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IAT REPORT

DEPARTMENT: CIVIL ENGINEERING

OPTION: CONSTRUCTION TECHNOLOGY

ACADEMIC YEAR: 2023-2024

INTERNSHIP DONE ON M.P ENGINEERING COMPANY LTD

College Supervisor's: NIYOMUGABO FLEXIS

Company supervisor's: MUNDERE PIANI

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Declaration

ITUYISHIMIRE NOEL, hereby declare that this industrial attachment report is a product of activities I carried out in KAMONYI district during my industrial attachment from 29th July 2024 to 24th September 2024 under the supervisor MUNDERE PIANI and has not been submitted by any other student to any other institution for award of academic certificate.

Signature Date of submission

…… ……. /……......./…….

TUYISHIMIRE NOEL

Reg. Nº:21RP02875

Certification

This is to certify that the industrial attachment done construction of retaining wall, plumbing works, Elevation, Steel works, Painting and Concrete pouring and casting are the original work done by TUYISHIMIRE NOEL student in advanced diploma in civil engineering Department, construction technology option. The industrial attachment was done from 29th July to 24th September 2024 during academic year 2023-2024.

IPRC NGOMA LIAISON OFFICER

Name:

Signature ……

Date ……...../…… /…….

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ABSTRACT

This report presents the activities done during the industrial attachment by TUYISHIMIRE

NOEL

in civil engineering field from 29Th July 2024 to 24Th Sept 2024 in KAMONYI District. The work that is being described in this report was mainly the construction of the retaining wall, plumbing works, Elevation, Steel works, Painting and Concrete pouring and casting.

The report is illustrating the types of works done, the things that has been learned from workers, challenges faced during task execution then conclusion and recommendation. The internship that was conducted at DASABO district in M.PENGINEERING COMPANY LTD

which took seven weeks from 29Th July to 24th sept 2024, allowed me to combine the class theory with practice in order to introduce myself to a professional life. In this industrial attachment I have got some theory and practice.

This internship report provides information on the background, mission, and vision, objectives of M.P ENGINEERING COMPANY LTD

. And also, the student gets the basic practical knowledge in his/her specialization. For my side the work is conducted in 8 weeks. It means during this week I get practical knowledge that backed up my theories that has been obtained from RP NGOMA COLLEGE in different civil engineering module that I was just finished.

The assigned tasks/projects/duties/responsibilities, the achievements and results and the learning experience gained.

LIST OF ABBREVIATION

IAT: Industrial Attachment

RC: Reinforced concrete

IPRC: Integrated polytechnic Regional college

TVET: Technical vocational training center

CHAPTER 1: INTRODUCTION

1.1 Background

As I know, all students who have completed third year of study in RP NGOMA COLLEGE, Department of civil engineering, option of construction technology they are supposed to carry out the industrial attachment program relative to their fields of studies in order to apply knowledge they are acquired as well as encouraging them and contributing to social economic development of the nation by facilizing the maximum development of workers. That why it was my pleasure for attending this industrial attachment training.

The (ITP) industrial training program aims to provide opportunities for student to experience the work environment. By work environment, it is defined as whereas student can apply their technical skills, business, knowledge or where students have a different learning experiences.

The (ITP) industrial attachment program was done from 29th July 2024 to 24rd Sept 2024 in M.PENGINEERING COMPANY LTD

1.2 Objectives

1.2.1. Main objective

The first is to provide skills with an opportunity to observe and/or in all aspects of construction management that are typically encountered in the construction work place.

The second is to acquire relevant knowledge, skills, and experience construction Site. While establishing important connection of knowledge from theory to practice on site. The student intends to get an opportunity to relate academic programs and career goals to Professional work experience

1.2.2. Specific objectives

- ✓ The specific objectives and importance of IAT are to:
- ✓ Experience of applying existing engineering knowledge in similar or new situation
- ✓ Educate to know the how to handle the challenges you faced on the field
- ✓ Students get ability to the techniques, skills, and modern engineering tools necessary for engineering practice.
- ✓ Know the steps through which the project passes so that the construction works (implementation) get started,
- ✓ Students are enabling to apply the knowledge in theories to practical work.
- ✓ Be able to manage myself on site and to take a good decision on any Works.
- ✓ Industrial attachment develops skills about the application of theory to practical work situations.
- ✓ Industrial attachment develops skills and techniques directly applicable to careers
- ✓ Industrial attachment aids in adjusting from university lifestyle to full-time employment.
- ✓ Finally, to prepare the practical training report showing how the student understands how activities are accomplished in an organization.
- ✓ In order to achieve the above main objectives and specific objectives, I have used different methodologies; including: documentation and observation.

1. DOCUMENTATION

This method greatly provided information to the trainee documentation about field services and equipment. The technical studies, site reports and structure plan available in the field were used as main source of information that represents all needs in construction management, and other documents deemed necessary to this practical training.

2. OBSERVATION

In this training activity, we have seen how to plan and construct many structures whether they are temporally or permanent like scaffolding. Because of some skills we have from our school we even supervised some part of the work like, column construction, concrete placing, steel work, making formwork of slab, column, staircase, lift case and beam. From all those above and the knowledge from my supervisor and his high skills in engineering field I gained much more than I imagined. Another things that I learned, was how to manage the sites and this helped me to have some notion on social environment on site.

1.2.3 Location of IAT Company

M.PENGINEERING COMPANY LTD

is located in Kigali city, KAMONYI district and it will conduct different civil engineering works such as supplying of materials and construction works.

1.2.4 History of M.PENGINEERING COMPANY LTD

M.PENGINEERING COMPANY LTD

is a company that perform the supply of materials and construction work and preparation of architectural drawings it has relationships communications between several Construction Companies in Rwanda. it tries to make relationships which will contributes to the development of infrastructures that meet function requirement of Rwanda vision 2050.

This company are interesting in hiring the product from RP NGOMA, due to the accurate working for one who made internship in their company.

1.2.5 The Characteristic of M.PENGINEERING COMPANY LTD

1. Mission

The main goal of construction industry is to ensure that construction projects are successfully completed within the constraints of best quality, stated period and with minimum cost possible.

2. Vision

To be leading construction company in the global market. To become the customer's most preferred choice by attaining excellence in quality and timely completed value-added projects. To provide the highest level of service in the construction industry while offering superior craftsmanship to every project, we handle.

1.2.6. Organization Structure (Diagrammatical Presentation)

The organization implies: setting-up of a flow chart, determination of the personnel, which will carry out the various tasks, and definition of the relations, which will exist between the persons during the work.

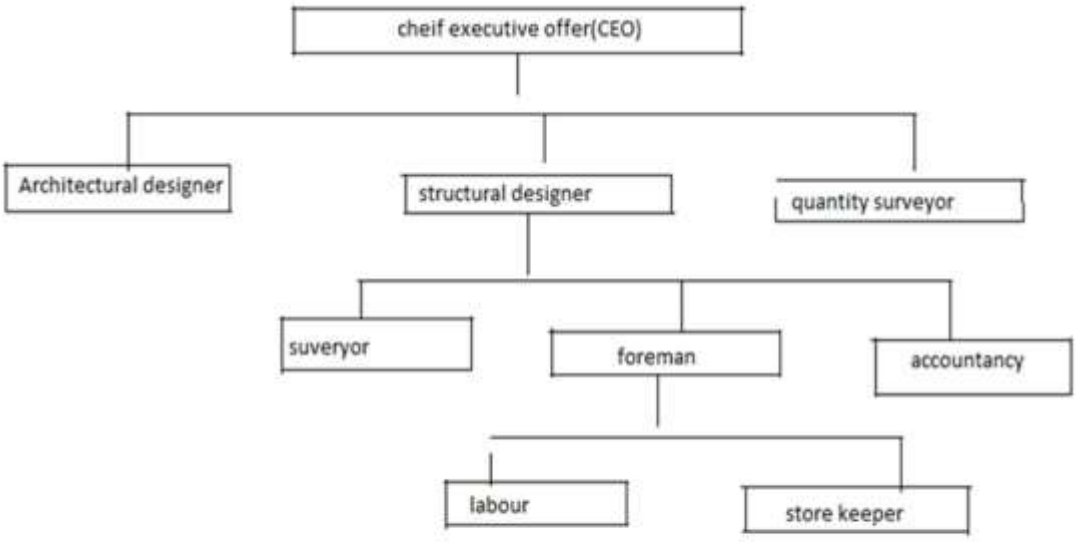

Figure1: shows organization structure

1.2.5 Main Functions of the Personnel

Chief executive office: typically oversees the operation of the entire construction company, answering to the board of directors and making decisions that affect the day to day operations of the business. He may be the company's public face, meeting with high profile clients and bringing in new business.

Architectural designer: is a professional who creates designs for buildings

Structural designer: develops and supervises the construction of new buildings and bridges or extension to existing properties or other structures.

Quantity surveyor: estimate the cost of civil engineering work and the time comply with work, labor and plant suitable for completion of work.

Surveyor: is the person who supposed to make precise measurement that will identify the boundary, surveyor help in providing unite contour in the surface which will let the engineer to make maps and construction project.

Foreman: is expert person who has skills and knowledge of all activities involved on the site

Accountant: work in construction industry to calculate and oversee all finances of a project, their duties include planning construction project budget, performing cost analysis and reviewing purchase orders, invoices and supplier contracts.

Store keeper: is responsible for ensuring the maintenance of stocks, operation of an accounting system, maintenance of inventory records, preparation of material orders and receiving, reviewing and storing of supplies disbursed on job orders and material transfers.

Labor: is responsible for performing various tasks to aid daily operation at a construction site.

CHAPTER 2. Description of activities undertaken during IAT

In this industrial attachment program we start by reading and analyzing map and pipe route and analyzing of topography and then after we start by preparing of pipe lane and marking the position of water tank, air valve, wash out. After 2 weeks we start by construction of water tank, air valve and wash out using of cement, sand, gravel, stones, water. The other activities that was performed was pipe tightening and fixation and lying of galvanized pipe using generator, holding machine.

CHAPTER 3. Lessons, experience and skills.

3.1 Lessons

Project scheduling is a key component to success: that means having through and detailed schedule built as well as holding everyone to the schedule.

Mostly make sure the schedule is well communicated to the team including subcontractors.

Communication is key: keeping the lines of communication open with not only the owner and design professional, but also with all subcontractors and contactors.

Build a strong team: the right team makes all the difference. Ensure that your team is capable of performing the work effectively. That’s why building solid relationships with high quality subcontractors and other expert.

Take notes of lead times: one of the most common struggles is handling the arrangements for necessary materials and equipment. Lead times can, at times, be surprisingly long; therefore , orders should be placed as soon as appropriate

3.2 Experience

During industrial attachment I got many experience such as

How to put my knowledge and skills into practice

Benefits of networking

Understand technical term used in construction site

3.3 Skills

3.3.1 Summary of Skills Gained

It is commonly planned for graduate student to be competitive when they are looking for jobs, Training helps them to open their mind and relate theoretical knowledge in practical skills, on my side I chose to work with Civil Engineering Company.

During my industrial attachment, the following courses were very helpful in different activities that I performed: Study of strength of material; Study of foundation engineering; Study engineering drawing; Study of work shop technology; Study of reinforcement concrete design (RCD); Study of design of masonry and timber structure; Study of concrete technology.

As student in civil engineering program I was intended to integrate relative practical experience with class theory and gets more experience. The following are the skills gained during my industrial attachment:

Work accordingly to a schedule

Get the opportunity of improving Professional knowledge

Ability of planning some task to do

Skills of using resources efficiently

Develop skills and techniques directly applicable to careers,

Be familial in adjusting from University lifestyle to full-time employment, and

Expand employment record and references that will enhance employment opportunities.

3.2: Challenges Encountered by the Students

During my industrial attachment some challenges encountered are as follow:

Lack of enough money to buy necessary needs in daily ghetto life.

Lack of tickets to visit different locations of company where activities is being carried out.

Lack of enough skills for some machines used on fields.

3.3. How the Challenges Were Overcome

By overcoming the challenge of money, I may use the living allowance even if it doesn't enough and I tried to understand all activities done on the site to solve ticket problem.

CHAPTER 4: Challenges, limitation, resolutions, and areas for improvements

4.1 Challenges

I have faced different challenges during IAT at site which are:

Different technical term

Lack of enough skills on how to use all machines

Little or no payment

Working extra hours

4.2 Limitation

You may get grunt work. Some employers or managers take advantages of intern and give them mindless work that doesn't build new skills

The hours are can vary

It won't pay

4.3 Areas of improvement

Time management

Cooperation

Organization: organization is helpful in project time management

Conflict resolution

Interpersonal communication

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Industrial attachment/ Practical training is very important for students and very indispensable because it helped us to put in practice the theoretical knowledge we got in class before; it helped us to know practical works conducted on site. Also, it enabled me to have self-confidence and to know other problems that are generated on the sites include labors, subcontractors, suppliers, work management, quickly find out durable and sustainable solutions.

The period of industrial attachment in M.P ENGINEERING COMPANY LTD with General Solution, the site helped me to gain enormous technical knowledge and insightful experiences in real working environment. This was being wonderful Session as student from school of engineering. The programmer required interaction with a wide range of people in engineering profession as well as other related field. A great hand on experience the above mentioned sustainable of environment and working principle of some materials was studied and opportunity to deal with them and exchange ideas with others experienced me for being more effective in my career. This has been a wonderful session as students from the school of Engineering especially in the department of civil engineering,

The valuable experience that we have gained was not only got via involvement in various activities but also through other aspects such as supervision and interaction with colleagues on the site. The objectives of our industrial attachment were achieved as well and we are capable of conducting civil works on building construction site.

5.2. Recommendations

For RP NGOMA COLLEGE, we can observe how good and important are to facilitate student for doing their industrial training; giving them all necessary things like money at time; minimizing time spent for seeking transports, accommodation and other needs. In the engineering courses (precisely civil engineering courses), it is very important to have the skills in practice that is why RP NGOMA COLLEGE should provide practical works to their students while they are studying. Especially for the final students, the industrial attachment allows them to improve their knowledge, skills and communication with the company or organization.

There should be training for most site engineer trainers for giving them the required and necessary information on engineering training and how to train an A1 level person. To allow and facilitate students while doing the industrial attachment to attend meetings where some decisions about the site works are taken and acquiring from there, the ability in decision making and teamwork management.

For THE COMPANY SUPERVISOR

This recommendation goes to the company supervisor. It should create more structured training program and make them work, I understand that the person who is supposed to supervise the students who are being trained is often busy with the works from the office. But I conceive that they can find a portion of time from their very luxurious time to plan more comprehensive, structured and organized training for the interns.

The supervisor in charge should list and arrange the training task which will be performed by the trainee. A training schedule also should be made in order to optimize the training period. In arranging and assigning the training task, the supervisor should also try to fill the training period with tasks that are more significant in developing the trainee's knowledge, skills and experience for his/her future career.

Reference

WEBSITE

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