CQCM (3360602)

Unit-2 Construction Quality Control Inspection Program

* What is Quality ?

- Quality is a relative term and it is generally used with reference to the end use of the product.
- Quality is to be planned, achieved, controlled and improved continuously.

(i) fitness for purpose
(ii) Conformance to requirements
(iii) Grade

- The component is said to possess good quality, if it works well in the equipment for which it is meant.
- Quality is the ability of the material / component to perform satisfactorily in an application for which it is intended by the user.
- In short, the product should have certain abilities to perform satisfactorily in a stated application. These abilities are :

1. Suitability
2. Reliability
3. Durability
4. Safe
5. Affordability
6. Maintainability
7. Aesthetic look
8. Satisfaction to Customer
9. Economical
10. Versatility

* Steps to achieve Quality

- Quality Consciousness
- Quality awarness in the project team (Builder, architects, consultants, clients, engineers, Contractors, supervisors etc.)

→ When a structure is said to be have good quality, it indicates that

1. Architecture planning is proper and is supported with adequate detailing.
2. Design of the building is structurally sound.
3. Adequate testing of materials has been carried out and test results are satisfactory.
4. Proper materials are selected for proper purpose.
5. Ingredients, materials and items are of good Quality.
6. Construction methods are sound.
7. Workmanship is excellent.
8. Construction is supervised by technically qualified persons.
9. Construction is monitored with proper Construction management techniques.
10. Construction team is quality conscious.

* Review of QCIP (Quality Control Inspection Program)

- For large construction projects, to achieve good quality in construction, it is necessary to check the quality of construction materials and workmanship. For this purpose, at every stage of the work inspection program is prepared, which is called "Quality Control Inspection Program."

- Contractor do not plan for QCIP.
- Complexity of construction of various construction projects different QCIP should be implemented.
- The QCIP should be clear about the personnel responsible for quality control Inspection in the following matter.
  - Qualification
  - Independence
  - responsibility
  - authority
  - numbers etc.

* QCIP - Content

- The construction quality control inspection program should provide an adequate and qualified force for inspection of the construction of project works.
- The program description should contain
  a. Introduction describing the project and proposed construction
  b. organization chart of the construction inspection force
  c. Number and specialities of inspectors proposed
  d. Description of duties, responsibilities, necessary qualifications and scope of authority of QCIP staff.
  e. Field tests to be performed and frequency of testing.
  f. Field laboratory facilities to be provided.
  g. Description of Inspection plan including documentation and reporting procedures
  h. Schedule of all major features of construction

* Duties, Responsibilities, Qualifications and Authority of QCIP Staff

Quality Control Supervisor.

1. He is the Principal QCIP supervisor in the field.
2. He must coordinate activities with others such as the Senior Civil engineer, electrical engineer, and the environment coordinater.
3. He is the first individual with line responsibility for requiring the correction of any work by the Contractor that does not confirm to specifications.
4. Supervises QCIP field inspectors.
5. He reports to the resident engineer and communicates to the senior Civil engineer
6. Authority to stop work
7. Testing laboratory is supervised by the quality control supervisor.

QCIP Inspectors:

1. Principal responsibility is to verify Contractor's work in accordance with drawing, specifications and methods.
2. document the results of each inspected function and inform responsible personnel about unsatisfactory items.
3. For defective work the inspectors will initiate a non-conformance report and submit the report to the quality control supervisor.
4. Responsible for observing and reporting on construction activities in their specific areas.
5. Report to the Quality control supervisor