignments and responsibilities of the involved inspection parties.

The purpose of an inspection and test plan is to put together in a single document all inspections and testing requirements relevant to a specific process. On a construction contract the process is likely to be construction activity, element of work, varying tradesman, various materials, processes and safety monitoring.

An inspection and test plan identifies the items of materials and work to be inspected or tested, by whom and at what stage or frequency, as well as Hold procedures, references to relevant standards, acceptance criteria and the records to be maintained. Inspection and test plans, when properly implemented, help ensure that, and verify whether, work has been undertaken to the required standard and requirements, and that the records are kept.

Glossary

Hold Point – A 'hold point defines a point beyond which work may not proceed without the authorisation of the client or his representative.

Surveillance- intermittent monitoring of any stage of the work in progress (whether by the service provider, COR or agent).

Self Inspection – Where the service provider performing the work verifies the quality progressively often with the aid of checklists.

Work Area – A discrete section of the whole work program (POW) usually defined by location, where any trade work or activity would be completed before it moves to another area.

Roles and Responsibilities

There are no set rules as to who within the contractors organisation, should document, inspect and provide test plans. It is appropriate however, that they receive input from those with good technical and practical knowledge of, and experience in, the activities involved. The use, understanding of ITP's by inspectors and other personnel will generally be the contractors representative (COR), as we are involved in their preparation.

The contractor is responsible for ensuring that all the required Inspection and Test Plans are prepared, including those covering work or processes to be carried out by its sub-contractors. While it is preferable for sub-contractors to prepare the ITP's for their own work, in final analysis some may require the contractors involvement. eg. Pressure testing new linear drainage sections and manhole construction.

A senior representative of the contractor would be made responsible for approving Inspection and Test Plans, and any subsequent amendments, prior to their submission or submission of compliance/conformity certification to the client. The contract conditions would define the submissions to the client and any responses required.

Overview

the following steps are involved in documenting Inspection and test plans for a construction project.

1. Read the contract documents (including the technical specification) and prepare a list of discrepancies, ambiguities, missing information and standards of materials and/or workmanship that is considered inappropriate.
2. Liaise with the client to resolve the issues listed as a result of 1 and any other matter which has relevance to the construction environment.
3. Examine the scope of work and divide it into separate areas requiring an inspection and test plan (where not already described in the contract documents). As a general rule it is normally most convenient to document a separate Inspection and test plan for each trade or work area/section.
4. Note Hold stages and points where the contractor is required to be witness to testing procedures.
5. Review the contract documents again and note the requirements that have most impact on the quality of the finished work. For each task ask the question 'What would the consequences be if it is not ensured to be right'? Be certain to include any references to tests, submitting information to the client, obtaining approvals, test witnessing and hold points.
6. Determine from 5 which items or aspects of each inspection will need to be recorded on checklists and prepare these.
7. Discuss checklists with those directly involved with the work and obtain their input. This input should be particularly directed at identifying those issues that have caused problems (and extra costs involved) in the past, and therefore warrant checking at the earliest opportunity to avoid unnecessary and costly rectification.
8. Prepare each inspection and test plan to reflect the requirements of the contract documents. Reference the ITP in the Quality Management Plan and cross-reference to the other related ITP's.
9. Issue inspection and test plan and/or associated certification to the client for consideration with a reasonable period prior to commencing the work described in the plan and adjust them to suit any comment received (or act as otherwise required in the contract documents).
10. Decide how best to divide the whole of the work area into work areas for control purposes and indicate these locations either on a schedule (with reference to grids and levels) or by making up drawings.
11. Prepare and issue checklists for each work area and identify them according to location.
12. Train those directly involved with each of the ITP in their use. Formalise a procedure for the notification of inspection witnessing and hold points to the appropriate person(s).

13.13 carry out inspections and tests in accordance with the inspection and test plans, provide notices to the client and/or regulatory authorities for hold and witness points, as designated or applicable, and record the results on checklists.

Inspection and Testing Supporting Information

record the following contract particulars on each of the Inspection and Test Plans:- Quality Management System Guidelines.

- Contract Name
- Contract No
- Description of process/ activity for that particular inspection and test plan.
- Inspection and test plan general
- Description of operation or stage of work requiring inspection or test.

Because 100% inspection and testing in most cases is neither practical nor desirable, it is necessary to adopt a testing frequency and sampling process which provides a representative indication of the work to suit the risks involved.

Inspections and tests are often best done after a number of separate activities, but prior to a major one that will cover up previous work. Typically a Contractor and sub-contractors would carry out preliminary tests to assist in obtaining an early indication of conformity.