

COVID-19 AND THE SURVEYOR

OFFICIAL MAGAZINE OF THE QUANTITY SURVEYING DIVISION
OF THE GHANA INSTITUTE OF SURVEYORS ISSUE NO.1 2020



GHANA INSTITUTION
OF SURVEYORS

COVID-19 AND THE SURVEYOR

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ACADEMIC PROGRAMMES

UNIVERSITIES

EXISTING PROGRAMMES

UPCOMING PROGRAMMES



Kwame Nkrumah University of Science and Technology

PhD Construction Management – 3yrs min.
PhD Building Technology – 3yrs min.
PhD Procurement Management – 3yrs min.
PhD Project Management – 3yrs min.

MPhil Construction Management – 2yrs
MPhil Building Technology - 2yrs
MPhil Procurement Management – 2yrs
MPhil Project Management – 2yrs

MSc. Construction Management – 12 months
MSc. Procurement Management – 12 months
MSc. Project Management – 12 months

BSc. Construction Technology and Management
BSc. Quantity Surveying and Construction Economics

MSc. Commercial Management – 12 mo.
MSc. Quantity Surveying and Construction Economics – 12 mo.
MSc. Project Forensic and Auditory– 12 mo.



Kumasi Technical University

BTech. Building Technology – 4 Years
MTech. Construction Technology – 2 years
BTech, Building Technology (Top up) – 18 months
BTech Estate Management (Top up) – 2 years

HND Building Technology – 3 years
HND Estate Management – 3 years

CTC I, CTC II & CTC III -1 year each



Sunyani Technical University

BTech. Construction Technology – 4 years
HND Building Technology – 3 years



Cape Coast Technical University

HND Building Technology – 3 Years
Diploma in Estimation and Quantity Surveying -



Takoradi Technical University

BTech. Building Technology (Top up) – 18 months
HND Building Technology – 3 years



Accra Technical University

HND Building Technology – 3 years
BTech. Building Technology



Tamale Technical University

HND Building Technology – 3 years

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THE EDITORIAL TEAM

It is a challenging time for the Quantity Surveying Division of the Ghana Institution of Surveyors in this period of Covid-19 Pandemic which has significantly impacted the quantity surveying profession. In this difficult time, it is welcoming to discuss, interact and recognize the opportunities that are available in the construction industry in the midst of the pandemic.

The theme for this annual general meeting is “Covid-19 and the Quantity Surveyor”. The President of the Republic of Ghana, His Excellency, Nana Addo Dankwa Akufo- Addo last year, announced major infrastructure development in terms of construction of hospitals across the country. The President also declared the year 2020 as the year of roads. The Quantity Surveying profession is well placed to take advantage of these opportunities in these difficult times.

“The Quantity Surveyor” which is the official magazine of the QS division always present issues which are interesting, educative and innovative to their audience. The first issue of the 2020 magazine presents three main articles. The very first article deals with the standards and reputation of risk in the construction industry. It reports various forms of corruption in the construction industry. The main forms of corruption highlighted were bribery, collusion, fraud and extortion. The second article throws light on who a quantity surveyor is, the roles and how to become a quantity surveyor. It also discusses the training, qualifications and the career prospects of a quantity surveyor. The third article deals with the impact of Covid -19 on the construction industry and listed a number of effects the novel virus has had on the industry.

The next section deals with the material schedule component of various material used in the industry. It also provides basic prices of materials and hiring rates of some equipment in the Ghanaian market as at July 2020. This section will go a long way to assist quantity surveyors in preparing material schedule, rate build - up as well as determination of material prices for projects.

Furthermore, it is also interesting to note that, the magazine this time around has added the material schedule component of construction material.

Lastly pictures of the national activities within the year under-review are also included.

Once again, we strongly believe the content of this magazine will make substantial contribution to growth of the Quantity Surveying division.

Long live the QS Division!!! Long live Ghana Institution of Surveyors

**By
Editorial Team**

QUANTITY SURVEYORS DIVISION 2019/2020 SESSION

Executive Committee Members

Surv. K. Obeng-Ayirebi, FGhIS	Chairman	024-4890353	oakbeng@yahoo.com
Surv. Osei Agyemang-Badu, FGhIS	Vice Chair	024-3168796	jimmbilly10@gmail.com
Surv. Dr. Isaac Abbam, MGhIS	Secretary & Bono, Bono East and Ahafo Regional Rep	024-4704186	ikeapex@yahoo.co.uk
Surv. Dr. Naa A. A. Doamekpor, MGhIS	Treasurer	024-4721714	naaadjeleyashiboe@yahoo.co.uk
Surv. Humphrey Togbe Amegadoe, FGhIS		024-4235078	htamegadoe@yahoo.com
Mr. James Gyimah Yeboah, MTecGhIS		024-5343373	yeboahjames81@yahoo.com

Divisional Committee Members

Surv. K. Obeng-Ayirebi, FGhIS		024-4890353	oakbeng@yahoo.com
Surv. Osei Agyemang-Badu, FGhIS		024-3168796	jimmbilly10@gmail.com
Surv. Dr. Isaac Abbam, MGhIS		024-4704186	ikeapex@yahoo.co.uk
Surv. Dr. Naa A. A. Doamekpor, MGhIS		024-4721714	naaadjeleyashiboe@yahoo.co.uk
Surv. Humphrey Togbe Amegadoe, FGhIS		024-4235078	htamegadoe@yahoo.com
Mr. James Gyimah Yeboah, MTecGhIS		024-5343373	yeboahjames81@yahoo.com

Regional Representatives

Surv. Andrews Kofi Kuundaari, FGhIS	Upper West	027-1252506	aqskon@yahoo.com
Surv. Anthony T. Baisaana, MGhIS	Northern	024-4739986	baissana12@yahoo.co.uk
Surv. Philip Ayine, MGhIS	Upper East	024-4878141	pkayine@gmail.com

Continuing Professional Development (CPD) Committee

Surv. Jeffrey Afful, MGhIS	Chairman	024-4367212	jeffrey_afful@pcmadrisorsgh.com
Surv. Ian Agbenyega, MGhIS		024-4610299	ianno18@yahoo.com
Surv. Barbara Twumasi-Boakye		027-7450468	barbietwumasi@yahoo.com
Surv. Nana Nuamah Kyei Bafour, MGhIS		024-4382376	chaybe4u@gmail.com
Surv. McJulius Agbe MGhIS		0243-821291	mcpowerly@gmail.com
Surv. Afua Baiden, MGhIS		0244-630578	effebee@yahoo.com
Surv. Yvette Awo Sintim, MGhIS		0244-719715	yvette.sintim@gmail.com
Mr. James Gyimah Yeboah, MTecGhIS		024-5343373	yeboahjames81@yahoo.com

QUANTITY SURVEYORS DIVISION 2019/2020 SESSION

Education, Membership & Research

Surv. M.K. Frimpong , FGhIS	Chairman	0244-310529	mkfrimpong@yahoo.co.uk
Surv. Dr Isaac Abbam, MGhIS		024-4704186	ikeapex@yahoo.co.uk
Surv. Dr. Mrs. Naa Adjeley Doamekpor, MGhIS		024-4721714	naaadjeleyashiboe@yahoo.co.uk
Surv. Ami Ameyibor MGhIS		024-4489584	wodiana@yahoo.com
Surv. Fred Baffour, MGhI S		0243-683718	fredobaf@gmail.com
Mr. Fred Sowah		0265-139205	fred.sowah2010@gmail.com

Finance & Sponsorship

Surv. Dr Mrs. Naa Adjeley Doamekpor, MGhIS	Chairperson	024-4721714	naaadjeleyashiboe@yahoo.co.uk
Surv. Dr Charles Afetornu, FGhIS		024-2213853	cafetor@yahoo.com
Surv. Afua Baiden, MGhIS		024-4630578	effebee@yahoo.com
Surv. Marie-Antoinette Panford, MGhIS		0242-366367	panfordmarie@yahoo.com

Public Affairs Committee

Surv. Sally Esi Pobe, MGhIS	Chairperson	026-6150510	seapgh@yahoo.com
Surv. Egberta Akuetteh, MGhIS		024-4423205	eguus2001@yahoo.com
Surv. Richard Amaning Asante, MGhIS		0244-633327	yawaxx@gmail.com
Surv. Richard Ankukumah, MGhIS		020-8436952	punctualgh@yahoo.com
Mr. James Gyimah Yeboah, MTecGhIS		024-5343373	yeboahjames81@yahoo.com

Editorial Committee

Surv. Dr Gabriel Nani, FGhIS	Chairman	024-3625066	gabrielnani@yahoo.com
Surv. Dr William Gyadu-Asiedu, MGhIS		020-0639558	willgyas@yahoo.com
Surv. Dr Isaac Mensah, MGhIS		024-4693537	isaacmensah@yahoo.com
Surv. Dr. Ernest Kissi, MGhIS		024-3989661	kisernest@yahoo.com
Surv. Dr. William Sarfo Mensah, MGhIS		024-4871712	sarfmenghana@gmail.com
Surv. Barbara Twumasi-Boakye, MGhIS		027-7450468	barbietwumasi@yahoo.com
Surv. Samuel Okyere, MGhIS		024-6668107	samuel22ab@yahoo.com

MESSAGE FROM THE QUANTITY SURVEYING DIVISION CHAIR



Surv. K. Obeng-Ayirebi, FGhIS

The year 2020 has pushed the world to the brink of global disaster that is akin to force majeure in the Built Environment Industry. We as Quantity Surveyors, have not been spared of the effects of the COVID-19 Pandemic that threatens to attack all professional disciplines that serve humanity. Members of the Quantity Surveying Division of the Ghana Institution of Surveyors are therefore being encouraged to be more innovative in our service to Clients.

On the back of all the pitfalls in the Global financial outlook, the Construction Industry had a reduced effect against the flamboyant agenda of the Ghanaian Government to increase the development of our road infrastructure in 2020

dubbed “The year of Roads”.

These occurrences in no way have affected our performance as Construction Industry practitioners in Ghana in two areas.

- i Working as hardcore product-oriented Quantity Surveyors and
- ii Working as Quantity Surveyors with emphasis on the soft skills which is increasingly becoming the new frontiers, our practice is assuming in the light of dynamic changes in the Global marketplace for the Built Environment.

In this era the dynamic changes sweeping through the Built Environment Industry, the diverse attributes of the Quantity Surveyor have become more relevant in the way we provide service to our cherished Clients.

The Quantity Surveyor must therefore take the Lead in educating the public on effective infrastructure development that provides high value for money with little or no disputes among parties. Over the years our professional advice had been cost management towards project development at all levels in the Built Environment. It is therefore imperative that we do something different as Professional Quantity Surveyors to overcome the threat we face with the rapid evolution of technology in recent times if we are to be relevant in the development agenda of the country.

As the Chairman of the Quantity Surveying Division of the Ghana Institution of Surveyors, the following prescriptions are worth considering as agenda for the growth of the Quantity Surveying Professions in Ghana.

- a Awareness Creation about the professional competencies we bring to bear for the enhancement of any development as Professional Quantity Surveyors must be upscale using all

MESSAGE FROM THE QUANTITY SURVEYING DIVISION CHAIR

available contemporary marketing tools.

- b** Capacity Building in new emerging disciplines that underpins the Built Environment Industry which will make the Professional Surveyor relevant, must be pursued vigorously by all levels at the least opportunity. These are the soft skills or the business aspects of the QS profession.
- c** Focusing on Professional ethics by all members should be the hallmark at all times. This is because, the general public are eagerly expecting the Professional Quantity Surveyor to be what they say they are by upholding the motto of the Ghana Institution of Surveyors, “Service with Integrity”.
- d** Ensuring that we intensify the Continuing Professional Development (CPD) activities with the view to exposing the members to current and new trends in the Industry for which we have the basic knowledge but needs amplification through practical application of the theoretical skills.

While we live through these turbulent times arising from Global pandemic and or force majeure, it is imperative we diversify our skills set and knowledge to keep the Quantity Surveyor relevant irrespective of the circumstances.

As the Region 3 Director of the International Cost Engineering Council and the Chairman of the Quantity Surveying Division I have a dream that in addition to performing its core function as the Cost Management practitioner,

- i** One day the Quantity Surveyor will be an indispensable professional in the Built Environment Industry in Ghana and Africa
- ii** One day the Quantity Surveyor will be the preferred Dispute Resolution Experts in the resolution of disputes in the Built Environment Industry worldwide
- iii** One day the Quantity Surveyor will be preferred Contracts Manager.
- iv** One day the Quantity Surveyor will be the Works Procurement practitioner of Choice in the Built Environment Industry.
- v** One day the Quantity Surveyor will be the preferred Project Manager and Contract Administrator.
- vi** One day the Quantity Surveyor will be the Project Auditor, Project Forensic and Value for Money Expert of Choice in the Built Environment Industry
- vii** One day the Quantity Surveyor will be the preferred Project due Diligence and Financial Advisor of Choice due to its Specialized Training and Skill set.
- viii** One day the Quantity Surveyor will be the preferred Financial Engineer for all Infrastructure Projects in Ghana

By

Surv. K. Obeng-Ayirebi, FGHS

STANDARDS AND REPUTATION AT RISK IN THE CONSTRUCTION INDUSTRY

By Benjamin Kwesi Anim, MRICS

Multibillionaire investor Warren Buffett once said “It takes 20 years to build a reputation and 5 minutes to ruin it. If you think about that, you will do things differently”.

Reputation is arguably the most valuable asset that a company possesses, which needs to be protected and nurtured within the organisation. There are plenty of examples where construction companies have collapsed because they have lost the trust of their major clients. The construction industry is certainly at extremely high risk of corruption. Corruption in the construction industry can be catastrophic that can lead to loss of human lives. Poor design and construction of roads have been major contributors to road accidents in Ghana. The loss of over 2028 lives in road accidents in Ghana in 2019 is very alarming. Faulty workmanship caused a multi-storey shopping centre to collapse in Achimota, Accra in 2012 killing at least nine people. There was an earthquake in Turkey in 1999 in which more than 17,000 people lost their lives. Many of the buildings that were damaged in the earthquake causing these fatalities and catastrophic injuries were not up to code and bribes had in fact been paid to get them signed off as being compliant.

The most reported corruption forms in the Construction Industry are bribery, collusion, fraud and extortion. The 2011 edition of Transparency International’s bribe paying index found that public works contracts and construction comprised the area most likely to experience all three types of bribery— namely;

Grand:

Acts committed at a high level of government that distort policies or the central functioning of the state, enabling leaders to benefit at the expense of the public good.

Petty:

Everyday abuse of entrusted power by low and mid-level public officials in their interactions with ordinary citizens, who are often trying to access basic goods and services in places such as hospitals, schools, police departments and agencies.

Political:

A manipulation of policies, institutions and rules of procedure in the allocation of resources and financing by political decision-makers who abuse their position to sustain power and wealth.

What makes the Construction Industry Corrupt?

Niell Stansburry of Global Infrastructure Anti-corruption Centre identified the following:

1. Uniqueness: No two construction projects are the same making comparisons difficult and providing opportunities to inflate costs and conceal bribes.
2. Complex transaction chains: The delivery of infrastructure involves many professionals’ disciplines and numerous contractual relationships that make control measures

difficult to implement.

3. Official bureaucracy: Numerous approvals are required from government agencies at various stages of delivery cycle. Each one providing an opportunity for bribery. Political influence is a major challenge to project delivery. Political heads try to influence processes by imposing party-faithful for the award of contracts. This is a major challenge to project delivery as most of them are not competent to deliver the works. To win a contract would depend on whom you know not what you know.
4. Unethical behaviour prevailing among public officials, contractors and construction professionals during bid evaluation and contract implementation stages.

Other factors include:

- The large flow of public money
- The highly competitive nature of tendering process
- Lack of transparent selection criteria for projects
- Political interference
- Tight margins

The fact is that the industry is particularly reliant on working relationships. While this can be a positive factor for a working environment and building trust with contractors and suppliers, it can also lead to conflicts of interest and lack of transparency in decision making around contractor selection. There is a fine line between building a good relationship and inappropriately seeking to influence someone. The fact remains that, in looking for a contractor to work for you at home or on bigger construction projects, trust is incredibly important. How do you handle such situations in cultures where relationships are highly valued? For example, in Ghana, helping a member or friend to get employment or to win a contract is seen as a positive effort. It can be challenging to explain that you also need to impose a framework of business ethics on such relationships.

Construction and infrastructure projects are also

influenced by the fact that different companies have different tolerances for engaging in practices that others would consider to be bribery or unethical conduct. It can make operating on a level playing field difficult. A firm can find itself competing for a contract with one that is willing to cut corners, cross lines and do things unethically. Companies that are trying to earn an honest living as contractors and suppliers often miss out on jobs and income due to their unwillingness to indulge in unethical practices. Whatever form corruption takes, people suffer. If a company wins a contract through bribery, there is a good chance that money, which could have been spent on the project itself or the community where it is being built, is channelled to corrupt individuals. This results in communities losing out and leaving them in poverty, hunger, poor education and limited access to health care and basic amenities.

What can companies do?

Construction companies must be courageous and willing to share experiences. This involves discussing corruption issues that have to be dealt with, as professionals, from the point of view of the construction industry as a whole. Corruption in construction projects can be eliminated if all participants in projects co-operate in the development of anti-corruption action, which addresses both the supply (bribe giver) and demand (bribe taker).

Construction companies must desist from aligning themselves to political parties, political affiliations or political card holders. Political influence is a major challenge to project delivery. Political heads try to influence the process by bringing in party faithful for award of contracts. Most contractors are hereby labelled with political affiliation. Thus, when there is a change in government, such contractors are denied projects because of their political affiliation. In other cases, when there is a change of government, projects are sometimes repackaged and awarded to party-faithful contractors. A vibrant and neutral Contractor's Association should be able to support its members to convince government departmental heads to

accept that political affiliation should not be a criterion for awarding government projects.

The Association of Building and Civil Engineering Contractors of Ghana can play a leading role in the crusade against corruption and bribery by organising workshops and seminars to build up human and institutional awareness and capacity. Furthermore, the Association can assist members with finance and provide guarantees for members engaged in the bidding and execution of contracts. There is the need for strict adherence to Code of Ethics that supports fair project bidding process and execution of projects using quality materials and workmanship in accordance with the contract specifications.

What can individuals do?

Individuals of leadership level need to talk about issues they encounter. Professionals and other industry professionals cannot lead by example in silence. Every individual has to bring issues out into the light. Construction as an industry is very good at thinking about risks. Same should be the case when it comes to fighting corruption and ensuring integrity. If a member sees things that are not right, such issues should be raised before other members who can be trusted to help address the canker. Where one has concerns about speaking up, the issues at stake would have to be taken up to someone senior. The Parliament of Ghana has passed the Whistleblowers Act (Act 720) in 2006 as an anti corruption tool. This is to encourage persons to disclose, without fear of victimisation, unethical or corrupt conduct within organisations. The Act ensures that Whistleblowers are not victimized by been fired from their work, harassed, intimidated, discriminated against, assaulted by those who engaged in improper conduct. Institutions as good practice must encourage and protect whistleblowers to speak out and help curb corruption practices.

Ethics

There are a number of professionals who are expected to conduct themselves to a certain

standard. Unfortunately, the Ghana Contractors Associations, are relatively no longer active industry players (I stand for correction) such as the professional bodies for Architects, Engineers and Surveyors who have strict Professional Code of Ethics. Offenders are usually taken through prescribed disciplinary actions. Unfortunately, it is the minority of corrupt individuals who are letting the industry down. It is up to us, as dedicated, ethical majority, to effect changes in the industry.

Conclusion

To improve standards and reputation in the construction industry, the following are recommended:

- Institutions to develop strategies to effectively deal with corruption practices in the construction industry. Strict adherence to the professional code of ethics. Unethical behaviours must be made public and disciplinary action applied.
- Construction experts and politicians must have a give and take partnership. It is suggested that Parliament pass a law that would give independence to construction industry experts to execute government projects in order to avoid political interference. Qualified professionals not politicians must do the selection of contractors and award contracts.
- Information on Whistleblowing law must be made available to all persons in the construction industry to encourage persons to understand the law and know how to “blow the whistle” on corrupt and improper practices.
- The need for a vibrant Association of Building and Civil Engineering Contractors to promote and defend the overall interest of its members by having regular discussions, consultations and request to government on issues affecting the construction industry.

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YOUR HEALTH OUR WEALTH



Overview

Coronavirus

In early 2020, a new virus began generating headlines all over the world because of the unprecedented speed of its transmission.

Its origins have been traced to a food market in Wuhan, China, in December 2019. From there, it's reached countries as distant as the United States and the Philippines.

The virus (officially named SARS-CoV-2) has been responsible for millions of infections globally, causing hundreds of thousands of deaths. The United States is the country most affected.

The disease caused by an infection with SARS-CoV-2 is called COVID-19, which stands for coronavirus disease 2019.

In spite of the global panic in the news about this virus, you're unlikely to contract SARS-CoV-2 unless you've been in contact with someone who has a SARS-CoV-2 infection.

What are the symptoms?

Doctors are learning new things about this virus every day. So far, we know that COVID-19 may not initially cause any symptoms for some people.

You may carry the virus for 2 days or up to 2

weeks before you notice symptoms.

Some common symptoms that have been specifically linked to COVID-19 include:

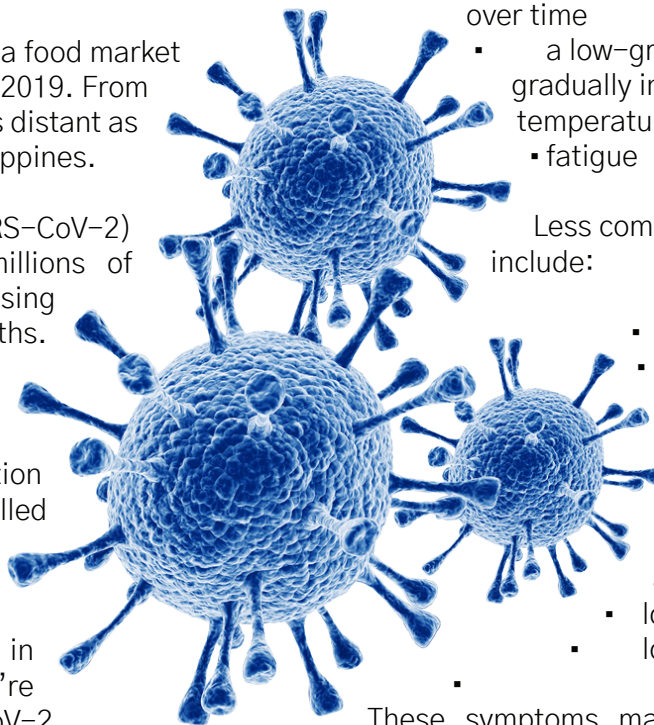
- shortness of breath
 - a cough that gets more severe over time
 - a low-grade fever that gradually increases in temperature
 - fatigue

Less common symptoms include:

- chills
- repeated shaking with chills
- sore throat
- headache
- muscle aches and pains
- loss of taste
- loss of smell

These symptoms may become more severe in some people. Call emergency medical services if you or someone you care for have any of the following symptoms:

- trouble breathing
- blue lips or face
- persistent pain or pressure in the chest
- confusion
- excessive drowsiness



What causes coronaviruses?

Coronaviruses are zoonotic. This means they first develop in animals before being transmitted to humans.

For the virus to be transmitted from animals to humans, a person has to come into close contact with an animal that carries the infection.

Once the virus develops in people, coronaviruses can be transmitted from person to person through respiratory droplets. This is a technical name for the wet stuff that moves through the air when you cough, sneeze, or talk.

The viral material hangs out in these droplets and can be breathed into the respiratory tract (your windpipe and lungs), where the virus can then lead to an infection.

It's possible that you could acquire SARS-CoV-2 if you touch your mouth, nose, or eyes after touching a surface or object that has the virus on it. However, this is not thought to be the main way that the virus spreads

The 2019 coronavirus hasn't been definitively linked to a specific animal.

Researchers believe that the virus may have been passed from bats to another animal — either snakes or pangolins — and then transmitted to humans.

This transmission likely occurred in the open food market in Wuhan, China.

Who's at increased risk?

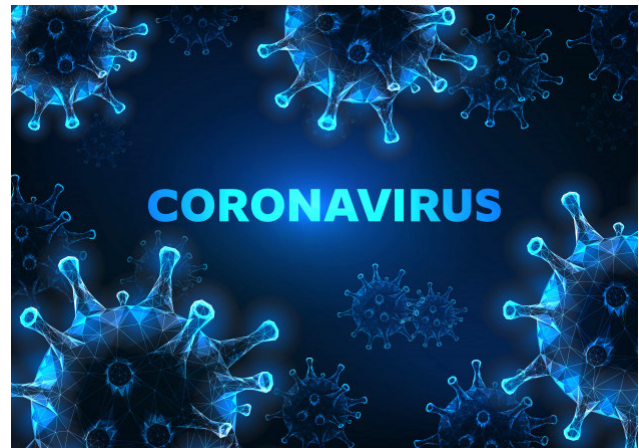
You're at high risk for contracting SARS-CoV-2 if you come into contact with someone who's carrying it, especially if you've been exposed to their saliva or been near them when they've coughed, sneezed, or talked.

Without taking proper preventive measures, you're also at high risk if you:

- live with someone who has contracted the

virus

- are providing home care for someone who has contracted the virus
- have an intimate partner who has contracted the virus



What are the possible complications from COVID-19?

The most serious complication of COVID-19 is a type of pneumonia that's been called 2019 novel coronavirus-infected pneumonia (NCIP).

Results from a 2020 study of 138 people admitted into hospitals in Wuhan, China, with NCIP found that 26 percent of those admitted had severe cases and needed to be treated in the intensive care unit (ICU).

About 4.3 percent of the people who were admitted to the ICU died from this type of pneumonia.

It should be noted that people who were admitted to the ICU were on average older and had more underlying health conditions than people who didn't go to the ICU.

So far, NCIP is the only complication specifically linked to the 2019 coronavirus. Researchers have seen the following complications in people who have developed COVID-19:

- acute respiratory distress syndrome (ARDS)
- irregular heart rate (arrhythmia)
- cardiovascular shock

- severe muscle pain (myalgia)
- fatigue
- heart damage or heart attack
- multisystem inflammatory syndrome in children (MIS-C), also known as pediatric multisystem inflammatory syndrome (PMIS)

How can you prevent coronaviruses?

The best way to prevent the transmission of infection is to avoid or limit contact with people who are showing symptoms of COVID-19 or any respiratory infection.

The next best thing you can do is practice good hygiene and physical distancing to prevent bacteria and viruses from being transmitted.

Prevention tips

- Wash your hands frequently for at least 20 seconds at a time with warm water and soap. How long is 20 seconds? About as long as it takes to sing your “ABCs.”
- Don’t touch your face, eyes, nose, or mouth when your hands are dirty.
- Don’t go out if you’re feeling sick or have any cold or flu symptoms.
- Stay at least 6 feet (2 meters) away from people.
- Cover your mouth with a tissue or the inside of your elbow whenever you sneeze or cough. Throw away any tissues you use right away.
- Clean any objects you touch a lot. Use disinfectants on objects like phones, computers, and doorknobs. Use soap and water for objects that you cook or eat with, like utensils and dishware.

What treatments are available?

There’s currently no treatment specifically approved for COVID-19, and no cure for an infection, although treatments and vaccines are currently under study.

Instead, treatment focuses on managing symptoms as the virus runs its course.

Seek medical help if you think you have COVID-19.

Your doctor will recommend treatment for any symptoms or complications that develop and let you know if you need to seek emergency treatment.

Other coronaviruses like SARS and MERS are also treated by managing symptoms. In some cases, experimental treatments have been tested to see how effective they are.

Examples of therapies used for these illnesses include:

- antiviral or retroviral medications
- breathing support, such as mechanical ventilation
- steroids to reduce lung swelling
- blood plasma transfusions



Jokes

Probably only amusing if you work in construction

3 construction workers went on a hunting trip - a crane operator, a laborer, and a surveyor. The three spent a good hour walking through the woods, looking for the laborer's tree stand before they realized they were lost. Looking around, they had no way to figure out which way to go to get back to the road.

"What do we do now?" asked the crane operator. The laborer just shrugged.

The surveyor thought for a minute, then pulled out a grade stake and wrote "DO NOT DISTURB" on both sides with a magic marker. Then he drove the stake in the ground with a hammer, tied a bright pink ribbon on it, and stood up.

The laborer said "What did you do that for? How's *that* gonna help us?" The surveyor just held up one finger and said "Wait."

After 5 minutes, the three heard a rumbling off in the distance. The next thing they knew, a bulldozer came bursting through the trees and plowed right over the surveyor's grade stake.

The surveyor pointed in the direction the bulldozer had come from and said "That way."



How did Jesus do in the construction test today?

He nailed it!

WHO AM I, WHAT I DO AND HOW TO BECOME A QUANTITY

Surv. Dr. Isaac Abbam

PhD, MSc. MRICS, GhIS, MFIG, MGACCFE

Who is a Quantity Surveyor?

A Quantity Surveyor is a trained professional who undertakes and gives advice on cost, project management, feasibility studies etc. to achieve cost effectiveness and value for money for his/her client. In other words, a Quantity Surveyor is an expert who is concerned with financial probity/ correctness/justice/morality in the concept management, planning and execution of development projects both new and refurbishments.

What does a Quantity Surveyor do?

Quantity surveyors work on the land, property and construction industries. They are the people responsible for calculating and managing project costs, from helping to generate initial estimates to finalizing the full budget requirements.

Quantity Surveyors are often involved at the outset of a project, being brought in to look at the viability of proposed construction or maintenance projects and serve as supervisors throughout the planning phases of capital expenditure. This means that they are interested, mostly on site, before construction is complete, keeping a close eye on the forecasted and actual costs and also reacting quickly to challenges and changes in requirements including revised costing and feasibility assessments.

Day-to-day role of a Quantity Surveyor.

A day in a quantity surveyor's life is varied – you may be in the office and on construction site dealing directly with clients as well as workers. There are no two projects ever the same and there is a lot of variation that can be very exciting for anyone who doesn't like routine.

Some day-to-day roles are tender and contract documentations, contract management, project management, project planning and resources scheduling (including direct labour projects), cost analysis, monitoring cost variations and writing reports, finding out the client requirements and undertaking feasibility studies, allocating work to sub-contractors and making payments, arbitration/disputes resolution in construction industry (sits as an arbitrator/umpire and prepares proof of evidence and award), acts as an expert witness, peer review mechanism (this aspect of work now emphasizes on "designing to a cost" concept as against "costing to a design" and the appointment of monitoring consultants and finally the technical auditing (value for money audit). Site visits are also a big part of the job, where you'll need to make assessments on financial projections for future work.

How do you become a Quantity Surveyor?

Many quantity surveyors are university graduates, there are specific courses from the second cycle level in the subject(s) of art, technical, and science that can also lead you onto

the road. You may also choose to do a degree in a different program field, such as construction technician and building technology courses, etc. as well as the all-powerful quantity surveying and construction economics at technical universities and other conventional universities. While your degree can be in any of the above subject areas, preferred are those related to the construction industry, such as structural/civil engineering, mathematics and geography, building technology and construction management.

But you don't need a degree to get into the industry or become a member of the Ghana Institution of Surveyors (GhIS)—without one, you can start out as a technician. To progress to the role of quantity surveyor, however, a degree is needed or admitted as a technician member and, after six years of practice, you can progress by writing the professional exams and studying part-time while you are working, or even being supported /financed by your employer. Regardless of the path you take; if you want to achieve chartered/professional status, you'll need to undergo further research and exams.

Apparently, the Governing Council of the Ghana Institution of Surveyors has also approved a new route for those in academia, and one seeking membership to become a member must submit at least four peer-reviewed papers in addition to the application form for professional trainees being endorsed by your supervisor and proposer and a minimum of master's degree with a one year probation term.

With regard to the combination of subjects for second cycle students who wish to become quantity surveyors, with arts students you need economics, geography, elective maths and government, with science students you need biology, physics, elective maths and chemistry and with technical students you need building construction/woodwork, physics, elective maths and technical drawing.

Am I suitable for a Quantity Surveyor role?

If you have an analytical mind with good numerical and financial capabilities then the quantity surveyor position may be perfect for

you. But you will also need good management and leadership skills, as the job is to deal constantly with contractors, suppliers and sub-contractors if you want them to complete their tasks. This can also be a daunting task to take when many parties are involved, thus excellent communication and negotiating skills are also a must.

Furthermore, it is important to be able to produce well-written reports and to relate complex information to clients, as is a strong IT context, especially when it comes to software like Excel, QS Cad etc. Even a passion for the construction industry and extensive trade experience are bonuses to have. A greater business awareness, the challenges it faces and how to solve problems can make prospective employers sit up and take note of it.

Quantity Surveyor training and qualifications.

There are a number of career paths open to become a quantity surveyor, although the most common is to take a degree or professional qualification that is accredited by the Ghana Institution of Surveyors, whose membership allows surveyors to describe themselves as Professional Members (usually after two years of first degree probation with core subjects and one year of second degree probation with core subjects).

Membership may be gained through the study of an accredited degree, professional experience, membership of other relevant professional bodies or academic route. Those who are already working in construction firms may qualify by taking a degree in part-time distance learning if they so wish, allowing them to continue to work (and earn income) while qualifying for the exams.

What are the career prospects for a quantity surveyor?

As a trainee quantity surveyor, you will start and work towards professional status.

When you become a professional member, you can continue to work on a wide variety of areas,

or you can specialize in specific fields of interest such as project management, alternative dispute resolution, value for money audit/analysis as well as procurement etc.

There is also the opportunity to work for further qualifications with various organisations, such as the Royal Institution of Chartered Surveyors, Association of African Quantity Surveyors, International Cost Engineering Council, International Federation of Surveyors, Association of Cost Engineers or the Chartered Institute of Building. You could even develop your own consultancy, or consider moving abroad.

What are the job prospects for a quantity surveyor?

You can be a contractor, consultant or work in the renowned government institutions like Universities within the country, AESL, Department of Urban Roads, Department of Feeder Roads, Ghana Highway Authority, Ministry of Health, Ministry of Education, Oil and Gas Industry, Gridco/VRA, Banks, Metropolitan, Municipal and District Assemblies (MMDA's), Public Works Department, Consulting firm(s) as Consulting Quantity Surveyor as well as Contractor's Quantity Surveyor.

THE IMPACT OF COVID-19 ON THE CONSTRUCTION INDUSTRY

Surv. Samuel Okyere, MGHIS

What is COVID-19?

Coronaviruses are a large family of viruses which may cause illness in animals or humans. Among humans, there are several types of coronaviruses known to cause respiratory infections. These infections range from common cold to more severe diseases such as the Middle East Respiratory Syndrome (MERS) and the Severe Acute Respiratory Syndrome (SARS). COVID-19 is caused by the most recently discovered coronavirus. This new virus was unknown to medical scientists before its outbreak in December 2019 in Wuhan, China. Within three (3) months of its detection, the disease had become a global pandemic with a spread rate in exponential figures. By April, it had been predicted that the disease is possible to cause extreme global poverty- a type which has not been seen in the past 30 years.

Various governments, after China, began to impose restrictions on human, cargo and other forms of movements within and across towns, cities and political boundaries. Its effect on the global lifestyle and economy has been beyond numerical predictions causing various governments a lot of distress as industries and various disciplines have come to their knees. Nine months into the pandemic, the focus of countries around the world are on efforts to strike a reasonable balance between economic recovery and the health of its citizens. Various efforts have gone into prioritizing the needs of the health sector to minimize the spread of the pandemic, provide support to the socially disadvantaged in the situation and limit records

of death whilst increasing recovery rate.



Effect of COVID-19 on the Construction Industry

With economic growth at an all-time low globally, many countries are currently focused on strategizing on a sustainable recovery plan in the face of a likely second wave. It has been accepted that until a vaccine is found and globally circulated, we will have to learn to live with COVID-19. The construction industry has not been left out of the affected sectors. Among a number of the direct effects on the construction industry, the under listed are a few notable ones;

1. Closure of borders affected the importation of off-shore building materials.
2. Restrictions on some economic activities implied stoppage of works on most construction projects for a period.
3. Restrictions on movements between major towns affected human resource deployment on projects as well as purchase and delivery of materials from restricted areas to active

project sites.

4. Majority of financial institutions resorted to downsizing of personnel and reduced banking hours. These affected ease of transactions on active projects.
5. Social distancing protocols implied reduction of the number of workmen to be involved in particular site activities.
6. Face-to-face site meetings have reduced. However, most professionals are still getting used to virtual forms of holding meetings and other engagements.
7. Some start-up companies struggled to pay salaries of workmen within the period of tight restrictions.
8. Some companies could not retain key personnel due to cash flow challenges.
9. Some Clients have also defaulted in the honouring of payment certificates due to the effect of the pandemic on their businesses.
10. Some firms have had to dedicate personnel purposely for ensuring adequate hygiene protocols by staff and visitors to project sites and offices.
11. High expenditure on internet connection as project teams now make use of more virtual means for meetings and circulation of information.

A lot of the above challenges have rendered most projects incapable of meeting their scheduled completion dates. The issue of force majeure remains a fact and most contracting parties have had to engage on the best ways to navigate through the challenges.

Adjusting to the COVID-19 era

Whilst efforts are far advanced for the discovery of a vaccine; until then, various adjustments are required in every sphere of our lives as we cope with the dangers of the virus whilst continuing

with day-to-day economic activities. Some of these measures comprising guidelines as recommended by the WHO, and other practical organizational strategies for running a business in this period include the following;

1. Wearing of 3-ply face masks.
2. Maintaining social distancing protocols.
3. Checking of temperature of staff daily.
4. Frequent washing of hands with soap under running water.
5. Mounting of alcohol-based sanitizers on high traffic areas.
6. Dedicate a staff from the health and safety unit to ensure adherence to all safety protocols on site.
7. Employ the use of virtual forms of meetings.
8. Only have face-to-face meetings in a spacious, well-ventilated space for shorter periods.
9. Run a shift system for head office staff based on their assignments and responsibilities.
10. Endeavor to make use of natural ventilation in offices.
11. Reduce hard copies and make use of scanned documents and soft copies for documentation.

It is noteworthy to state that, although the COVID-19 has greatly affected our lives, there are still positives to look at. The need for more reliable and effective methods of solving problems have come to the fore within this period. As the threat winds down with the discovery of a vaccine inching closer, professionals would have to keep in view all the innovative ways we discovered in solving problems on our respective projects.

Sometimes it takes a difficult situation for humans to think outside of the box.



Call for Articles



1. The Editor welcomes articles relating to the theory and practice of Quantity Surveying and its related fields for publication in this Magazine. Articles which are humorous in content, will also be accepted for publication, whether or not they are related to Quantity Surveying Practice.
2. Authors need not be members of the Ghana Institution of Surveyors, and can come from any part of the world.
3. Manuscripts must be in English.
4. Articles should not exceed 20 double-spaced type written pages (including Tables, Figures and References) and should be typed on A4-sized paper with regular margins. Figures and illustrations must be clearly numbered and submitted in a form in which they can be readily reproduced. A soft copy in Microsoft Word or Rich Text Format (saved on a reliable Pendrive or Compact Disc), as well as a hard copy should be provided.
5. References should be given according to the Harvard System. In the text, reference should be given by author(s) and year of publication, e.g., Hohoabu (1996); Amoah-Mensah (1995). Where there are more than one author, the citation should be: Amoah et al. (1994). References listed at the end of the article should be only those cited in the text and must be arranged alphabetically. The list should give complete details of such reference as in the following example: Hohoabu (1996). Making Construction Work Safe in Ghana: **Ghana Institution of Engineers' Magazine**, Vol. 1, No. 2 pp.1-4.

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Contact: 0243 625066/0243 98661

Email: gabrielnani@yahoo.com/kisernest@gmail.com

MATERIAL SCHEDULE COMPONENTS

Concrete Mix/ Strength		Portland Cement		Sand m ³	Stone m ³
Mix	Strength N/mm ²	Weight Tonne	Bags		
1:1:2	30.00	0.552	11.04	0.38	0.76
1:1 ¹ / ₂ :3	26.00	0.405	8.10	0.41	0.82
1:2:4	21.00	0.320	6.40	0.44	0.88
1:2 ¹ / ₂ :5	18.00	0.264	5.28	0.45	0.90
1:3:6	14.00	0.227	4.54	0.46	0.92
1:4:8		0.173	3.46	0.48	0.96

Material for 1 cu.m of concrete

Grade	10/40	1:3:6
		1:4:8
Grade	25/20	1:2:4
Grade	30/20	1:1 ¹ / ₂ :2
		1:1 ¹ / ₂ :3

Material for 1 cu.m

Mix	Ordinary Portland Cement		Sand(m ³)
	Weight (tonne)	Bag (No.) <i>50kg=1bag</i>	
1:1	1.05	21.00	0.73
1:1 ¹ / ₂	0.89	17.80	0.93
1:2	0.72	14.40	1.00
1:2 ¹ / ₂	0.61	12.20	1.07
1:3	0.52	10.40	1.10
1:3 ¹ / ₂	0.44	8.80	1.15
1:4	0.38	7.60	1.20
1:5	0.14	2.8	1.30

MATERIAL SCHEDULE COMPONENTS

Painting Application Rates [1yd = 0.94m]

	Imperial	Metric
<u>Emulsion paint</u>		
Rendered wall	1.43 gal/ 100y ²	1.70 gal/100m ²
<u>Under coat of oil paint</u>		
Rendered wall	1.67 gal/ 100y ²	1.99 gal/ 100m ²
wood	1.67 gal/ 100y ²	1.99 gal/ 100m ²
<u>Oil furnish</u>		
Rendered wall	1.43 gal/ 100y ²	1.70 gal/ 100m ²
wood	1.43 gal/ 100y ²	1.70 gal/ 100m ²
<u>Lacquer</u>		
wood	1.18 gal/ 100y ²	1.4 gal/ 100m ²
<u>Thinner</u>		
	1.43 gal/ 100y ²	1.70 gal/ 100m ²
Snow Quick Lime	112 lb/drum	
	150 lb/100y ²	

	Imperial	Metric
3-Blade	1'-5 ¹ / ₂ "	437.5mm
4-Blade	1'-11"	575mm
5-Blade	2'-4 ¹ / ₂ "	712.5mm
6-Blade	2'-10"	850mm
7-Blade	3'-3 ¹ / ₂ "	987.5mm
8-Blade	3'-9"	1125mm
9-Blade	4'-2 ¹ / ₂ "	1262.5mm
10-Blade	4'-8"	1400mm
11-Blade	5'-1 ¹ / ₂ "	1537.5mm
12-Blade	5'-7"	1675mm
13-Blade	6'-1 ¹ / ₂ "	1812.5mm
14-Blade	6'-6"	1950mm

MATERIAL SCHEDULE COMPONENTS

NO. OF STEEL RODS PER TON (1016kg)

Metric	6mm	8mm	9mm	12mm	16mm	19mm	22mm	25mm
Imperial	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
Length 20'0"	670	429	298	168	107	74	55	4
Length 30'0"	446	286	199	112	71	50	37	28

TRANSPORT OF STEEL RODS (AVERAGE CAPACITIES)

2 Tons Vehicle	1.5C.Y	1.15m ³ (solid)
3 " "	2.25"	1.72m ³ "
4 " "	2.90"	2.22m ³ "
5 " "	3.50"	2.68m ³ "
6 " "	4.50"	3.44m ³ "

NO. OF SANDCRETE BLOCKS PER BAG OF CEMENT

Size of block	Product of 1 bag of Cement		Product of 1m ³ of Sand	
	1:6	1:8	1:6	1:8
Solid 4"	25 No	30 No	approx 110 No	106 No
Solid 6"	14 "	18 "	" 73 "	71 "
Solid 9"	9 "	12 "	" 50 "	47 "
Hollow 4"	30 "	38 "	" 137 "	131 "
Hollow 6"	24 "	28 "	" 107 "	112 "

Mortar (usage/sqm of block layer)

100 mm size	0.0161 m ³
125 mm "	0.0201 m ³
150 mm "	0.0241 m ³
222 mm "	0.0362 m ³

MATERIAL SCHEDULE COMPONENTS

QUANTITY OF MATERIALS IN 100Y² (84.2m²) OF FINISHINGS

	Thickness	Cement (bags)	Sand	
1. Cement & Sand (1:3) Paving, Bed and Backings	1/2"	14 2/5	2.00 C. Y	1.53 m ³
	3/4"	24	3.33 "	2.55 m ³
	1"	31 1/5	4.33 "	3.32 m ³
	1 1/4"	36	5.00 "	3.83 m ³
2. Granolithic Paving	3/4"	28 3/5	3.47 "	2.66 m ³
	1"	37 1/5	4.51 "	3.45 m ³
	1 1/2"	43	5.20 "	3.98 m ³
	2"	60	7.28 "	5.58 m ³
3. Terrazzo	Sand for screed		6 C. Y or 1 1/2 trips	
	Cement for screed		20 bags	
	Cement for Terrazzo		20 bags	
	Marble chippings		40 bags	
	Pigments 30lbs		30lbs or 13.64kg	
	Ebonite Strips (14'0" long)		50 strips	
4. Cement and Sand rendering (1:4)	Cement	Sand		
	19 1/2 bags	2.67 C. Y	2.05 m ³	
5. Tyrolean Rendering	Cement	Sand	"Cullamix"	Lime
	7 1/2 bags	1.53 m ³	50.8 kg	162.6 kg

MATERIAL	IMPERIAL	METRIC
Galvd Water Can	2 1/2" spout x 6 gallons	
Asbestos Pipes (All Diameter)	8' Length	2.4m Length
Copper Pipes		
1/2" diameter, 1/4" diameter, 1" diameter, 1 3/4" diameter, 1 1/4" diameter, 2" diameter,	18' Length	5.4m Length
	1 yd ² /Cwt = 0.0165m ² /kg	
	1 yd ² /Gal = 0.184m ² /	

MATERIAL SCHEDULE COMPONENTS

ROUND REINFORCEMENT WEIGHT IN KG, AND DATA

DIAMETER		AREA (MM ²)	WEIGHT OF 1 METER (KG)	WEIGHT OF 9M (KG)	QTY. OF 9M BARS PER METRIC TON	WEIGHT OF 1 FT (LBS)	QTY. OF FT BARS IN TON
IMP	METRIC						
1/4"	6mm	28	0.222	1.998	501	0.167	417
3/8"	10mm	79	0.616	5.544	180	0.376	199
1/2"	12mm	113	0.888	7.992	126	0.668	112
5/8"	16mm	201	1.579	14.211	71	1.05	72
3/4"	20mm	314	2.466	22.194	45	1.502	50
1"	25mm	491	3.854	34.686	29	2.6	28
1.2"	32mm	804	6.313	56.817	18		
1.6"	40mm	1260	9.864	88.776	18		

1 tonne = 100kg = 20 cwt

FINISHINGS

MATERIAL	IMPERIAL	METRIC
Ebonite Dividing strip	8' long	2.4 m
Building Paper (Thermal Reflective)	36" x 25yds	
Building Paper (Water Proofing)	36" x 100yds	
"Villas" Bitumen Roofing		
1 ply	36" x 24yds	
2 ply	36" x 24yds	
3 ply	36" x 24yds	
Acoustic tiles White with Painted/ Beveled Edges	2' x 2' x 1/2"	0.6m x 0.6m x 13mm
Termite Proof Board	4'-0" x 8'-0"	1.2m x 2.4m
"Heraklith" Wood Wool Slabs	79" x 19 3/4" x 1"	1.98m x 0.49m x 25mm
	79" x 19 3/4" x 2"	1.98m x 0.49m x 50mm
Laminated Sheet (Formica)	4' - 0" x 8' - 0"	1.2m x 2.4m
Asbestos/ Vinyl Floor Tiles	9" x 9" x 1/16"	225 x 225 x 1.6mm
1/4" Thick Parquet Hardwood	7 1/2" x 2 1/2" x 3/4"	188mm x 63mm x 19mm
Asbestos Roofing sizes	30" x 6' - 0"	750mm x 1.8mm
	41" x 6' - 0"	1.03m x 1.8mm
	41" x 7' - 0"	1.03m x 2.1mm
	41" x 8' - 0"	1.03m x 2.4mm
	30" x 10' - 0"	0.74m x 3m
Aluminium Roofing sizes	32" x 6' - 0"	0.8m x 1.8m
	32" x 7' - 0"	0.8m x 2.1m
	32" x 8' - 0"	0.8m x 2.4m

MATERIAL SCHEDULE COMPONENTS

WIRE NETTING AND MESH

MATERIAL	IMPERIAL	METRIC
Mosquito – Proof guaze	3'-0" x 100' – 0"	0.9m x 30m
2" x 2" Burglar – Proof wire mesh	4'-0" x 8' – 0"	1.2m x 2.4m
Tygan Mosquito – Proof mesh	3'-0" x 110' – 0"	0.9m x 33m
Expanded Metal 2" mesh size	4'-0" x 8' – 0"	1.2m x 2.4m
1" Polystyrene Expansion joint material	4'-6" x 3' – 0"	
Wire Netting in Rolls	1/2" x 36" x 20 gauge	
	3/4" x 36" x 20 ditto	
	1" x 36" x 20 ditto	

SIZES OF BUILDING MATERIALS

TIMBER SCANTLINGS

IMPERIAL	METRIC
2" X 2"	50mm x 50mm
2" X 3"	50mm x 75mm
2" X 4"	50mm x 100mm
2" X 5"	50mm x 125mm
2" X 6"	50mm x 150mm

TIMBER BOARDS

IMPERIAL	METRIC
1" X 6"	25mm x1 50mm
1" X 12"	25mm x 300mm
1" X 18"	25mm x 450mm
1 1/2" X 12"	40mm x 300mm
2" X 12"	50mm x 300mm

The length of scantling and boards will range from a minimum of 4 meters and increase in steps of 1/2 meter. Usual length = 14'0" or 4.2m

MATERIAL SCHEDULE COMPONENTS

STONES

Aggregate of sizes 5, 10, 15, 35, and 40mm are recommended

PAINTS

Volume of 5, 2.5, 1, 0.5 liters and 250ml are recommended. Powdery paints in bags or drums of 50Kg, 25Kg, 12.5Kg, 6.25Kg masses are recommended

BURNT BRICKS

3" x 4¹/₂" X 9", Metric Size 75 X 112.5 X 225mm

Materials	Covering Capacity/Usage Rate
A)Plastic floor tiles 225 X 225mm X3mm thick	1 crate of 80 pieces will cover 4.2m ²
B)Adhesive for laying ditto	1 gallon for 25.1m ²
C)Glazed wall tile 150 X 150mm X 6mm thick	1 crate of 72 pieces will cover 1.7m ²
D)B.R.C. Fabric mesh 2.1m X 45m long	1 roll will cover 83.6m ² with allowance made for overlap
E)Mosquito proof mesh 900mm X 30m long	1 roll will cover 25.1m ² with allowance made for overlap
F)Roof felt 900mm X 21.6m long	1 roll will cover 16.7m ² with allowance made for overlap
G)Terrazzo finishing	
0.38 Bag of Portland Cement	1m ² of terrazzo works (1.188sq.yd)
0.56 Bags of chippings	1m ² of ditto (1.188sq.yd)
H)putty for stopping (kps)	0.025 kg/m ²
I)Putty for glazing	0.7 kg/m ²
J)Carborundum Stones	1 Set (3 pieces) per 30m ²
K)White Cement (Pointing Tiles)	30m ² /bag
L)Ceiling battens	2m/m ² of ceiling
M)Varnish Spray	60m ² /gallon
N)Galvanised drive screws and washers (75mm)	5 N ^o /m ² of roofing sheet area
O)Abrasive paper	0.25 sheet/m ² of woodwork
P)Tangit glue	0.025 kg/m of pipe (4")
Q)Nail for formwork	0.02 kg/m ² of formwork (1 use) 0.01kg/m ² ditto (2 use)
R)Nails for joinery	12 kg/m ³ of wood
S)Mould oil	30m ² /gallon
T)Nylon brush (oil work)	180m ² coverage per piece
U)Nylon brush (emulsion)	300m ² coverage per piece

MATERIAL SCHEDULE COMPONENTS

BINDING WIRE REQUIREMENT (1 Roll = 50KG)

Fixing rods not exceeding	10mm Diameter	20kg/tonne of Rft
Fixing rods	10 – 20mm Diameter	13kg/tonne of Rft
Fixing rods exceeding	20mm Diameter	10kg/tonne of Rft
NOTE: 1 Tonne =1000kg		

a.	Wood surfaces	Spreading Capacity for m ²	Spreading capacity for each coat App. 100m ²	Current Market Price
	Knot	6.90litres	690litres	
	Putty	0.022kg	2.20kg	
	Prime	11.04litres	1104.litres	
	1 st coat	14.22litres	1422litres	
	2 nd coat	16.56litres	1656litres	
b.	Solignum			
	1 st coat	0.11litres	11.00litres	
	2 nd coat	0.11litres	11.00litres	
c.	Snowcem			
	Each coat	0.17kg	17kg	
d.	Grano (mix 1:4)	Spreading capacity for m ³	Spreading capacity for each coat App. 100m ³	Current Market Price
	Grano granite	1.10m ³	110m ³	
	Cement	535kg	53500kg	
e.	Tyrolean			
	Cement	9.15bags	915bags	
	Sand	1.40m ³	140m ³	
	Insecticide coverage	7.36 - 9.20m ² /lit	736 - 920m ² /lit	
	Adhesive coverage	7.36 - 11.04m ² /lit	736 - 1104m ² /lit	
f.	Flintkote	Spreading capacity for m ²	Spreading capacity for each coat App. 100m ²	Current Market Price
	Type 1 or 3	4.09litres	409litres	
	Type Z	0.33litres	33litres	
g.	Laying of plastic tiles			
	Adhesive	5.52litres	552litres	
	Bitumen	3.68litres	368litres	

MATERIAL SCHEDULE COMPONENTS

FORMWORK

Props for square metre of formwork

13.6kg for 10m² e.g.: 30 x 4200 x 40mm thick for 1.30m²

ROOFING

No.	Description	Imperial	Metric	Current Market Price
1.	Sheet Dimension	2' - 6" x 7' - 0"	750 x 2100mm	
2.	Roofing Nails	1.92lb/100ft ³	0.86kg/13.30m ³	
3.	Washers	0.67lb/100ft ³	0.30kg/13.30m ³	
4.	Effective Coverage	2' - 1 1/2' x 6' - 0"	640 x 1800mm	

CONTRACTS

Material constitutes 60% of Contract Sum (Varies)

Labour constitutes 10% of Contract Sum (Varies)

Plant and labour constitutes 15% of Contract Sum (Varies)

Overheads and Profits constitutes 15% of Contract Sum (Varies)

EXCAVATION

Excavation by plant takes 15min/yd³ – 0.33hr/m³

- a) 8hours a day
- b) 5days a week

BASIC PRICES OF MATERIALS

BASIC PRICES OF MATERIALS			AUGUST, 2020
DESCRIPTION	UNIT	PRICE (GH¢)	SOURCE
SAND AND STONE			
Rough Sand (Double Axle- 20m ³)	Trip	1,500.00	Open Market
Ditto (Double Axle- 10m ³)	Trip	950.00	Ditto
Ditto (Single Axle- 7m ³)	Trip	700.00	Ditto
Smooth Sand (Double Axle- 20m ³)	Trip	1,400.00	Ditto
Ditto (Double Axle- 10m ³)	Trip	850.00	Ditto
Ditto (Single Axle- 7m ³)	Trip	750.00	Ditto
Laterite soil (Double Axle- 20m ³)	Trip	950.00	Ditto
Black Soil (Double Axle- 10m ³)	Trip	1,200.00	Ditto
Ditto (Single Axle- 7m ³)	Trip	850.00	Ditto
N/B: Prices based on haulage.			

CEMENT			
Ordinary Portland Cement (50Kg- Ghacem)	Bag	38.00- 41.00	Open Market
Dangote Cement (50Kg)	Bag	38.00- 40.00	Ditto
Diamond Cement (50Kg)	Bag	38.00- 40.00	Ditto
Diamond Cement			ATALA LIMITED:0302-306697
A Bag of Cement Below 100 Bags excluding T&T (SACK PACKAGE)	Bag	37.00	Ditto
A Bag of Cement Below 100 Bags excluding T&T (PAPER PACKAGE)	Bag	37.00	Ditto
A Bag of Cement Below 100 Bags including T&T (SACK PACKAGE)	Bag	38.50	Ditto
A Bag of Cement Below 100 Bags including T&T (PAPER PACKAGE)	Bag	38.50	Ditto

AGGREGATES (Machine Crushed)			
B-Filling Material	m ³	58.60	Regimanuel Concrete Products (RCP)
Boulders 75- 150mm	m ³	66.16	Tel. 0277-762259
Chippings 10- 14mm	m ³	89.31	0277-762288
Chippings 10- 20mm	m ³	80.81	Ditto
Chippings 14- 20mm	m ³	80.81	Ditto
Chippings 3- 8mm	m ³	65.22	Ditto
Chippings 5- 20mm	m ³	80.81	Ditto
Chippings 7- 10mm	m ³	89.31	Ditto

BASIC PRICES OF MATERIALS

Crushed Rock 0- 150mm	m ³	65.22	Ditto
Dust 0- 3mm	m ³	44.43	Ditto
Dust 0- 7mm	m ³	44.43	Ditto
Selected Boulders 150- 250mm ditto	m ³	66.16	Ditto
Stone Base 0- 40mm	m ³	65.22	Ditto

CONCRETE

CONCRETE (Already Mixed)			
C10/20 Concrete	m ³	-	Consar Accra Batching
C15/20 Concrete	m ³	413.44	Plant.Tel:0302813453
C20/20 Concrete	m ³	516.21	815671
C25/20 Concrete	m ³	579.99	Ditto
C30/20 Concrete	m ³	616.61	Ditto
C35/20 Concrete	m ³	636.69	Ditto
C40/20 Concrete	m ³	658.78	Ditto

REINFORCEMENT

Mild Steel Rods (9m)			
8mm Ditto (280 Pcs/Ton)	Ton		Tema Steel Co. Ltd.
10mm Ditto (175 Pcs/Ton)	Ton	3,850.88	Tel: 022-304355/304356
12mm Ditto (123 Pcs/Ton)	Ton	3,850.88	Ditto
14mm Ditto (90 Pcs / Ton)	Ton	3,850.88	Ditto
16mm Ditto (68 Pcs / Ton)	Ton	3,850.88	Ditto
20mm Ditto (44 Pcs / Ton)	Ton	3,850.88	Ditto
25mm Ditto (28 Pcs / Ton)	Ton	3,850.88	Ditto
32mm Ditto (17 Pcs / Ton)	Ton	3,850.88	Ditto

Mild Steel Rods (9m)			
			ATALA LIMITED
6mm smooth (300 Pcs/Ton)	Ton		Tel: 0302-306697/317365
6mm rough (500 Pcs/Ton)	Ton	1,950.00	850576
8mm (300 Pcs/Ton)	Ton	3,184.00	Ditto
10mm (170 Pcs/Ton)	Ton	3,800.00	Ditto
11.5mm (150 Pcs/Ton)	Ton	3,800.00	Ditto

BASIC PRICES OF MATERIALS

12mm Standard Foriegn (110 Pcs/Ton)	Ton	4,450.00	Ditto
14mm Foriegn (95 Pcs/Ton)	Ton	3,800.00	Ditto
14mm Normal (95 Pcs/Ton)	Ton	3,800.00	Ditto
16mm Local std (68 Pcs/Ton)	Ton	4,450.00	Ditto
20mm std (44 Pcs/Ton)	Ton	4,450.00	Ditto
25mm Local std (28 Pcs/Ton)	Ton	4,450.00	Ditto
32mm Local std (16 Pcs/Ton)	Ton	4,450.00	Ditto
Binding Wire	Roll	40.00	Ditto

Mild Steel Rods (9m)

7.5mm Ditto (300 Pcs/Ton)	Ton	2,800.00	Sethi Brothers Ghana Limited
10mm Ditto (170 Pcs/Ton)	Ton	3,500.00	Tel : 0303-305396/301523
11.5mm Ditto (140 Pcs/Ton)	Ton	3,500.00	Ditto
12 mm Ditto (125 Pcs/Ton)	Ton	3,500.00	Ditto
14mm Ditto (90 Pcs/Ton)	Ton	3,500.00	Ditto
16mm Ditto (68 Pcs/Ton)	Ton	3,500.00	Ditto
18mm Ditto (55 Pcs/Ton)	Ton	3,800.00	Ditto
20mm Ditto (45 Pcs/Ton)	Ton	3,800.00	Ditto
25mm Ditto (28 Pcs/Ton)	Ton	3,800.00	Ditto

High Tensile Rods (12m)

8mm Diameter (210 Pcs)	Ton		
10mm Diameter (135 Pcs)	Ton	4,665.94	Tema Steel Co. Ltd.
12mm Diameter (94 Pcs)	Ton	4,400.16	Tel: 0303-302898/304356
14mm Diameter (68 Pcs)	Ton	4,400.16	Ditto
16mm Diameter (53 Pcs)	Ton	4,400.16	Ditto
20mm Diameter (33 Pcs)	Ton	4,400.16	Ditto
25mm Diameter (22 Pcs)	Ton	4,400.16	Ditto
32mm Diameter (13 Pcs)	Ton	4,400.16	Ditto

BASIC PRICES OF MATERIALS

High Tensile Rods (12m)			ATALA LIMITED
8mm Diameter (200 Pcs)	Ton	4,950.00	Tel: 0302-306697/317367
8mm Diameter local (200 Pcs)	Ton	4,950.00	850576
10mm Diameter (129 Pcs)	Ton	4,950.00	Ditto
10mm Diameter local (129 Pcs)	Ton	4,950.00	Ditto
12mm Diameter (92Pcs)	Ton	4,950.00	Ditto
14mm Diameter (68Pcs)	Ton	4,950.00	Ditto
16mm Diameter (51 Pcs)	Ton	4,950.00	Ditto
18mm Diameter (41 Pcs)	Ton	4,950.00	Ditto
20mm Diameter (33 Pcs)	Ton	4,950.00	Ditto
25mm Diameter (21 Pcs)	Ton	4,950.00	
32mm Diameter (13 Pcs)	Ton	4,950.00	

High Tensile Rods (9m / 12m)			
8mm Diameter (210 Pcs)- 11.7m	Ton	4,600.00	Sethi Brothers Ghana Limited
10mm Diameter (128 Pcs)- 11.7m	Ton	4,600.00	Tel : 0303-305396/301523
12mm Diameter (94 Pcs)- 11.7m	Ton	4,600.00	Ditto
14mm Diameter (68 Pcs)- 11.7m	Ton	4,600.00	Ditto
16mm Diameter (52 Pcs)- 11.7m	Ton	4,600.00	Ditto
18mm Diameter (41 Pcs)- 11.7m	Ton	4,600.00	Ditto
20mm Diameter (34 Pcs)- 11.7m	Ton	4,600.00	Ditto
25mm Diameter (21 Pcs)- 11.7m	Ton	4,600.00	Ditto
32mm Diameter (13 Pcs)- 11.7m	Ton	4,600.00	Ditto
40mm Diameter (8Pcs)- 11.7m	Ton	4,600.00	Ditto

FORMWORK (Wawa / Kyenkyen)			
25mm x 300mm x 4800mm Board	No	34.00- 48.00	Timber Market,
50mm x 100mm x 4800mm Scantling	No	32.00- 40.00	Kantamanto, Accra

BASIC PRICES OF MATERIALS

BLOCK WORK

Construction (Sandcrete Blocks)

125mm (450 x 225 x 125mm) Solid	No	3.80	Open Market
150mm (450 x 225 x 150mm) Solid	No	4.20	Ditto
150mm (450 x 225 x 150mm) Hollow	No	4.00	Ditto

Quarry Dust

125mm (450 x 225 x 125mm) Solid	No	4.20	Ditto
150mm (450 x 225 x 150mm) Solid	No	4.50	Ditto

ROOFING

PRE-PAINTED MATERIAL

0.60mm Aluminium

TILES	m ²	63.02	Metalex Group Spintex Road
IBR/CIRC/KAD	m ²	58.16	Tel:0302-810933/9
IDT	m ²	62.61	Ditto

Platinum Aluzinc

TILES	m ²	43.05	Ditto
IBR/CIRC/KAD	m ²	36.41	Ditto
IDT	m ²	42.34	Ditto
M Panel	m ²	36.33	Ditto

Supreme Aluzinc

TILES	m ²	34.67	Ditto
IBR/CIRC/KAD	m ²	29.40	Ditto
IDT	m ²	34.19	Ditto
M Panel	m ²	32.98	Ditto

Platinum (2)Aluzinc

IBR/CIRC/KAD	m ²	25.73	Ditto
M Panel	m ²	29.34	Ditto
IDT	m ²	29.92	Ditto

BASIC PRICES OF MATERIALS

Platinum (1)Aluzinc			
IBR/CIRC/KAD	m ²	22.23	Metalex Group Spintex Road
IDT	m ²	25.85	Tel:0302-810933/9

PLAIN MATERIAL			
0.60mm Aluminium			
CIRC	m ²	49.10	Ditto
IDT	m ²	56.23	Ditto
IBR/KAD	m ²	48.81	Ditto

Platinum Aluminium			
IBR/CIRC/KAD	m ²	41.90	Ditto
IDT	m ²	48.72	Ditto

Aluminium Roofing Sheets:			
Corrugated Sheet			
0.35mm Corrugated sheet Embossed-(2438 x 1216mm)	Sheet	66.07	Aluworks- Tema
0.40mm Ditto	Sheet	83.98	Tel :0208114779
0.45mm Ditto	Sheet	95.01	Ditto
0.50mm Ditto	Sheet	105.26	Ditto
0.60mm Ditto	Sheet	126.21	Ditto
0.70mm Ditto	Sheet	147.82	Ditto
0.80mm Ditto	Sheet	168.03	Ditto
0.90mm Ditto	Sheet	189.85	Ditto
1.00mm Ditto	Sheet	210.37	Ditto

Ridge cap			
0.35mm Corrugated sheet Embossed-(2480 x 1216mm)	m	13.21	Ditto
0.40mm Ditto	m	16.81	Ditto
0.45mm Ditto	m	19.00	Ditto
0.50mm Ditto	m	21.08	Ditto
0.60mm Ditto	m	25.26	Ditto

BASIC PRICES OF MATERIALS

0.70mm Ditto	m	29.55	Ditto
0.80mm Ditto	m	33.61	Ditto
0.90mm Ditto	m	37.98	Ditto
1.00mm Ditto	m	42.06	Ditto

I.D.T. (COLOURED)

0.40mm Ditto sheet (2438 x 940mm)	Sheet	88.01	Aluworks- Tema
0.45mm Ditto	Sheet	99.06	Tel :0208114779
0.50mm Ditto	Sheet	109.79	Ditto
0.60mm Ditto	Sheet	131.79	Ditto
0.70mm Ditto	Sheet	154.24	Ditto
0.80mm Ditto	Sheet	175.31	Ditto
0.90mm Ditto	Sheet	198.22	Ditto
1.00mm Ditto	Sheet	219.58	Ditto

Ridge cap I.D.T. (COLOURED)

0.40mm Ditto sheet (480 x 940mm)	m	88.99	Aluworks- Tema
0.45mm Ditto	m	100.05	Tel :0208114779
0.50mm Ditto	m	111.47	Ditto
0.60mm Ditto	m	133.68	Ditto
0.70mm Ditto	m	155.63	Ditto
0.80mm Ditto	m	177.99	Ditto
0.90mm Ditto	m	200.10	Ditto
1.00mm Ditto	m	222.18	Ditto

CARPENTRY

Bush cut:

Redwood/Emire/Dahoma

50 x 50 x 4200mm	No	24.00- 32.00	Timber Market
50 x 75 x 4200mm	No	28.00- 35.00	Katamanto, Accra
50 x 100 x 4200mm	No	32.00- 40.00	Ditto
50 x 150 x 4200mm	No	38.00- 45.00	Ditto
25 x 225 x 4200mm	No	46.00- 58.00	Ditto

BASIC PRICES OF MATERIALS

25 x 300 x 4200mm	No	52.00- 80.00	Ditto
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Kusia (Saw mill)			
50 x 50 x 4200mm	No	32.00	Ditto
50 x 75 x 4200mm	No	34.00	Ditto
50 x 150 x 4200mm	No	48.00	Ditto

Koto			
25 x 225 x 4200mm	No	58.00	Timber Market
25 x 300 x 4200mm	No	71.00	Katamanto, Accra

Saw mill:			
Redwood/Emire/Dahoma/Kusia			
50 x 50 x 4800mm	No	30.00	Timber Market
50 x 75 x 4800mm	No	37.00	Katamanto, Accra
50 x 100 x 4800mm	No	40.00	Ditto
50 x 150 x 4800mm	No	50.00	Ditto

JOINERY			
Plywood:			
Ceiba			
4mm (1200 x 2400mm)	Sht	32.00	Asuogyaman
6mm (1200 x 2400mm)	Sht	44.00	Trad. Ent.
10mm (1200 x 2400mm)	Sht	78.00	Tel: 0302-665352
12mm (1200 x 2400mm)	Sht	84.00	Ditto
15mm (1200 x 2400mm)	Sht	97.00	Ditto
18mm (1200 x 2400mm)	Sht	104.00	Ditto
24mm (1200 x 2400mm)	Sht	120.00	Ditto

Red			
4mm (1200 x 2400mm)	Sht	56.00	Ditto
6mm (1200 x 2400mm)	Sht	65.00	Ditto

BASIC PRICES OF MATERIALS

10mm (1200 x 2400mm)	Sht	95.00	Ditto
12mm (1200 x 2400mm)	Sht	125.00	Ditto
15mm (1200 x 2400mm)	Sht	140.00	
18mm (1200 x 2400mm)	Sht	160.00	Ditto

Koto			
4mm (1200 x 2400mm)	Sht	36.00	Asuogyaman
6mm (1200 x 2400mm)	Sht	50.00	Trad. Ent.
12mm (1200 x 2400mm)	Sht	90.00	Ditto
15mm (1200 x 2400mm)	Sht	100.00	
18mm (1200 x 2400mm)	Sht	110.00	Ditto

Sapale			
4mm (1200 x 2400mm)	Sht	59.00	Ditto
6mm (1200 x 2400mm)	Sht	70.00	Ditto
12mm (1200 x 2400mm)	Sht	145.00	Ditto
19mm (1200 x 2400mm)	Sht	170.00	Ditto

Tongue and Groove (T&G) Strips			
Asanfina (local)	m ²	27.00	Ditto
Avodire (local)	m ²	24.00	Ditto
Redwood (local)	m ²	26.00	Ditto
Ofram (local)	m ²	22.00	Ditto
Hyedua (local)	m ²	25.00	Ditto
Teak (local)	m ²	25.00	Ditto
Mansonia (local)	m ²	30.00	Ditto
Dahoma (local)	m ²	35.00	Ditto

Doors			
Flush Doors:			
Ordinary Door (Ceiba-686mm,762 mm, 838mm x 2057mm)	No	70.00	Asuogyaman
Ordinary Door (Red-686mm,762 mm, 838mm x 2057mm)	No	90.00	Trad. Ent.

BASIC PRICES OF MATERIALS

Ordinary Door (Sapale-686mm,762 mm, 838mm x 2057mm) N/B:Prices on special doors based on specification and Request***	No	100.00	Tel: 0302-665352
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Panelled Doors:			
800 x 2050mm high (Redwood)	No	280.00	Open Market
650 x 2050mm high (Redwood)	No	280.00	Katamanto, Accra
1200 x 2050mm high- double leaf (Redwood)	No	350.00- 600.00	Ditto
800 x 2050mm high (Masonia/Walnut)	No	320.00- 500.00	Ditto
650 x 2050mm high (Masonia/Walnut)	No	320.00- 500.00	Ditto
1200 x 2050mm high- double leaf (Masonia/Walnut)	No	500.00- 700.00	Ditto
800 x 2050mm high (Hyedua)	No	320.00- 450.00	Ditto
650 x 2050mm high (Hyedua)	No	320.00- 450.00	Ditto
1200 x 2050mm high- double leaf (Hyedua)	No	450.00- 600.00	Ditto

Ironmongery:			
Pair 62mm Brass Butt Hinges	Pair	16.00	Open Market
Pair 75mm Brass Butt Hinges	Pair	18.00	Katamanto, Accra
Pair 100mm Brass Butt Hinged (Heavy Duty)	Pair	30.00- 40.00	Ditto
75mm Egret Padlock (original)	No	48.00	Ditto
Mortice lock (Elzet)	No	37.00	Ditto
Mortice lock (ICSA-Italian)	No	98.00	1m0=
Ditto with Cylindrical handle	No	82.00	Ditto
Ditto (British Union)	No	98.00	Ditto
Ditto (Zani-Italian made)	No	100.00	Ditto
Indicator lock	No	36.00- 78.00	Ditto

METAL WORK			
Aluminium Louvre Carrier (Naco Brand):			
Standard (Mill Finish)			
3-Blade Frame (44.45cm high)	Pair	39.00	Pasico (Gh) Ltd.
4-Blade Ditto (58.42cm high)	Pair	50.00	Tel: 0302-664658/9
5-Blade Ditto (71.12cm high)	Pair	61.00	0208-127916
6-Blade Ditto (86.36cm high).	Pair	72.00	Ditto

BASIC PRICES OF MATERIALS

7-Blade Ditto (100.33cm high)	Pair	88.00	Ditto
8-Blade Ditto (114.40cm high)	Pair	90.00	Ditto
9-Blade ditto (127.00cm high)	Pair	110.00	Ditto
10-Blade Ditto (142.24cm high)	Pair	121.00	Ditto
11-Blade Ditto (156.20cm high)	Pair	132.00	Ditto
12-Blade Ditto (170.18cm high)	Pair	143.00	Ditto
13-Blade Ditto (184.20cm high)	Pair	154.00	Ditto
14-Blade Ditto (198.10cm high)	Pair	169.00	Ditto

Deluxe (Bronze Anodised)

3-Blade Frame (44.45cm high)	Pair	49.00	Pasico (Gh) Ltd.
4-Blade Ditto (58.42cm high)	Pair	62.00	Tel: 0302-664658/9
5-Blade Ditto (71.12cm high)	Pair	74.00	663053
6-Blade Ditto (86.36cm high).	Pair	95.00	Ditto
7-Blade Ditto (100.33cm high)	Pair	107.00	Ditto
8-Blade Ditto (114.40cm high)	Pair	120.00	Ditto
9-Blade ditto (127.00cm high)	Pair	132.00	Ditto
10-Blade Ditto (142.24cm high)	Pair	147.00	Ditto
11-Blade Ditto (156.20cm high)	Pair	165.00	Ditto
12-Blade Ditto (170.18cm high)	Pair	185.00	Ditto
13-Blade Ditto (184.20cm high)	Pair	190.00	Ditto
14-Blade Ditto (198.10cm high)	Pair	202.00	Ditto

Felt:

1.0m x 20m (China)	Bundle	125.00	Open Market (Accra)
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Mosquito-proof Netting:

Aluminium mosquito-proof netting	Bundle	170.00	Ditto
Nylon mosquito-proof netting (Ghana)	Ditto	50.00	Ditto
Nylon mosquito-proof netting (China)	Ditto	55.00	Ditto
Fibre Glass ditto	Ditto	92.00	Ditto

BASIC PRICES OF MATERIALS

Nails:			
Roofing Nails (Screw)- 75 Pcs.	Packet	40.00	Open Market (Accra)
50mm- 150mm Nails	Box	60.00	Ditto
50mm- 125mm Nails 10kg	Box	45.00	ATALA LIMITED

PLUMBING INSTALLATION			
Upvc Pipes:			
12mm x 6m	No	12.41	Interplast Limited
19mm x 6m	No	17.61	Tel: 0302-819000
25mm x 6m	No	25.26	Ditto
31mm x 6m (Class D)	No	31.39	Ditto
31mm x 6m (Class E)	No	53.67	Ditto
37mm x 6m (Class D)	No	41.33	Ditto
37mm x 6m (Class E)	No	69.47	Ditto
50mm x 6m (Class C)	No	71.57	Ditto
50mm x 6m (Class D)	No	87.36	Ditto
50mm x 6m (Class E)	No	108.41	Ditto
75mm x 6m (Class B)	No	123.14	Ditto
75mm x 6m (Class C)	No	147.35	Ditto
75mm x 6m (Class E)	No	191.55	Ditto
75mm x 6m (Class D)	No	232.61	Ditto
100mm x 6m (Class C)	No	186.30	Ditto
100mm x 6m (Class B)	No	244.18	Ditto
100mm x 6m (Class D)	No	318.90	Ditto
100mm x 6m (Class E)	No	382.05	Ditto
150mm x 6m (Class B)	No	363.12	Ditto
150mm x 6m (Class C)	No	526.25	Ditto
150mm x 6m (Class D)	No	688.33	Ditto
150mm x 6m (Class E)	No	833.57	Ditto
200mm x 6m (Class B)	No	554.67	Ditto
200mm x 6m (Class C)	No	809.37	Ditto
200mm x 6m (Class D)	No	1,052.49	Ditto

BASIC PRICES OF MATERIALS

200mm x 6m (Class E)	No	1,276.67	Ditto
Conduit 20mm x 3m black	No	2.90	Ditto
Conduit 20mm x 3m	No	3.50	Ditto
Conduit 25mm x 3m	No	4.20	Ditto
Circular Box 20mm (4way with cover)	No	4.90	Ditto
Flexible Hose (20mm) 35m	No	88.83	Ditto

ELECTRICAL INSTALLATION

Single Core Insulated Cables (Conduit)			
NCY 1.5 RS (91 M)	Roll	106.76	Nexans Kabelmetal Ghana
NCY 2.5 RS (91 M)	Roll	167.53	<u>Tel:303-Tel:303-</u>
NCY 4.0 RS (91 M)	Roll	274.04	<u>304102,304103,308579.</u>
NCY 6.0 RS (91 M)	Roll	414.41	Ditto
NCY 10.0 RS (91 M)	Roll	691.81	Ditto
NCY 16 RS (91 M)	Roll	964.05	Ditto

Sanitary Appliances:

W.C. Suite with Ceramic cistern (Twyfords, British)	No	850.00- 950.00	Josakwa Enterprise
Ditto with Plastic Cistern	No	450.00- 700.00	Tel:0208176978
Ditto with Ceramic Cistern (Ordinary)	No	500.00- 820.00	Ditto
Wash Hand Basin with Pedestal Stand	No	200.00- 800.00	Ditto
Ditto without Pedestal Stand	No	140.00- 280.00	Ditto
Wash Hand Basin (Small size)	No	100.00- 200.00	Ditto
Ditto (Medium size)	No	100.00- 300.00	Ditto
Ditto (Large size)	No	200.00- 400.00	Ditto
Shower Tray (Enamel 80 x 80mm)	No	200.00- 350.00	Ditto
Shower Tray (Fibre 90 x 90mm)	No	500.00- 600.00	Ditto
Shower Tray (Ceramic 1200 x1200mm)	No	700.00- 1,400.00	Ditto
Shower Enclosure	No	1,100.00- 2,500.00	Ditto
Overhead Shower Fitting	No	180.00- 350.00	Ditto
Telephone Shower (ATA)	No	280.00- 600.00	Ditto
Shower Rose (Chromium Plated)	No	90.00- 250.00	Ditto
Single Bowl, Single Drainer Sink Unit	No	450.00 - 750.00	Ditto

BASIC PRICES OF MATERIALS

Single Bowl, Double Drainer Sink Unit	No	520.00 - 800.00	Ditto
Double Bowl, Single Drainer Sink Unit	No	750.00 - 1,500.00	Ditto
Double Bowl, Double Drainer Sink Unit	No	800.00 - 1,800.00	Ditto
Basin Taps (British)	No	250.00 - 750.00	Ditto
Shower Taps (British)	No	250.00 - 600.00	Ditto
Chromium Plated Towel Rail (Single) Set	No	120.00	Kimo Enterprise
Ditto (Double) Set	No	150.00	Tel: 0302-232910/11/14
Ceramic Soap Dish	No	90.00	Ditto
Silver Plated Toilet Roll Holder (with cover)	No	110.00	Ditto
Ceramic Toilet Roll Holder	No	95.00	Ditto
10LT Water Heater (Ariston)	No	700.00	Ditto
15LT Water Heater (Ariston)	No	780.00	Ditto
30LT Ditto	No	900.00	Ditto
50LT Ditto	No	950.00	Ditto
80LT Ditto	No	2,400.00	Ditto
100LT Ditto	No	-	Ditto
W.C. Suite (Ideal Standard)	No	850.00 - 2,995.00	Ditto
55 x 40cm Wash Hand Basin & pedestal (Ideal Standard)	No	635.00 - 950.00	Ditto
800 x 600mm Mirror	No	130.00	Ditto
1200 x 600mm Granite Worktop	No	450.00	Ditto
1200 x 600mm Porcelain Worktop	No	-	Ditto

FINISHINGS:

Floor And Wall Tiles:

Polished Porcelain Floor Tiles (600 x 600mm)	m ²	63.00	Kimo Enterprise
Polished Porcelain Floor Tiles (500 x 500mm)	m ²		Tel: 0302-232910/11/14
Polished Porcelain Floor Tiles (300 x 600mm)	m ²	63.00	Ditto
Ceramic floor tiles (300 x 300mm)	m ²	55.00	Ditto
Ceramic floor tiles (450 x 450mm)	m ²	47.00	Ditto
40 x 40 (0.8m ²) Mable Floor Tiles	m ²		Ditto
250 x 400 x 6mm Glazed Ceramic Wall Tiles	m ²		Ditto
450 x 450 x 12mm Ceramic Floor Tiles	m ²		Ditto
400 x 400 x 12mm Polished Porcelain Floor Tiles	m ²		Ditto

BASIC PRICES OF MATERIALS

400 x 400 x 12mm Unpolished Porcelain Floor tiles..	m ²	67.50	Ditto
600 x 600 x 12mm Unpolished Porcelain Floor tiles..	m ²	64.55	Ditto
Polished Porcelain Floor Tiles (500 x 500mm)	m ²		Ditto
Tile Cement (20 Kg)	Bag	20.00	Ditto
Grout (Filter- 5kg)	Bag	18.00	Ditto
Adhesive Tile Cement (25 kg)	Bag	10.00- 25.00	Ditto
Grout (Filter- 5kg)	Bag	18.00- 35.00	Ditto

Plastic Ceiling Profiles:

Ceiling Panel- 6m	pcs	21.80	Interplast Limited
Ceiling Panel- 10m	pcs	36.36	Tel: 021-812799/819000
Printed Ceiling Panel- 6.0m	pcs	29.08	Ditto
Laminated Ceiling Panel- 6.0m	pcs	87.26	Ditto
Double Ceiling Panel- 6.0m	pcs	43.62	Ditto
Door Panel / Facia Board- 5.8m	pcs	210.88	Ditto
Frame (U-Clip)- 6.0m	pcs	12.25	Ditto
Double Frame (U-Clip)- 6.0m	pcs	26.94	Ditto
Corner Frame- 6.0m	pcs	35.22	Ditto
Design Frame- 6.0m	pcs	41.94	Ditto

Terrazzo

Terrazzo Chippings (Yellow)	Bag	18.00	Open Market (Accra)
Ditto (Red)	Bag	18.00	Ditto
Ditto (Black)	Bag	18.00	Ditto
Ditto (White)	Bag	18.00	Ditto
Terrazzo strips (Listers)	m	14.00	Ditto
Mansion Polish	Gal.	85.00	Open Market (Accra)
Carburundum Stone	Set	30.00	Ditto
Grinding Disc	No	90.00- 150.00	Ditto
White Cement (Imported)- 50 Kg.	Bag	85.00	Ditto
Ditto (Local)- 50 Kg.	Bag	40.00	Ditto
Ditto (Imported)- 25 Kg.	Bag	35.00	Ditto

BASIC PRICES OF MATERIALS

Acid (Sugar for polishing)	Cubic	35.00	Ditto
Acid (Liquid for washing)	Drum	160.00	Ditto

GLAZING:

Louvre Blades (Ordinary)			
900mm Plain	No	6.42	Pasico (Gh) Ltd.
900mm Obscure	No	6.42	Tel: 664658/9
750mm Plain	No	5.55	0208:127916
750mm Plain Obscure	No	5.55	Ditto
600mm Plain	No	4.43	Ditto
600mm Obscure	No	4.43	Ditto
500mm Obscure	No	1.94	Ditto

PAINTING:

Azartex Emulsion Paint (20Ltrs)	L/Bkt.	130.00	Azar Chemical/City Paints
Azartex Emulsion Paint (11.25Ltrs)	L/Bkt.	67.00	Tel: 223113/223206/682886
Azartex Emulsion Paint (4Ltrs)	L/Bkt.	28.00	Ditto
Azargloss (4.5Lts)	Gal.	67.00	Ditto
Azargloss (2.5Lts)	Gal.	42.50	Ditto
Azargloss Litre	LT	21.50	Ditto
Azar Anti Rust 4.5 Ltrs	Gal.	67.00	Ditto
Azar Putty Filler	Gal.	26.50	Ditto
Azar Putty Filler	LT	7.20	Ditto
Azar Grout (5kgs)	Bag		Ditto
Azar Thinner Plastic	LTS		Ditto
Azar Varnish (4.5Lts)	LTS	61.50	Ditto
Azar Undercoat (4.5Lts)	LTS		Ditto
Azar Wood Primer (4.5Lts)	LTS	69.50	Ditto
Azar Wood Primer (Lt)	LT	20.00	Ditto
Azar Lacquer (5Lts) (Gloss/Matt)	LTS	86.50	Ditto
Azar Sanding Sealer (5Lts)	LTS	86.50	Ditto
Savanna Turpentine (4Lts)	LTS	43.00	Ditto

BASIC PRICES OF MATERIALS

Shield Acrylic Emulsion Paint (20LTS)	Bkt	208.00	Azar Chemical/City Paints
Shield Acrylic Emulsion Paint (11.2LTS)	L/Bkt.	115.00	Tel: 223113/223206/682886
Shield Wood Primer / Red Oxide (3.6 Lts)	Gal.	84.00	Ditto
Shield UV Gloss (3.6 LTS)	Gal.	100.00	Ditto
Shield Aluminium Paint (3.6 LTS)	Gal.	96.00	Ditto

Bartoline Creosote (5Ltrs) Dark/Clear	Gal.	70.00 - 90.00	Open Market (Accra)
Solignum local (20 Ltrs) Dark	Bkt.	110.00	Ditto
Bartoline Creosote (20Ltrs) Dark/Clear	Bkt.	210.00 - 335.00	Ditto
CORAL PVA Acrylic Emulsion paint (20.0L/DU76)	Bkt.	289.64	M&K (Gh) Ltd
CORAL PVA Acrylic Emulsion paint (5.0L/DU76)	Gal.	80.34	Tel: 222012/0242-222012
“BAMTEX” Acrylic Matt Emulsion (10 Litres)	Bkt.		Bamson Co. Ltd.
“BAMTEX” Acrylic Emulsion (25 Litres)	Drum		Tel: 0264-895895
STAB Solution (W/S BORNE- 5 Litres)	Gal.		Ditto

PLANT HIRE RATE			
Excavator (330)	Rate/ Day (8Hrs)	2,400.00	<u>Tel: 0243931541</u>
Dozer (D6)	Rate/ Day (8Hrs)	2,000.00 - 2,400.00	Ditto
Wheel Loader (966H)	Rate/ Day (8Hrs)	1,900.00 - 2,300.00	Ditto
Tipper Truck (20m ³)	Rate/ Day (8Hrs)	1,600.00	Ditto
Grader (140)	Rate/ Day (8Hrs)	1,900.00 - 2,200.00	Ditto
N/B: Prices exclulde fuel and operator			
Total			408

