3

QUANTITIES TAKING-OFF AND COST ESTIMATION

Quantity take-off and estimation are essential elements of a construction project before its execution. This chapter covers the process that is effectively used for quantity take-off. Different types of costs are associated with a construction budget that needs to be estimated, this chapter also covers that knowledge.

3.1 TAKING OFF FOR CIVIL WORKS

Estimating is the compilation of all the costs of the elements of a project within the agreed project scope. It is the production of a statement of the approximate quantity of materials, time and costs to perform construction decisions. Estimating the cost of constructing a project is one of the major challenges construction companies face. The objective of the cost estimate is to produce an accurate, cost-effective prediction of what a project will most likely cost, and it needs to be done in different manners at different stages. The estimation of quantities that are required for a construction project, comprised of specifications and drawings, is the quantity take-off. The first process of detailed estimation is a crucial component of cost estimation; therefore, its precision is essential in considering the design and engineering available information. Systematic job analysis can be useful for the estimator to precisely estimate the quantity of materials from the drawings. Moreover, considering the cost of wastage and delivery is also important [37]. The process of quantity take-off is described in Figure 3.1.

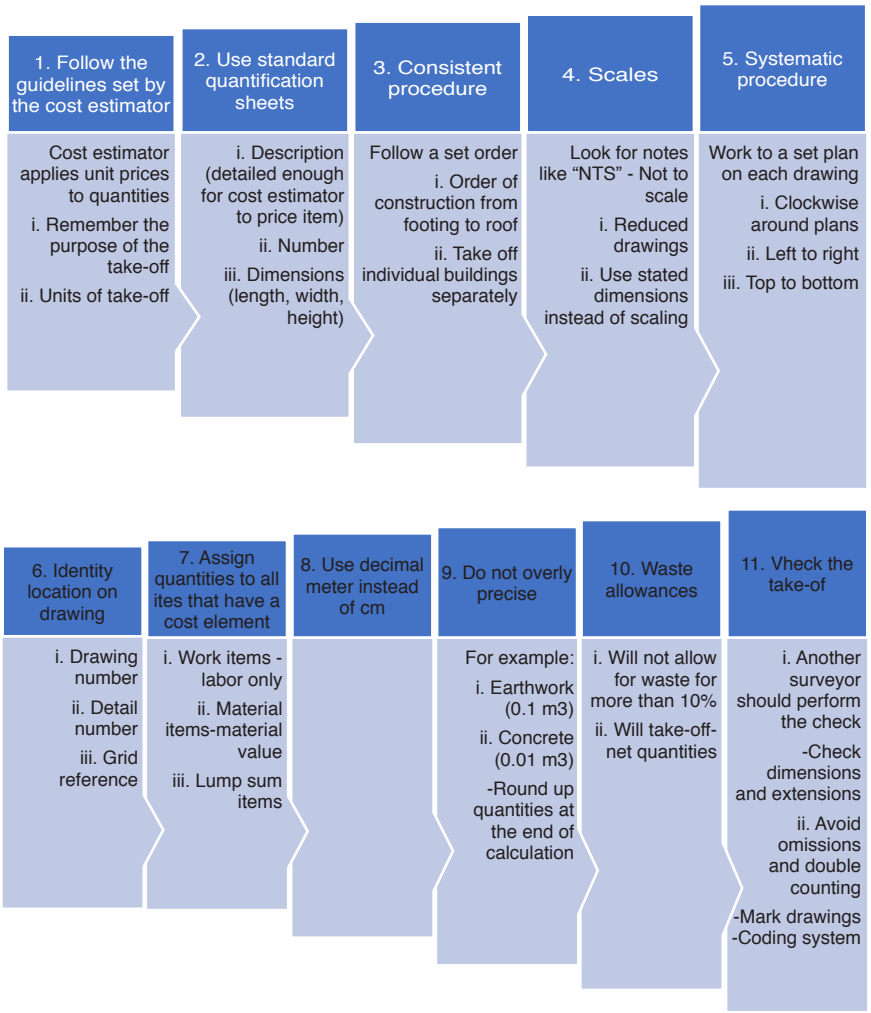


Figure 3.1 Quantity Take-off Process

3.2 COSTS IN CONSTRUCTION PROJECTS

The cost of construction projects is associated with every tiny detail. In a broader aspect, two types of cost are involved in a construction project, i.e., direct cost and indirect cost. Direct costs are those costs that are visible from a naked eye in the form of any work or service and can be anticipated in a particular work trade (e.g., a concrete and concrete pump is for concrete work only and a tiler is for tiling work only) before project execution, e.g.,