

PRACTICAL TRAINING REPORT

MNCNKU001

Mncwango Nkululeko

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Executive Summary

This is a report about the practical training that was done in June-July 2011 and in the November-December 2011 vacation period.

In the projects I was involved in we were building single story houses and renovating two other houses.

I worked closely with the construction manager on site, mainly in the construction management, drafting the site establishment plan, method statement, materials storage plan, materials schedule and later was involved in the construction itself.

The lessons learnt in these projects were that proper and adequate planning well before the construction commences is crucial. Another important thing to note is that even with very good plan if there is no proper implementation strategies the construction process will still be hindered.

The main areas of focus or skills needed on site for the construction manager are:

- being a leader,
- be able to delegate tasks and authority,
- being a decision maker,
- be able to organize, control, coordinate and communicate

Introduction

This is a report for the vacation work done in June-July 2011 vacation and November-December 2011 vacation for uMalusi House Factory Construction Company.

The above-mentioned company specialises mostly in architecture so we mainly dealt with house plans and drawings for the surrounding urban areas, send them to municipality for approval as well as occasionally involved in the construction process.

The projects I was involved in.

The projects I was engaged in were construction of a two single story houses, renovations and upgrades of other houses in the place called Nqutu, KwaZulu Natal which had been designed by the company to the clients' requirements.

Limitations and Scope

During the June- July vacation when I arrived the project was just in the initial stages and because I had to leave and go back to school I therefore did not stay for the whole project, I was only there for the setting up and moving in of the materials and plants.

My days at work

Week 1 and Week 2

Site inspection, site layout and obtaining storage facility and toilets

After the drawings had been finalised and approved by the municipality offices, I went with the company senior mason to site (the mason was also the site manager). When we got to site we did site inspection. Site inspection was all about checking out the layout of the site in order to establish where all the different building materials would be kept, how water would be drawn the site, etc.

When we finished with the site inspection we pointed out where storage facility would be, as well as the site office.

He site manager started making calls arranging the temporary equipment that was needed like the mobile toilets for hire and established where they would be kept on site

Water and electricity supply

Before the construction process commenced we went with the manager to talk to the neighbours about supplying the site with water and electricity during construction which they had spoken about before, we then started digging temporary excavations where the water pipes and electricity cables would run to site. The neighbours and the company had agreed that payment would be made every 2nd week,

After the water and the electricity had been fitted, the mobile toilets were delivered on site and placed in the right place as the as directed by the site layout plan which had been done before.

Temporary toilet brought to side



Week 3, week 4

Materials storage and Setting out

The projects I was involved in, we started by fencing the construction site, after the fencing the bulk storage materials i.e. sand, stones and bricks were delivered on site next where the mixing would occur. The small materials were bought at least a day before they were needed on site. The other materials were kept in the caravan which acted as the site office and a storage facility.

After all the necessary materials had been brought on site according to the plan which the site manager had, the security guard was hired.

Week 5

When I came back for the projects in November I had to write up the all the plans and programmes for the construction programme with the construction manager before construction works began referring to what happened on site on the previous project and the manager's experience.

The documents that produced were:

1. Method Statement

A method statement sometimes can be seen as "Safe System of Work" sometimes; it describes how each individual tasks or activities will be carried out and it also gives out details of the processes and precautions involved as well as tools, plants and machinery which will need to be used on site. It is a useful way of recording the dangers involved in specific construction phase and communicating the risk and precautions required to all those involved in the work.

2. Construction Programme

The construction programme is the programme done to outline the operations and activities that would be taking place in that particular project for which it is made for. It outlines the order in which the activities will be done in and the way they depend on each other if there is any dependency. The main reason this is done is such that it is easier to monitor the progress of the construction project.

3. Site Layout Plan

The site layout plan in construction mainly deals with all the existence, positioning, and timing of the temporary facilities that are used in a project to carry out construction. Proper positioning of all the facilities on site result in proper flow and movement of both plants and people on site and avoid unnecessary delays as a result speeding up the construction process.

It is very difficult to formulate or know well in advance what you will need or where each and everything brought to side will be without experience therefore experience and proper planning plays a vital role in the formulation of the site layout plan.

After writing up the documents and had finished, they were submitted to the construction manager who looked at them added what was missing and edited them where he saw fit. When the construction process began all the processes plans and statements were taken to the site and given to the site foreman to make sure they were followed,

Construction works

Week 6 and week 7

Foundations

We began by clearing the entire site, cleaning it up and removing all the shrubs that were there. After the site had been cleared and ready for construction, the lay about began. The initial corner pegs were placed by the site manager, after that first corner pegs are put into place, the rope is then tied to them and pulled to the pegs on the other side measuring the excavations and where the walls will be. (see figure 3.2)



Figure 3.2

After the setting out had been done, the excavations began, and was done manually until the entire foundations had been dug and the excavations were supported with planks to avoid the soil falling back in to the excavations.

The casting of concrete in excavations began, the concrete mix was done on the other side of the site and transported with wheelbarrows and poured to the excavations as per the site

manager's instructions starting from the external wall trenches to the internal walls trenches. When the concrete had been poured, it would take a few days before the foundation brickwork began and when the foundation brickwork had been done, back excavation was done. After the foundations had been completed, the surface bed and screed construction began.

Week 8 and 9

Brickwork

There were two masons available on site, when the brickwork construction began, other guys would mix the cement mortar continuously while other guys will deliver it to the masons, others and we move the bricks as well from their storage positions to where the wall is being built, firstly the external walls and then the internal walls. Every fourth course I would have to place the brick reinforcement and support it so that it does not fall off while the bricklayer is busy building all the way to the top of the brickwork.



Week 10

Roof

The timber trusses were bought in long lengths than required. They arrived on site two days before they were needed and were put somewhere on the side. They were then nailed together to form a full truss on the ground, truss by truss until they were all finished. When they were finished they were then lifted up to the roof and were nailed until the whole roof structure was done.

After the timber trusses are put in place the roof covering began, the corrugated steel sheets were nailed unto the timber trusses by the two masons, while ensuring that there is enough overlap between them.

Site Meetings

On the Friday of every second week we had site meetings which would be held on site to monitor the works progress. The meetings would be attended by the construction manager, senior mason and foreman. It is in these meetings that all the programmes, work progress and construction process would be reviewed as well as all the problems that we had during the week. After everything had been checked the construction programme would be edited which

most of the times resulted in a lot of other programmes having to change, e.g. the dates for delivery of certain building materials would have to be postponed. Unfortunately some of the materials that would already be on site and there is a delay or the part of works which needs to be redone would affect the flow or movement within the site or alternative storage facility would have to be supplied.

Conclusions

During my work on site these are some of the factors which had been mentioned before were seen as important and ensured that the project ran smoothly and was finished in as little time as possible.

Management

Time management

Time management is one of the most important factors which need to be managed properly for the smooth going of the project. My observation on site were that should the workers or the main builder arrive late on site or took longer breaks than allowed to, the whole programme will fall behind, losing 2 hours a day is not as seen as a great loss until the add all the 2 hours you lose a week and it accumulates to 10 hours. Having said this time management is therefore very important

Overall management on site

It is important to make sure that there is someone with authority on site at all times. Sometimes the guys working on site do not know how to cut something, how much of a certain material is needed or should be used thus having the method statement and someone that will ensure that it is actually followed is vital.

Sometimes when the delivery trucks come, they are in a hurry so someone who has seen a site layout plan should always be around when they arrive to avoid material being delivered just at the gate as the delivery trucks always just prefer doing that if there seems to be uncertainty as to where that material will be dropped off.