

KOTTOOR

INTERNATIONAL LLC
INTERIOR DESIGNING & TURNKEY FITOUT CONTRACTING



HSE MANUAL

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**Kottoor International
Health, Safety
Environment Plan**

2012

Providing necessary resources to support

HSE PLAN

We are committed to:-

@Implementing Health Safety and Environment management system to maintain the highest standard possible with a vision to have an incident free work place

@Providing necessary resources to support and manage environment, safety and health protection all times

@Integrating the HSE requirements with all our works

@Providing appropriate training for both new and experienced employees in order to enable them in conducting activities in a manner designed to minimize HSE risks

HSE Plan Prepared by

HSE Plan Approved by

Safety Officer

Operations Manager

Index

Introduction

Aim

Personnel Objective

Kottoor Site Safety Rules

Site Personnel and Access

Welfare Facilities

Roles and Responsibilities of Site Staff

Safety Check

Risk assessment and method statement

Environment Control

Training

First Aid

Personnel Protective Equipment (PPE)

Fire Prevention Program

Traffic Plan

Protection from severe weather conditions

Chemicals and Hazardous waste

Hand tools and Power tools

Wood working machineries

Scaffolding

Ladders

Electrical Hazards

Material Handling

HSE Records

INTRODUCTION

The objective of a Safety Management System is to provide a safe working environment. This will be achieved through the implementation of planned and controlled procedures that ensures all aspects of safety are considered at the outset and that control measures are introduced to manage identified risks. This document shows our HSE plan for the above mentioned project. Our plan may be changed in line with any modification or alternation occurring to the above mentioned project

Safety is synonymous with quality, and by following the procedures contained within this manual both individual and corporate professionalism will be demonstrated underpinning the objectives of continuous improvement and exceeding expectations.

These procedures have been prepared to encompass many of the low, medium and high risk activities and operations which will be carried out at the interior construction site and will incorporate methods by which control measures are to be put in place to minimize the risk of injury or ill health occurring in our work place. These procedures will be in conjunction with local and regional codes of practice. Site safety will be

implemented by strictly following Health, Safety and Environment (HSE) regulations.

Kottoor International will ensure that prior to the commencement of any works by any worker on the concerned work sites, a detailed Health & Safety Plan will be prepared and reviewed and it will include risk assessments and method statements (provided by the Project Manager) for each task to be carried out. All workers related HSE documentation will be incorporated into the site HSE Plan. Each workers and staff must attend all HSE programs including trainings and failure to do so will result in a violation notice among others being issued.

AIM

This plan explains the Safety Management Systems and Procedures that Kottoor International have provided for its staff and workers, which are to be followed by all for the above mentioned project. Our aim is:

Zero dangerous occurrences.

Zero significant environmental releases.

Zero motor vehicle incidents.

Zero fatalities

Zero LTA and reportable accidents

Zero occupational illness

100% Compliance with safety inspection and audit recommendations

Providing safety training to all employees at least 2 to 3 times a month

PERSONNEL OBJECTIVES

The following objectives are set for all personnel associated with the project under our control

Shall meet the Code of Constructions safety practices of the Dubai Municipality as well as those of the Client

Shall comply with all the relevant laws and standards

Management staff and workers shall create a positive safety culture.

Shall identify all hazards and manage the significant risks to prevent the injury and damage.

Shall assign competent persons and will train all employees to the highest standards.

Kottoor International SITE SAFETY RULES

- All Workers must wear uniform at site.

- All employees while working in the sites must wear safety helmet, reflective jacket and safety boots (safety shoes for staff), provided by the company as mandatory PPEs. Metal hardhats and any form of altered helmets, suspension of safety helmet, etc. are not permitted.

- Proper protective glasses and devices must be worn when exposed to the hazards of flying objects, dusts, hot splashing metals, harmful rays or other eye hazards.

- Proper breathing apparatus or respiratory protective equipment must be used while spray painting, sanding, and when exposed to dust, toxic fumes, or working in confined areas.

- Full body safety harness must be worn always while working at heights of 2 meters or more. Safety harness must be secured by lanyard to the existing structure when exposed to the hazard of falling.

- Proper gloves, aprons or other suitable protective devices must be used while handling rough and heavy materials, chemicals, hot or cold objects, while cutting, shredding, drilling, welding, filing, scraping and polishing machines, etc.

- Any kinds of metal ornaments or loose and baggy garments must not be worn during work.

- Good housekeeping and fire prevention measures must be taken. Flammable storage areas must be free of fire hazard.
- Smoking in 'No Smoking Area' is a serious offence.
- Moving parts, conveyor belts, rolling and rotating wheels of all equipment and mobile plants must be well protected with properly grilled guards.
- Cranes, elevators and other lifting equipment must be operated only by qualified and licensed persons. Moreover while operating such machinery; full compliance with the operating instructions and manuals is mandatory.
- Explosives, flammable materials, electrical equipment, switch gear, heating devices, compressed air equipment, pressure vessels and valves, etc. must be handled according to safety instructions and regulations.
- Defective power or hand tools, electric switchgear etc., must be repaired and tested before reuse. Machinery should not be repaired or adjusted while in operation.
- Do not start or operate machines, valves and electric switchgear unless authorized.
- Do not disconnect air hoses of compressors until the air has been discharged.
- Never work under vehicles, equipment and machinery supported by jacks or hoists without protective blocking and safety stand.
- Keep loose materials away from stairs, walkways, platforms, etc. Safe access must be provided at work areas.
- All safe practices should be followed while hoisting or suspending loads. Adhere to all safety signs, posters and hazard information posted or issued on the job.
- Place barricades and signs to warn traffic from overhead hazards, etc. Use a flagman or watchman if necessary. Place fencing or barricades around excavation and floor openings or cover them.
- When entering different work sites, familiarize with potential hazards, safety rules and regulations. Be aware of work going on around. Keep clear of overhead job, suspended loads, traffic areas, etc.
- All accidents, injuries, hazardous practices and conditions must be reported immediately to the Supervisors for corrective action.

- In the event of any injuries, proper first aid must be provided at the work site and if medical attention is required, the concerned person should be sent to the nearest medical facility.
- Proper ear protection equipment such as ear plug or ear muff must be worn while working near high noise area such as pile driving, dewatering and while using pneumatic tools. These items are available in the site stores.
- Any type of unhygienic behavior is strictly prohibited at the project site.
- Avoid visits to the premises of others for whatsoever purpose, except on official duty.
- No horseplay/ unhealthy jokes are permitted while at working at site.

SITE PERSONNEL AND ACCESS

KEY PERSONNEL AT SITE

Project Manager:

Site Engineer :

HSE Officer:

SITE ACCESS AND ACCESS HOURS

Access to the site will be agreed in conjunction with the client and the building owner (landlord). Normal working hours on the site will be between 0700 hrs. to 1830 hrs. .Work outside these hours is prohibited unless arrangements are made with the Project Manager. Lone working will not be permitted.

Visitors on the Site

All visitors will be allowed to the site subject to prior arrangements only. Visitors will be required to wear appropriate clothing and the required PPEs for entry on to the work site. The level of PPEs required will depend on the risk present during the phase of work in progress and will be at the discretion of HSE Officer/Supervisor at site.

WELFARE FACILITIES FOR WORKERS AND STAFF

Rest and Eating Areas

Shaded rest and eating areas are provided in sufficient numbers by Main Contractors for site personnel; these will provide protection in the event of inclement weather if they working outside the core site premises (such as loading/unloading etc.). An adequate number of bins for waste and general rubbish

(with lid) will be provided at the welfare areas and these must be separate for food waste and packaging. Facilities shall be provided to deposit clothing not worn during work hours. Kottoor International will move their personnel into the designated rest areas and not allow them to rest under or near any machinery or other shaded areas not designated as a rest area. Disciplinary action will be taken against offenders by HSE officer/ other designated person. The rest and eating areas will be kept in a clean hygienic and orderly state at all times. Kottoor International will employ preventative measure to reduce the risk of spreading diseases in these areas.

Toilets

Toilets are provided by the client (main contractor) at work sites for all personnel according to the DM Procedures.

Drinking Water (Fixed and Portable)

Kottoor International will provide an adequate supply of cool drinking water, which will be provided in designated places throughout the factory. Water coolers and / or thermos flask (IGLOO) with lids will be provided where running water cannot be installed, these will have lids that can be firmly closed. During the hotter months Isotonic drinks will be made

available to the workforce to assist in electrolyte replenishment. The water will be cooled in the hotter months as per good practice. Fixed water stations/systems will have regular water quality test undertaken to ensure a clean supply is provided in line with manufacturer's recommendation on the equipment.

ROLES AND RESPONSIBILITIES OF SITE STAFF

RESPONSIBILITIES

Kottoor International Operations Manager/Safety Manager is responsible for Approval of this Site Safety Plan.

Kottoor International Operations Manager/Safety Officer responsible for reviewing the HSE plans, authorizing the manpower and facilities.

Kottoor International HSE Manager/Senior Safety Officer is responsible for promoting a positive safety attitude and implementing the Project HSE Plan.

Others responsibilities are mentioned below:

PROJECT MANAGER

Project Manager is responsible for the implementation of the plan which includes but is not limited the following:

- Understanding and implementing the Safety Program of the project and other standards & requirements.
- Ensuring that everyone is aware of the Safety requirements for their work and is implementing the same throughout the project execution stage.
- Ensuring that the sub-contractors (if any) are also aware of the safety requirements.
- Ensuring to establish work methods (method statement), explaining the sequence of operation, outlining potential hazards and implementing the necessary precautions as per Risk assessment.
- Ensuring through the Store Department, that construction tools/equipment's are inspected through periodic servicing and are safe to operate for the assigned work.
- Ensuring that all accidents are reported to Main Contractor if required.

- Initiating the safety awareness by promoting safety meetings, presentations and implementing safety training.
- Ensuring that First-Aid facility, qualified First-Aider and site welfare facilities are provided for the project.

(Project Manager)

SITE SAFETY OFFICER

The site safety officer is responsible for overseeing the implementation of the Project HSE Plan and keeping records for audit. Other responsibilities include but are not limited to the following:

- Implementing, monitoring and documenting the Project Safety activities as per the established safety procedures narrated in this Project Safety Plan.
- Advising the Project Manager & Supervisory staff about the different ways to prevent accident and improve the existing work method.
- Conducting daily site inspections, monitoring site working conditions and safety practices and initiating immediate corrective actions to avoid accidents.

- Observing and noting safety violations and if required bringing them to the attention of the site engineer/project manager.
- Coordinating with the Safety Representatives of higher authorities for compliance with the safety requirement and initiating preventive and corrective actions as per their notification.
- Ensuring health, safety and environment requirements are being observed for the project.
- Ensure that First-Aid facilities are adequate, trained first aid provider is available in the project, contents in the First-Aid box is replenished and stored hygienic and that all injuries are registered in the First aid book.
- Ensuring sufficient stock of personal protective equipment required for the work is available.
- Investigating and reporting all accidents (Injury, Fire, Motor Vehicle Accident, and Damage of existing services or property damage etc.) and keeping all records.
- Coordinating and conducting Safety promotional programs such as weekly safety meetings, supervisors monthly safety meetings and moreover assisting in various safety training at all levels.

- Updating the safety practices and safety literature and circulating the information to all concerned.
- Stopping any work where an imminent danger is prevailing.
- Coordinating with the Main contractor's (if any) Safety Officer for the site safety inspections and audits as required.
- Ensuring that all sub-contractors are observing the HSE requirement as per ARI Project HSE Plan and the Company HSE procedures.
- Carrying out Site Induction.

SR. SUPERVISORY STAFF (SITE IN CHARGE)

The senior supervisory staff is responsible for:

- Organizing the projects so that the work is carried out in compliance with the necessary standards with minimal risk to men, existing facilities, equipment and materials.
- Ensuring that all NOC and work permits are obtained and all preventive measures mentioned in the permits have been taken prior to commencement of the work.
- Ensuring that good housekeeping is maintained at their work site at all time.

- Ensuring that proper personal protective equipment's are issued to his crew as necessary.
- Ensuring that no personnel working under them leave the site without permission.
- Ensuring that all visitors in their area are given safety orientation and issued with personal protective equipment, before being allowed to the project site.
- Ensuring that no hot works or confined space works are undertaken without permit from the Kottoor International Safety Department.

Signature.....

SAFETY CHECKS

SAFETY INSPECTIONS AND AUDIT

In order to implement the Health, Safety and Environment program and to identify and correct deficiencies and unsafe practices, and to measures the effectiveness of the systems in place, we conduct inspections and audits at regular intervals as stated below:

Safety Officer will conduct site inspections daily/weekly/monthly and report deficiencies if any and arrange immediate rectification.

Safety Officer will inspect crane, lifting equipment's, power tools, temporary electrical system, construction machines, ladder and subcontractors equipment for its safety requirements .The use of the concerned equipment's should be notified to the Safety Officer well in advance before its use. Senior HSE Officer (Head Office) will conduct surprise safety inspection. Also a monthly safety audit and the report will be made to Operations Manager (as required) with a copy to Project Manager.

Senior Management Representative from Kottoor International will also conduct safety inspections and prompt corrective

action will be taken upon receiving any suggestion to improve the site.

SAFETY REPORTS & RECORDS

Following safety reports and records will be maintained at the site safety office and will be produced for the Client Representatives as required.

Reports

Accident / Damage Reports

Safety Violation Reports

Safety Meeting Minutes

Safety Inspection Reports

Safety Audit Reports

Safety Training Records (Induction + TBT + Special Training)

Disciplinary Action Report

Work Permit & No Objection Certificate from the concerned Authorities.

First Aid Logbook

Safety Promotional Posters, Cartoons

DM Safety Regulations (custody of SO)

Zoning Authority Safety Manual/safety procedures

Test Certificates of Crane and Lifting Equipment's. (If applicable)
Copy of work permit

ACCIDENT AND DAMAGE REPORTING

Kottoor International will prepare report for all accidents to be forwarded to the concerned authority. Also the report will be made to the Government Statutory departments (as required). Telephonic message will be passed to the concerned in the event of fatal or serious accident, followed with a written report.

Procedure

In the event of an Accident or Incident, the concerned parties will be following the procedure listed below: -

Injured Party: (Personal injury only)

The injured party shall make every practical effort to report the incident to his immediate supervisor / Foreman or Project Manager at the earliest. Injured party shall fully co-operate to the best of his ability, with any subsequent investigation.

Witness / Salvage Party

In the event that the injured party is physically unable to report, then the witness or the salvage party or anyone present at the site of accident must provide immediately all possible assistance to prevent further injury or damage including but not limited to the following: (In the event of serious injury, call Tel: 999 (immediate medical attention). Also, report the matter to the Site Safety Officer / Supervisor /Project Manager of the injured party.)

Foreman / Supervisor / Project Manager (Who get the first report)

- Ensure that the injured party receives First Aid / Medical attention or is immediately send to the nearest Medical Center/ Hospital.
- Ensure that necessary corrective action(s) shall be carried out in order to control and avoid worsening of the situation.

Accident Notification

The report must be prepared as per Preliminary Accident Report form and forwarded to Head Office. Also inform by telephone or to any of the concerned manager mentioned below:

- Facility Manager (if vehicle / equipment are involved).

-H R Manager

-Project Manager

-Senior HSE Officer

The information must also be given to the main contractor immediately.

The Site Safety Officer shall prepare the report in consultation with the Site Engineer/Supervisor of the site. Project Manager shall review the reports to ensure that all necessary preventive and corrective actions have been taken and to address any item which may require action to improve the system in order to prevent future accident.

SITE SAFETY OFFICER

The Site Safety Officer shall ensure that: -

- He immediately visits the site; supervises and prevents further worsening of the situation.
- First Aid /Medical attention has been provided to the injured and that necessary corrective action has been taken immediately.
- Preliminary investigation of the injured (if possible), witness, immediate supervisor and others involved is conducted as

necessary and photographs etc. for the preparation of reports are taken.

- Inform by phone to the Operations Manager and the Main Contractor's Safety Officer.
- The written reporting procedure is completed within 24 hours of the occurrence
- He Co-ordinates for the preparation of final report and co-operates with investigation team to establish the facts leading to the incident

PROJECT MANAGER

The Project Manager shall: -

- Ensure that immediate corrective/preventive measures are taken to control the situation, which includes medical attention to the injured and / or control of damage.
- Immediately visit the site in the event of serious accident and provide all necessary help to stop the worsening of the situation.
- Ensure that the Safety Officer/Supervisor/Foreman concerned will carry out immediate investigation of the incident and maintain the scene of the accident undisturbed until the local

police and / or the investigation team completes investigation (As required).

- Review all accident reports and ensure that all necessary corrective/preventive actions have been taken to prevent recurrence.

RISK ASSESSMENT & METHOD STATEMENT

Hazard Identification plan or Risk assessment will be prepared for all activities. (Risk Assessment is available at site office), will be submitted to client.

Method statement will be prepared for all major activities and will be submitted for approval as necessary.

All risks will be controlled through an HSE Plan, procedures and other methods.

Sub-Contractors Method Statement & Risk Assessment will be reviewed for the compliance of safety procedures. All our subcontractors must adhere to our safety standards.

ALL CLIENT'S HSE PLAN WILL BE FOLLOWED.

Kottoor International is committed to ensuring that the project does not create unnecessary negative impact on the environment and is therefore carried out in a manner that all relevant codes, standards, guidance and regulations are considered and abided by, throughout the project. In accordance with good practice Kottoor International shall use reasonable skill and care to implement measures to protect the Environment.

All of the key parties involved in the project will be expected to cooperate fully with environmental standards and will consider the use of environmentally friendly materials for use throughout the project.

All sub-contractors must produce a detailed Environmental plan in accordance with legislation, guidelines and the applicable codes and standards.

Kottoor International and all their sub-contractors will consider and develop procedures in relation to the examples noted below:

- The disposal of waste water to surface water drains, sewers or land
- The disposal of solid and liquid wastes arising from work activities (i.e. oil, chemicals, concrete, timber and packaging)

- Air emissions arising from construction (i.e. noise, odor, dust, fumes, vapor& gas)
- The possible damage to existing wildlife habitats
- The possible damage to existing cultural heritage sites
- The contamination of groundwater or surface water
- Emergency clean up procedures

HOUSE KEEPING & WASTE MANAGEMENT

Shown below are the policies of Kottoor International in relation to Housekeeping and Waste Management:

- Good housekeeping will be maintained at our work site and all other facilities.
- Food waste etc. will be disposed every day in sealed containers.
- Trash and other construction waste will be removed and disposed regularly.
- All traffic cones, sign boards, plywood, thermo cool etc. will be secured properly.
- Office facilities, toilet and washing facilities etc. will be kept clean.
- Trash-bin/Trash-drum will be provided at all offices work sites.

- As far as possible, waste generated during construction work will be cleared from the work site before the end of each working day. However if it cannot remove due to any reason, it should be neatly barricaded and all access to be cleared for traffic.

- The trash skip will be covered with tarpaulin
- Trash skip and drum will be kept well clear of exhaust hazard area or fire hazard area.
- Trash shall not be mixed with the stockpile materials for dumping at the municipality yard.
- All liquid waste including used oil will be transported in container and disposed in an area after approval from the Dubai Municipality.
- All other waste such as concrete debris, asphalt waste etc. will be shifted to the authorized area near by the work site and be removed to the area authorized by Dubai Municipality.
- All hazardous waste will be disposed as per Dubai Municipality Regulations, after obtaining permit from DM.
- Safety officer will conduct a monthly inspection as per a Checklist, records of which will be kept at site.

DUST CONTROL

As far as possible all dust producing activities will be minimized and an alternative method shall be followed. Following guidelines will be considered to avoid dust hazard:

- Abrasive blasting, painting and coating etc. will be conducted in a designed area and not in open air. This area will be away from the public place and crowded work area.
- It will be ensured that disposable dust masks and safety glasses are provided to the employees as required. The supervisor will ensure that all site personnel are wearing the same.
- Wetting process will be applied at open dusty ground as frequently as necessary in order to minimize dust.
- Vehicle speed on open (unpaved) areas will be as slow as possible to minimize dust production.

Kottoor International work sites provide various types of training to our staff and workers. This comprises of both internal training by the safety officers as well as external training from other agencies.

Internal Training

Safety Induction: -The safety Induction will be conducted by Main Contractor/Kottoor International HSE Officer. All personnel working at site as well as all visitors should complete safety induction before their entry to the site. Kottoor International HSE officer will also conduct a Safety Induction for their site staff and their visitors.

WEEKLY TOOL BOX TALK

Kottoor International Safety Officer/supervisors on the project will conduct weekly safety toolbox meeting. Site Safety Officer will be coordinating this meeting. The subject includes but is not limited to:

-All upcoming activities requiring advance safety information.

-Hazards involved in the critical activities and measures required.

-Previous week's safety deficiencies and preventive measures.

-Accident /incident and near-miss etc. for information and preventive action.

-Other subject of general interest.

(Copies of this meeting may be submitted to the Client).

Attendees: - Staff and workers mainly supervisors and below

Safety Audit: Kottoor International safety audit ensures that workers are following rules and utilizing their PPEs in the manner prescribed by the management. It also ensures that the workers are using quality PPEs.

Safety Walk: - The walk will be conducted by any officially appointed person. This is a normal walk which is done for the purpose of advising workers to rectify their mistakes and enhancing safety awareness.

Special Training by Kottoor International Safety Officer: - It is conducted whenever a special case arises. It includes Portable firefighting equipment's training, Emergency evacuation

training, First aid lectures, working at height and confined spaces, usage of cranes, cradle and scaffold etc.

Site engineers/ Supervisors monthly safety meetings: -

Supervisor's safety meeting will be held at the site office once every month. All site related safety subjects will be discussed in the meeting. All supervisory staff, site engineer, site safety officer, Project Manager, Senior HSE Officer and the Operation Manager (as required) will attend the meeting. *Main Contractors Safety Representatives are also welcome in this meeting.* Minutes of the meeting will be circulated to all concerned for necessary action.

External Training

Kottoor International conducts regular training programs from external agencies such as TUV for their site staff. These training programs include topics such as First aid, Fire Marshall/Warden training, Scaffold inspection training, and power tool training among others. These training programs are moreover internationally accredited.

FIRST-AID AND MEDICAL FACILITY AT SITE

In the event of any accident and serious injury to the person, Ambulance or Police assistance will be obtained in order to rescue the injured person and shift him to the Hospital.

Where there are less than 50 employees there is no statutory duty to have a fully trained First Aider, but we will ensure that a person is trained by a certified person to take charge if a serious injury or illness occurs. This person will also be responsible for looking after any First Aid Equipment.

First Aid Equipment

First aid boxes, clearly marked with a red crescent on a white background, or white cross on a green background will be placed at suitable locations. The contents of first aid boxes and first aid kits will be regularly checked and supplies replenished.

Emergency Telephone No's: -

<u>Ambulance / Police / Civil Defense</u>	<u>999 / 998 / 997</u>
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<u>Rashid Hospital</u>	<u>04 3374000</u>
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<u>Kuwait Hospital</u>	<u>04 2710000</u>
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<u>Jabel Ali Clinic</u>	<u>04 8846489</u>
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<u>Jebel Ali International Hospital</u>	<u>04 8814000</u>
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<u>Maktoum Hospital</u>	<u>04 2221211</u>
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<u>Al Wasl Hospital</u>	<u>04 3241111</u>
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PERSONAL PROTECTIVE EQUIPMENTS

Kottoor International provides our staff and workers a PPE package including safety helmet, safety shoes/boots, high visibility jacket with weather protection cotton uniform with company logo etc.,. After a specified time period, these will be replaced. Misusing and not-wearing of PPEs may lead to violating work site rules which in turn will lead to a financial penalty being imposed upon them.

Personal protective Equipment such as Safety Shoe, Pants & Shirt, safety Helmet and fluorescent vest are issued to all employees at free of cost. Other PPEs are issued as per the requirement of the work.

UNIFORM:

<u>Safety Foot Wear:</u>	<u>Safety Boots or Safety Shoe as per ANSI-Z41. EN 345</u>
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<u>Safety Helmet:</u>	<u>Proper & Good fittings as per ANSI-Z.89.1</u>
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<u>Safety Glass:</u>	<u>As per ANSI-Z.87</u>
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<u>Ear Muff /plugs:</u>	<u>Either plugs or muffs are required where noise level is above 85 dB</u>
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Dress Code

Pants & Shirt with the printed Company Logo are given to all workers. The cloth is 65/35 cotton polyester specially made to give additional comfort to the works during the hot climate. The workers are not permitted to wear other clothes.

GLOVES– These are given to the protect themselves against sharp or chemicals and hot/cold surfaces.

workers in order to rough edges,

*Body Protection

An individual is responsible to ensure to him are in good condition, free and suitable for the work.

that the PPEs issued from any damage

* Respiratory Protective Equipment (RPE)

*Safety Harness and Belts

The site supervisor shall check and work force is issued with necessary PPEs and that these are properly used during the work.

ensure that their

NOISE HAZARD AND HEARING PROTECTION

Safety Officers shall inspect the PPEs regularly, which include an analysis of its effectiveness and suitability. They shall also ensure sufficient stock of the following PPEs are available in the site stores:

Increasing attention is being paid to the problem of excessive noise in construction. Noise can be defined as "any unwanted sound". The intensity of noise is commonly expressed in terms of decibels (DBA) and measured by a sound level meter. As per DM requirement, continuous exposure to noise levels above 85 DBA for eight hours a day, five-day workweek may endanger a person's hearing. The safe period of exposure to a noise level is inversely proportional to the level of the noise. Hearing loss will result from over-exposure to excessive noise levels.

*Head Protection

* Eye Protection

Whenever it is not feasible to reduce the noise levels or duration of exposure, hearing protection devices shall be provided and used. There are two types of hearing protection available in the site stores, the plug type and the cup (or muff) type.

* Hearing Protection

*Foot Protection

*Hand Protection

It is the responsibility of the safety officer and supervisors to ensure that the proper ear protection is provided to those personnel exposed to high noise level.

FIRE PREVENTION PROGRAM

Fire prevention will be given the highest priority for all our areas. This requires careful planning and execution especially when activities are to be carried out on fire hazard areas.

Following points will be considered for fire prevention:

NO SMOKING POLICY

- a) Smoking will not be permitted anywhere at the work site.
- b) Necessary warning signboards will be displayed to caution the people against fire hazard wherever fire is considered as a hazard.
- c) Outside the work site, smoking is not permitted in paint store, warehouse, material store yard, vehicle repair shop etc.

FLAMMABLE AND COMBUSTIBLE MATERIALS

Warning signs such as “Danger, Flammable Area, No Smoking or Open Flame” etc., will be displayed as required.

Sufficient number of Dry Chemical Powder (ABC type) fire extinguishers will be provided and maintained at all flammable/combustible materials storage area.

Storage of paints, thinner, solvents & combustible substance etc. will be located at a safe distance from the nearest building or other storage areas.

Sufficient fire extinguishers will be provided for the flammable storage areas.

Safety officer will conduct a worksite inspection (monthly) as per fire prevention checklist.

EMERGENCY EVACUATION PLAN

An emergency evacuation plan indicating the location of Emergency Assembly area/ Emergency call point and location of fire extinguishers, firewater barrels with buckets etc., will be displayed at the Site Office and other critical work area as necessary. Copy of the same is available with site in charge

Emergency Tel Nos. will be displayed on the notice board and other locations.

An emergency evacuation procedure for the site office and lay down yard is attached to this safety programme.

TRAFFIC PLAN

Access to roads and emergency access will be kept free of any equipment, material or other obstructions. Site supervisor will ensure this at all times.

Advance approval from the concerned authority will be obtained for any road closure or traffic diversion as required.

Kottoor International will provide adequate flagmen with orange vests and paddles to direct vehicle traffic at the affected area and/or electrical signal wherever necessary.

Materials/Equipment deliveries by truck to the site or warehouse yard require the driver to check that the load is fully secured with their vehicle. A security person/ guide will be assigned to assist the driver if he is new and if the location is not known to him.

Strict disciplinary action will be taken against traffic safety violators in and around work sites.

Kottoor International staff and our sub-contractors' vehicles are allowed to Park only at Authorized places provided by client/Main contractor

Temporary roads or passage will be made for the site office or where main traffic is disturbed due to our activities .Sand, trash or such loose items shall be covered during transportation and

the driver is fully responsible to check and ensure that the loose materials are not leaking from the truck.

Proper traffic management system such as safety signboards, flashing lamps, tiger-tape, sand bags/concrete barrier will be implemented as necessary to protect the traffic flow and prevent accidents and damages to the work site.

PROTECTION FROM SEVERE WEATHER CONDITIONS

Sandstorm, heavy rain, heavy fog, earthquake or other similar natural threat can occur during the course of our work. All personnel will be trained to meet any such occurrences and protect themselves and their colleagues. Following action will be taken as a minimum requirement: -

In the event of a heavy sandstorm, all works such as, welding, crane operation for heavy lift etc., will be stopped.

Dust mask, goggles will be provided to the field staff in addition to the normal personal protective equipment.

In the event of a heavy rain, all heavy works at happening outdoors will be stopped.

Temporary bund wall will be provided to the sides of the trenches and manholes etc., to avoid flooding in our construction areas.

Raincoat and rubber boots as required will be provided to the field staff who are required to work in the rain.

Bus drivers will move the bus to their allotted area as temporary shelter for the site personnel. This is in addition to the rain shelter and rest area provided at the site locations.

Full support will be provided to the authority, where corrective actions are necessary to reduce the impact of an emergency situation.

CHEMICALS AND HAZARDOUS MATERIALS

Prior to any chemicals and hazardous materials being issued to the site, the site engineer in coordination with the purchase personnel shall obtain Material Safety Data Sheet (MSDS) from the supplier and provide a copy to the Main contractor's safety officer. A copy of the same shall be given to Site Safety officer as well. Data therein must be checked and it should be ensured that:

- All necessary safety precautions for the material are taken.
- All necessary PPEs are available for handling the chemicals.

- Arrangements are made for forced ventilation or any exhaust system if the same is being used in a confined area or where proper air circulation is not available.

HAND TOOLS AND POWER TOOLS – GENERAL

With regards to the hand/power tools, the safety officer/site engineer/supervisor shall:

- Ensure that all tools are regularly inspected by a technician from the plant for any damage.
- Ensure that all Electrical/Hand tools including portable electric equipment are inspected for frayed or broken electric cords and other damages and laid properly, away from water and other site hazards.
- Ensure that the protective guards for the rotating parts are in place for all power tools.
- Ensure that all portable electric hand tools are plugged into a suitable plug.
- Ensure that the extension cords are the three-wire type and rated for the intended workload. All switches and sockets of extension cord must be the heavy duty industrial type and waterproof.
- Make sure that all temporary cables shall be, wherever possible, be raised above the ground.

- Inspect all air and hydraulic hoses for leaks, cracks, cuts and other damage.
- Depressurize the system before disconnecting the compressed air/gas fitting.
- Put barricades and warning signs around excavation and traffic area as required.
- Ensure that cold cutting machine is being used for cutting old pipes.
- Ensure that hand tools and power tools of the subcontractors also comply with the same safety requirement and that those equipment's not meeting the requirement are tagged out and removed from the site.
- Ensure that all hand and power tools are 110V. Any tools above this should be protected with dispensation (ELCB)
- Inspect all hand tools and power tools in coordination with an electrician.

WOOD WORKING MACHINERY

Because of the frightening injury potential of woodworking machines, Safety rules are to be strictly followed and ensure these are fitted with appropriate safety devices, operated and maintained to the correct standard.

Operators

- Operators must be fully trained for the work.
- Must be sufficiently instructed in the dangers involved and precautions to be taken, the guards and other safety devices connected with that machine.
- Concentrate at all times. Distraction can be deadly.
- Make use of all guards and see that they are properly adjusted.
- Keep cutters and blades sharp, check that they are the right size for the machine and that they are properly and securely fixed.
- Do not feed timber into a circular saw without using a push stick.
- Support free ends of long work pieces on trestle, tables extension etc.
- Check that the operator can easily reach the emergency stop control.

Maintenance

- Saw blades must not be cleaned while in motion.
- All machines must be of good construction, sound material, and properly maintained.
- Unless hand-held, they must be level, and fixed securely to a substantial structure which ensures their stability.

SCAFFOLDING

Only competent and well-trained scaffolding personnel will be allowed to erect or alter scaffolds. The following precautionary measures will be ensured on erection, use and removal of scaffoldings and work platforms. -

- ◆ Erect using plumb and level on stable & level ground.
- ◆ Use base plates, Install handrails & mid rails, Toe board on all sides.
- ◆ Secured planking must be a minimum of 6 inches and a maximum of 12 inches of plank overhang.
- ◆ Access ladders must extend at least 36 inches above the work deck and secured.
- ◆ Ensure that Heavy-duty casters with brake are used (for mobile scaffolds).
- ◆ Use Outriggers and ties where applicable.
- ◆ Where suspended scaffold is to be installed, a doubly secured drop standard shall be ensured. Under no circumstances shall a mobile scaffold be moved with persons on the platform.
- ◆ Under no circumstances will substandard planks, tubes or couplers or material with signs of damage be used on any scaffolding. Defective scaffolding material will be removed from the work site.

- ◆ Proper stair case / access of heavy duty must be provided for the scaffoldings, constructed inside pumping station, Scaffolding
- ◆ Foreman to inspect and tag the scaffolds prior to its use and before dismantled.
- ◆ Personnel working above 2.5 meter height shall wear an approved safety harness.
- ◆ Site safety officer will inspect the scaffoldings and tag for serviceability.
- ◆ All scaffoldings will be inspected as per checklist (Attachment – 9) soon after erection and thereafter once in a month Inspection and tagging at site

All scaffolds shall be inspected and recorded on the site tag once in a week as follows:

“Ready to Use”: If properly erected and found Ok

“Do Not Use”: If any time it has been altered from the original Position or found unsuitable and dangerous.

LADDERS

Ladders are a main means of access on construction sites – especially in relation to building. They are frequently involved in accidents, more often because of misuse.

The following are the main points to check when using a ladder:-

- ◆ All supervisors to ensure that the ladder is in good condition and free from obvious defects.
- ◆ See that it is properly secured near the top, even if it is only used for short periods.
- ◆ If it cannot be secured near the top, it should be secured near the bottom, weighted or footed.
- ◆ Ensure that ladder rises at least 1.05 m above the landing, unless there is adequate handhold at the place of landing.
- ◆ Make sure the ladder is properly positioned for safe access. Set the ladder at the correct angle: 1m out for every 4m height.
- ◆ When handling and using ladders, make sure that no overhead power lines are in the vicinity.
- ◆ Damaged or unserviceable ladder to be tagged out saying “Damaged ladder, Do not use”
- ◆ Apart from the normal inspection, all ladders in use to be inspected by the safety officer, once in a month as per Ladder Safety Checklist (Attachment -4) and the records of the same must be maintained.

Proper electrical safety is made up of proper design, training, maintenance, procedures and commonsense. All personnel shall obey the Electrical safety rules with regard to design, use and maintenance of electrical equipment.

Training Procedures and guidelines

- ◆ Only an authorized trained, competent electrical person shall do all electrical termination work.
 - ◆ Never pull up a portable electric tool by the cable. Always carry it by the tool body.
 - ◆ Always switch off power and pull out the plug before changing parts on the tool, (such as the grinding disc) or making adjustments.
 - ◆ Never leave the power on when not using the tool. Remove plug from socket.
 - ◆ Do not let electric cords or appliances come into contact with water.
 - ◆ Never insert loose wires of a tool cord into a socket. Always use a plug designed for the socket (e.g. never put a 2 pin plug in a 3 pin socket).
 - ◆ Keep cables away from heat sources.
 - ◆ Provide suitable padding and protection if tool cords have to pass sharp edges.
- ◆ If the tool is overheating - don't use it; instead get it inspected by a qualified electrician
 - ◆ Keep power outlet panel doors closed after plugging in.
 - ◆ Never attempt to fix an electric appliance if you haven't been trained to do so.
 - ◆ Keep all electric tools clean, free of dirt, dust and grease.
 - ◆ Use the proper personnel protective equipment when using electric power tools e.g. safety glassed or face shields, rubber soled shoes (avoid standing in water when using an electric appliance; use approved non-conductive rubber boots if absolutely essential).
 - ◆ Don't place ladders (especially metal type) near any live electric wires.
 - ◆ Don't remove any lockout tag from electric sources.
 - ◆ Overloading of multi-point connectors from a single outlet should be avoided.
 - ◆ Never accept cheap or substandard wiring or equipment. A qualified electrical engineer should approve all new permanent or temporary electric equipment and wiring, before using at site.
 - ◆ For hazardous areas (e.g. confined spaces, tanks, flammable atmosphere, etc.) only approved spark/flame proof cables and lighting should be used (Note: This applies to hand held torches also).
 - ◆ Place adequate number of Carbon-dioxide Fire Extinguisher near electrical switch room.

- ◆ In case of fire in any electric circuit NEVER use water as a means of extinguishing.
- ◆ Train personnel in the dangers of electric hazards. Persons trained in basic first-aid for electric shock should be available.
- ◆ Use lock out and tag out procedures when working on electric circuits coupled with permit to work system.
- ◆ Encourage electric hazard spotting among employees such as a cracked plug etc. and get them to report fault for remedial action.
- ◆ Non-electrical work should not start in the vicinity of exposed live parts, before the live parts have been safely covered or protected to prevent access/contact. Danger notices should be placed.
- ◆ Action all electrical faults immediately.
- ◆ All dangerous occurrences and electrical accidents shall be investigated.

MATERIAL HANDLING

All unwanted materials must be moved to the dumping area or the material store yard. Only the required materials shall be stored at the site, which must be pre-arranged and secured properly. Concerned engineer or the general foreman is responsible to remove unwanted materials from the site. Following measures to be ensured as a safety factor:-

- ◆ Crane to be used to load or unload all heavy weight items.
- ◆ Personal protective equipment such as safety helmet, safety shoes and hand gloves to be worn while material handling.
- ◆ During transportation, all long objects such as pipe, rebar etc., to be properly secured and display a hazard light (during night) or hazard flag (during day time) at the back side.
- ◆ During transportation of loose materials such as sand, excavated soil, base course etc. to be covered with tarpaulin.
- ◆ Pipe sleeves and lightweight items can be shifted with shovel/Loader after taking proper safety precautions.
- ◆ Dust mask must be used while handling cement, sand or such materials.
- ◆ Taglines must be used to control the weight while loading or unloading with cranes.
- ◆ Stacking of bricks and tiles etc. shall not be so high that it may collapse. Personnel must be cleared from the area while unloading stones.