AIRBM C2.8

Design and Construction Supervision of Renovation of the DMH Building Yangon

Health, Safety and Environmental Management Plan

SICM-AIRBMC2.8-T2a(HSEMP YGN)-Rev-3
22 August 2019
Prepared by: Surbana International Consultants (Myanmar) Co., Ltd
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1 PROJECT INFORMATION

AIRBM Building Renovation Yangon

The Department of Meterology and and Hydrology (DMH) has received financing to update and renovate their operational building located in Yangon. This renovation will allow for upgrading and modernising of features within the building. Also this renovation will better utilise the working space and allow area for backup equipment in case operations in the Naypyitaw (Multi Hazard early Warning Centre – New construction) is compromised during a disaster.

The renovation will include the removal and upgrade of the existing electrical distribution boards, transformer and back up generator. Other items will include the addition of a server room, electrical room, waterproofing, structural assessment, water leakage and drainage. Larger and more up to date laboratory areas will be provided within the scope of the project.

The building will be occupied during the renovation process, thus it will be undertaken in 2 stages and all personnel will be made aware of the demarcation between renovation works and normal building work zone. There will be strict PPE requirements in place for personnel within the building renovation zone, however, the normal working area will not have to wear PPE within there zone. The contractor and their personnel shall not enter the DMH work areas, outside of the renovation zone, without prior expressed permission.

Safety is Everybodies Responsibility
2 SCOPE

The Health, Safety and Environmental Management Plan for the DMH renovations shall, as a minimum:

- Address the risks associated with the scope of Works
- Address all legal and other requirements applicable to the scope of Works
- Include documented processes and procedures to ensure HSES risks are identified, evaluated and managed to As Low as Reasonably Practicable (ALARP).
- Fully satisfies the applicable elements of the PMU and PMC HSE philosophies, guidelines, manuals, reports, plans and specifications.
- Is based on PMC HSE Management System which consists of comprehensive, proven and working processes, including risk assessments.
- Consists of the HSE organization and resources, project specific documentation, such as plans and procedures, and Corporate manuals and procedures, where they meet PMU and PMC requirements without modifications.
- Define responsibilities, activities and methods for identifying, understanding and controlling hazards and for eliminating incidents that might lead to injuries to persons or damage to the facilities, equipment and the environment.
- Covers all aspects of the engineering, procurement, construction, commissioning and the HSES project organizational structure.
- Provides for the planning, monitoring and control of all HSES-related aspects of the project activities.
- Educate, motivate and train the personnel in all project activities, not only to comply with the applicable processes, but also to take an active role in improving HSE
- Eliminate or minimise HSE risks with the goal of preventing incidents, injuries and occupational illnesses and minimising the potential for environmental harm.
3 TERMS AND DEFINITIONS

The following terms and definitions are used in this document:

<table>
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<tr>
<th>TERM</th>
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<tr>
<td>AIRBM</td>
<td>Ayeyarwady Integrated River Basin</td>
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<td>ALARP</td>
<td>As Low as Reasonably Practicable</td>
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<td>BAC</td>
<td>Blood Alcohol Content</td>
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<td>DMH</td>
<td>Department of Meteorology and Hydrology</td>
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<td>DWIR</td>
<td>Directorate or Water Resources and Improvement of River Systems</td>
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<td>ERT</td>
<td>Emergency Response Team</td>
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<td>HAZID</td>
<td>Hazard Identification</td>
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<td>HP</td>
<td>Hearing Protection</td>
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<td>HSE</td>
<td>Health, Safety and Environment</td>
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<td>HSEMP</td>
<td>Health, Safety and Environmental Management Plan</td>
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<td>HV</td>
<td>High Voltage</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>ISO</td>
<td>International Standardisation Organisation</td>
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<td>JSA</td>
<td>Job Safety Analysis</td>
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<td>KPI</td>
<td>Key Performance Indicator</td>
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<td>LPI</td>
<td>Loss Prevention Inspection / Checklist</td>
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<td>LSA</td>
<td>Life Saving Appliances</td>
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<td>LTIF</td>
<td>Loss Time Injury Frequency</td>
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<td>MHEWC</td>
<td>Multi Hazard Emergency Warning Centre</td>
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<td>MOC</td>
<td>Management of Change</td>
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<td>MoTC</td>
<td>Ministry of Transport and Communication</td>
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<td>PMC</td>
<td>Project Management Consultant (SICM)</td>
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<td>PMU</td>
<td>Project Management Unit</td>
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<td>PPE</td>
<td>Personal Protection Equipment</td>
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<td>PTW</td>
<td>Permit to Work</td>
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<td>QAQC</td>
<td>Quality Assurance and Quality Control</td>
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<td>RCA</td>
<td>Root Cause Analysis</td>
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<td>RCD</td>
<td>Residual Current Device (Earth Leakage)</td>
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<td>SDS</td>
<td>Safety Data Sheet</td>
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<td>SICM</td>
<td>Surbana International Consultants (Myanmar) Co. Ltd</td>
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<td>SIMOPS</td>
<td>Simultaneous Operations</td>
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<td>SOP</td>
<td>Standard Operating Procedures</td>
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<td>SWL</td>
<td>Safe Working Load</td>
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<td>TBA</td>
<td>To Be Advised</td>
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<td>WB</td>
<td>World Bank</td>
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<td>WMS</td>
<td>Work Method Statement</td>
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4 STOP WORK AUTHORITY

All personnel shall be made aware and empowered with the right, responsibility and authority to stop a task when observing an unsafe condition or act that could result in harm to people, property or the environment.

Endorsement of this authority by the PMU and PMC. Stop Work Authority shall also be actively supported by all Contractor Senior Management.

Contractor shall immediately notify a PMC representative that a “Stop Work Authority” has been utilised and the reasons for stopping the work.

5 MANAGEMENT COMMITMENT

Project Management and Management of all Contractors and Subcontractor recognizes their responsibility for creating and sustaining a culture that supports the implementation of high standards of HSE, and they assume ultimate responsibility for HSE on the project. They will

- Be responsible for the appraisal of the HSE performance of the Project by the corporate management.
- Maintain an up-to-date knowledge of the work and of any current or anticipated HSE problems.
- HSE matters will be one of the items on the agenda of the Project Review Meetings.
- Ensure that all necessary corporate resources are allocated to HSE matters.
- Take direct charge of HSE investigations in the case of serious incidents.

6 SAFETY OBJECTIVES

The Project Management Team’s HES objectives for the Project are to:

- Secure compliance with the all applicable laws and regulations, Contractor and Subcontractor requirements, including Environmental Permits, international agreements and protocols.
- Comply with PMU and PMC policies and standards and with internationally accepted industry norms and standards.
- Educate, motivate and train the personnel in all project activities not only to comply with the applicable documentation, but also to take an active role in improving HSE.
- Provide for fair and effective workplace representation, consultation and co-operation and issue resolution in relation to HSE.
- Promote the provision of advice, information, education and training in relation to HSE and provide a framework for continuous improvement and progressively higher standards of HSE.
- Eliminate or minimize HSE risks with the goal of preventing accidents, injuries and occupational illnesses and minimizing impact on the environment.
• Ensure appropriate scrutiny and review of the implementation of the Health and Safety Management Plan.
• Properly engineer the facilities and assure technical integrity.

Health
• Give due consideration to the design of a healthful work environment for all personnel.
• Promote and foster personal health and wellbeing.
• Ensure that the site staff and the workers are physically fit for the work.
• Prevent the workers from being exposed to conditions adverse to their health.
• Prepare and implement a comprehensive sanitation program for the site.

Safety
• Give the highest priority to the supply and installation of safe facilities and equipment.
• Establish safety procedures and practices covering all activities.
• Mobilize qualified and competent supervisory personnel.
• Educate and train the staff and the workers to work in a safe manner.
• Motivate the staff and the workers not only to comply with the applicable procedures and plans, but also to take an active role in improving safety.

Environment
• Plan and conduct all operations, giving highest priority to the protection of the environment.
• Strive to reduce environmental risk to a level that is ALARP.
• Minimize the production of waste and the consumption of materials, fuels and energy.
• Educate and train the site staff and the workers in environmental matters.
• Establish waste management plan and procedures for the Site.

Security
• Ensure the protection of the lives and property of all people working on the project.
• Safeguard the property of Owner and Contractor.
• Establish and strictly enforce a policy of no weapons, no drugs and no alcohol.
• Closely liaise with the PMC and Contractors on security issues.
7 RESPONSIBILITIES AND ACCOUNTABILITIES

All personnel are responsible for ensuring they fulfill their responsibilities through actively participating in the prescribed activities below. The following provides a description of the responsibilities, activities and safety support functions for Project groups and individuals.

During Construction Stage:

- The Contractor Project Manager and HSE Manager will be responsible for the implementation of mitigation measures and all monitoring plans according to the approved ESMP.
- The Contractor Management shall provide the PMC Project Manager with updated regular reports (Weekly and Monthly) outlining the monitoring undertaken and results from these reports.
- The PMC Management will submit weekly or monthly reports as requested by the PMU on all monitoring activities, incidents and accidents.
- The PMU will take overall responsibility to ensure that the ESMP is implemented and enforced.
- The PMU will make regular updates to World Bank on monitoring reports, incidents and accidents.

Operations Stage:

- DMH, Component – 2, PMU Office and PMU (Safeguard) will be responsible for implementing the management and monitoring plan.

7.1 Contractor Site Manager / Project Manager

Contractor Project Management shall provide the necessary leadership, commitment and resources to develop, operate and maintain the HSE overall management plan and ensure that this commitment is translated into action.

Contractor has overall responsibility for HSE within their scope of work. To exercise the daily control of HSE activities, the Project Manager shall delegate his authority on HSE matters to the their Project HSE Manager as follows:

- Verify that this HSMP meets the requirements of the worksite.
- Monitor the implementation of the HSSMP for effectiveness and compliance.
- Plan and schedule all HSE related activities.
- Engage in proactive hazard identification with employees under their control.
- Ensure that Risk Assessments and JHA/JSA are conducted.
- Encourage a good safety culture within their work team by leading by example.
- Facilitate Toolbox and Pre-start Meetings.
- Engage in and record regular workplace inspections.
- Ensure visible commitment to the Incident and Injury Free principles.
- Ensure all hazards and near misses are reported.
- Supervise works and ensure that they comply with the project HSE requirements.
- Monitor that PPE is being worn as required.
- Stop work when HSE may become or is compromised.

As well as the conditions above, the Contractor Manager must also abide by and implement rules that suitably represent the Myanmar Labour Laws. These include (but are not limited to):
• Forced labour laws, persons who are forced to do work against their will shall not be employed on the project.

• Child Labour Laws, World Bank Framework and Myanmar Laws restrict any company from employing children under the ages of 14. Children shall not be allowed on the construction site.

• Discrimination within the work force shall not be allowed, this also includes gender equality. There shall be no difference between male and female salaries if they are undertaking equal works. Gender specific toilets shall be supplied onsite for all workers. The contractor shall include Discrimination, bullying and sexual harassment within their induction and training schedules.

7.2 Contractor HSE Manager

Overall, all personnel working on the Project are accountable for performing their tasks in a manner that meets or exceeds applicable laws and regulations. To achieve this, the personnel are to review and understand their individual responsibilities and comply with the HSE Plans and Procedures.

Contractor HSE Manager is responsible for

• Identifying, developing and updating the applicable HSE documentation and coordinating its implementation.

• Monitoring and controlling the status of the HSE activities.

• Ensuring the adequateness and timely exchange of information and data between the project disciplines and HSE.

• Identifying, planning and participating in the project overall HSE reviews and studies.

• Ensuring that qualified and competent personnel have been assigned to perform the design reviews, the design reviews are properly carried out, and the results of the reviews are properly incorporated into the design.

The Project HSE Manager may delegate his authority on HSE matters for

• Engineering and Procurement to the Engineering QAQC Managers

• Construction and Commissioning to the Site HSE Manager

• On the Site the leading role in HSE matters will be assumed by the Site HSE Manager and the Project Manager.

7.3 Subcontractor Management

Subcontractor’s Project HSE Manager is responsible for

• Identifying, developing and updating the applicable HSE documentation

• Coordinating its implementation, and monitoring and controlling the status of the HSE activities.

• Ensuring the adequateness and timely exchange of information and data between the disciplines and HSE.

• Identifying, planning and participating in the Contractor / Subcontractor’s overall HSE reviews and studies.

• Maintaining an in deep knowledge and understanding of all legal and other requirements that apply to their scope of Works.
• Providing adequate HSE resources (i.e. HSE Advisors or Supervisors) to ensure that the Works are adequately supervised at all times.

7.4 Project HSE Staff

• The HSE Advisor/Officers (QAQC Inspectors) support the HSE Manager to monitor the implementation of the HSEMP and;
• Participate / facilitate audits and incident investigations.
• Implement and monitor the effectiveness of corrective actions.
• Monitor the effect of construction activities impact adjacent to the project site including daily road users and the local community (road and traffic usage and social impact)
• Provide professional HSE advice including the appropriate level of recording / reporting / investigation of HSE occurrences.
• Actively promotes a HSE culture that will mitigate the risk of injury to crew.
• Train and provide advice to work crew on occupational health and safety Acts, regulations, codes of practice, compliance standards, environmental compliance, safe construction techniques, process activities and project specific safety requirements.
• Issue HSE information and to generally ensure there is clear communication of related issues.
• Verify that emergency numbers (including emergency services, first aid, doctors and hospital locations) are valid and posted.

7.5 PMU (DMH, Component – 2, PMU Office and PMU (Safeguard))

Through AIRBM-PMU, Ther DWIR of the MoTC is the executing agency through the AIRBM PMU. The Project Director of the PMU is responsible for the overall management, coordination, procurement, financial management, monitoring and evaluation, compliance with environmental and social safeguards of this consultancy. The AIRBM Steering Committee, which includes senior officials and experts, provides periodic overall strategic guidance, technical direction and supervision. The Component 2 / DMH technical team will oversee and monitor the technical quality of the services.

8 TRAINING

8.1 Inductions

All SICM personnel shall attend an initial Surbana International Consultants (Myanmar) Co., Ltd induction to introduce personnel to the HSE requirements of the company. This training shall be provided prior to commencement of work at the site and be delivered by HSE or their representative.

The Site Project contractor shall provide induction training to all personnel, aimed to make Project personnel aware of safety and environmental regulations and systems to assist them in carrying out their work in a safe manner, at all times regarding their own safety, that of their colleagues, the environment and Client/PMC personnel.
Within the induction, specific points shall be covered not only on the safety of the project, but shall also include such items as:

- Discrimination – No person shall be discriminated against because of their gender
- Harassment – This shall cover physical harassment, abuse and violence, not only towards other workers but shall include the greater community and neighbours. This must also include sexual harassment towards the opposite gender. The requirement of separate gender facilities (washrooms and toilets)
- Children under 14 will not be allowed to work on site and no children will be allowed on the project.
- No person shall be forced to work or do a task they are not qualified for

8.2 First Aid
Designated workers shall hold current workplace first aid certificates and a First Aid sticker shall be attached to their helmet.

8.3 Operator Competency
All personnel employed on the Project shall hold the appropriate qualifications and be experienced in their field of work. All Contractors will implement a Competency Program.
A register will be maintained for all workers who have been registered with the company as competent. Employee training records, licences and operator competency certificates shall be maintained on site by the HSES Manager or training department of Contractor.

Such examples could include, but may not be limited to:

- Mobile Elevated Work Platforms
- Cranes
- Heavy haulage trucks (i.e. water cart)
- Forklift
- Load Shifting equipment either tracked or wheel mounted
- Hoists
- Concrete placing booms
- Rigging/Dogging
- Scaffolding
- Piling Machine
- Excavator
9 MEETINGS

9.1 Toolbox Meetings
Supervisors shall be expected to conduct shift pre-start meetings with persons within their responsibility prior to commencing work each day to discuss the following requirements and issues:
- Each personnel’s individual role and duties
- Proposed work activities (including any relevant JSA’s)
- Activities required for the safe completion of work
- Personal protective equipment or clothing requirements
- Potential workplace hazards that have been identified within the workplace shall be discussed with the work crew prior to commencement of the task. Suitable controls shall be in place to remove or lower the risk.
- Incidents and hazards that have occurred on the Project or elsewhere and that have been brought to the attention of the Supervisor
- Individual concerns of the employees participating in the meeting
- Any problems experienced on the previous shift/day

9.2 Safety Awareness Session
Safety Awareness meetings shall be held at site on a weekly as per contractor requirements. Supervisors will chair these meetings.

Safety Awareness meetings should include, but not be limited to:
- Items of general safety importance to the site or vessels
- Areas of safety interest to meeting participants
- Project safety rules and policies
- Systems and procedures
- Reviews of injury and incident reports
- Appropriate training material

Safety Awareness meetings shall also be used as an educational forum to improve employee’s knowledge and understanding of HES systems, rules and requirements.

9.3 Safety Committee
A Safety Committee shall be implemented so that staff and workers can raise safety related issues with management without retribution.
The committee shall be made up of equal numbers of staff / management to worker representatives.
- Chairman – Project Manager
- Vice Chairman – Assistant Manager
- Secretary – HSE Officer
- Members – Staff and workers

Meetings shall be on a regular schedule and during working hours during the project. The committee shall decide on the frequency; however, they must meet industry standard. Best practice is monthly
10 RISK MANAGEMENT

The contractor shall establish, document and maintain a hazard and risk management process for all HSE considerations for the duration of the project.

They shall

- Highlight the risk of potential fatalities resulting from conducting high risk activities to all personnel.
- Reinforce positive behaviours and actions that when followed will keep all personnel safe.
- Reserve the right to restrict or remove personnel from site who breach major safety rules.

10.1 Work Method Statements

The Contractor will maintain a record of all risk assessments produced. WMS will be produced for all high-risk work and a JHA will be completed for all site work activities. The responsible Worksite Supervisor and HSE advisor will review and approve all JHA’s.

All SWMS will be submitted to the Contractor HSE for sign off prior to commencement of any high-risk activity.

The SWMS and JHA will be kept at the worksite and protected from the elements. All new workers/visitors will review and endorse the JSA prior to commencing work.

The following high-risk tasks have been identified for the scope of work during the Risk assessment workshop;

- Working at heights
- Working with temporary works/Scaffold
- Cranage / Heavy lifting
- Working in and around mobile plant
- Electrical work
- Working with live services
- Confined Space Entry
- Hot Works
- As identified and when required

A Permit To Work system is to be implemented for High Risk Works.
Specific construction risk assessments will be conducted by Contractor for;

- Site security
- HSE critical operations, such as heavy lift, concurrent construction of different disciplines (e.g., civil works and piping) in the same area, concurrent construction of different disciplines in the same area at different elevations, confined space work, radiographic examination at the Site, and hydrostatic testing.

10.2 Permit and Isolation Procedures

A Permit System and Isolation Procedures shall be implemented for all “HIGH RISK” activities while renovation work is carried out. This will ensure the highest level of safety for all personnel working
on, or within any recognised hazardous area. The Contractor Site Manager shall ensure the Permit to Work System is implemented. It shall be the responsibility of the Contractor HSE Manager to implement and manage the Permit to Work System during all construction activities.

The Permit Issuer shall assess and ensure that all necessary safety precautions are in place and the following conditions have been identified and assessed;

- Nature of the works
- Location of the works
- Machinery or equipment required to undertake the task
- Expected duration of the task
- Potential hazards
- Use of PPE
- Firefighting measures in place
- Other work groups
- Additional measures to complete the task safely

11 SAFE WORK PRACTICES

11.1 Working at Heights
Whenever there is a danger of falling from one level to another, the person in charge shall assess the risk potential and implement the use of an appropriate working platform or other fall arrest protection.

Where a risk of free falling cannot be sufficiently reduced by the provision of guard rails/scaffolding/mechanical work platforms – the use of personal fall arrest equipment attached to a suitable anchorage shall be used.

Anchorage points are to be checked and certified by a qualified person (IE: Engineer) prior to use. Anchorage points are to be strong enough to stop a fall and shall, where practical be vertically above the place of work.

Any person working from an elevated work platform or man cage shall at all times wear appropriate full fall arrest equipment.

11.2 Cranes and Lifting
The Project will be using lifting equipment during the construction. Individual procedures shall be developed to address the issues, but in general:

- Only qualified operators who are properly trained and competent to operate the type and size of the lifting equipment and who hold the appropriate Crane Certification shall be permitted to operate such equipment.

- The operating instructions and Maintenance records of all lifting equipment shall be kept on each work site.

- Licensed operators shall be directly responsible for ensuring that all lifting equipment is used within its recommended load limitations, used only for the designed purpose and stored in a proper manner when not in use.

- No load shall be lifted which exceeds the Manufacturer’s rated capacity of the lifting equipment.
• Any person working with the crane, shall be a licensed Dogman (Signal Man) or Rigger.
• At no time shall personnel work beneath suspended loads
• At no time shall loads be lifted over personnel
• Each site shall maintain a rigging register.
• All slings and rigging equipment shall be inspected for serviceability prior to use, and a full inspection shall be conducted and documented every Quarter. These records shall be kept on site
• All rigging equipment (lifting chains, slings, shackles, chain blocks) shall be inspected, tested and tagged before use.

Personnel in control of the works, shall ensure that;
• No personnel walk under
• Work under a load
• A load passes over top of personnel
• No person is lifted with or on a load.

11.3 Scaffold
During the installation activities, the erection of scaffolding may be required. All scaffolding will be erected by the contractor. Contractor or qualified employees who are required to either produce a scaffolding procedure for approval or work to an approved procedure. The Site Manager is responsible for approving the procedure prior to the erection of any scaffolding on the project.
All Scaffolds are to be inspected on a regular basis (7/14 Days). A Green Scaffold Tag or a Safe to Use tag shall be placed on the entry point. All tags shall have the inspection date, name of inspector and signature.
Any scaffold outside of this date or not fit for use will have a Red Scaffold Tag or a Unsafe – Do Not Use tag placed on them.
All scaffolds are to be kept on a Scaffold Register maintained by Contractor HSE

11.4 Confined Space
Confined spaces for the site are to be recorded in a register and must have an authorised Work Permit and confined Space Certificate in place before proceeding. Entries into a confined space shall be in accordance with the Site and Contractor Procedures.
No personnel are to enter a confined space without appropriate training and understanding of the risks involved.
Confined space entries shall not occur if the gas atmosphere cannot be positively tested or the emergency response arrangements are not available. Testing shall only be conducted by an authorised Gas Tester.
A Confined Space Sentry shall be utilised, their role is to monitor the personnel inside the confined space and register their movements in and out of the space. At no time is the sentry to enter the Confined Space, in case of emergency, the sentry is to raise the alarm and monitor until ERT arrive.
All intended confined space entries must have a rescue plan and the rescue equipment must be on hand at the point of entry / exit.
11.5 **Electrical Safety**

All work site electrical installations and distribution systems will, as far as practicable, be in accordance with the relevant Codes of Practice, Standards, Guidelines and Acts.

- All installation work will be inspected and approved by a qualified electrician under arrangements made by the Project Manager, before being brought into use.
- All electrical equipment (hand power tools etc) shall be inspected, tested and tagged before use. All equipment will be kept on an Electrical Test and Tag Register.
- Any item that is damaged or has a fault, shall be returned to the Supervisor and either repaired by a qualified person or replaced.

Before the commencement of any work on the project, the person in control of the work shall ensure all existing services are identified with risks associated with it and is surrounding conditions assessed.

The assessment must identify the;

- Type of service (liquid, gas, chemical)
- Location of the service
- Risk the service presents
- What additional PPE is required (IE: Gloves or rubber soled boots)

Where it is evident that a service poses a risk to the health or safety of any person, the person in charge must ensure that the service is disconnected and isolated.

11.6 **Mobile Plant**

The Project will be using excavation and heavy equipment during the construction. Individual procedures shall be developed to address the issues, but in general;

- A specific JHA and SWMS will be conducted for this task
- All personnel are to remain clear of the excavators swing zone
- Only competent and authorised personnel are to use equipment
- Barricading and signage to be in place around excavation works
- Shoring to address excavated sides from collapsing beyond 1.5m deep
- Alternatively, safe angle of repose to be provided
- Proper ingress / egress to be provided when excavated depth exceeds 1.2m.
- A visual inspection of all trenches and excavations to be undertaken daily prior to start of work. Be aware of potential for snakes or other animals to become trapped in excavations.

11.7 **Excavations and Civil Works**

All excavations and civil works are to be undertaken with care and due diligence. No tasks are to impact the health or safety of a worker.

All excavations should;

- Have a safe means of access and egress.
- If a ladder is utilised, the ladder should be secured in place and extend past the trench opening by at least 1 metre
- Have hard barricading and signage constructed to prevent falls
- Excavated material shall be 1 metre from the edge of the trench
- Identify and mark any underground services
- Below 1.5 Metre or in wet soil, shoring shall be used
- Mobile plant operators shall be trained and competent
11.8 Night Works
If Night work will take place on the Site. Normal hours worked should not extend beyond 12 hours in any 24-hour period or as deemed by the Local Authority Regulations (Labour Law).
Appropriate lighting shall be provided during the hours of darkness, which will ensure the safety of all personnel at the work location on each work site. All personnel during their off shift are not permitted to enter the work locations unless authorised by the Shift Supervisor on duty.
An Emergency Response Team shall be created for every shift undertaken (Day/Night) to ensure that all personnel on night works have both medical and rescue coverage. It is recommended that the contractor make a vehicle available that may be utilised to convey sick or injured personnel to seek medical attention, otherwise an ambulance can be called to site.

11.9 Pre – Construction
During pre-construction phase, the contractor will apply the same method, rules and guidelines as consistent with the aspect of the construction stage. All Safety Policies and Inspections will cover this stage.

Ground Clearing
As with usage of any equipment on site, the operators need to be trained and competent for the task at hand. All equipment shall comply to site requirements as well as be serviced and maintained. Daily checks and inspections are to be undertaken by the operator and a copy shall be kept by the Contractor HSE. Any faults shall be noted and rectified.
Personnel are to be aware of what to do if there is an oil spill or fuel leak.
- Control the leak
- Contain the leak
- Clean up the leak

If ground clearing is to be undertaken, then a topsoil management plan shall be introduced. This shall be undertaken to avoid the disposal of topsoil, as topsoil shall be utilised to revegetate the natural environment around the construction area after completion.
Dust management and soil run off will also be required to prevent air and ground pollution during the different seasons. In wet season, care needs to be taken to prevent soil being washed away onto roads or into waterways. In the dry season, the contractor will be required to prevent dust erosion by utilising sprinklers or water spraying.

Laydown Area
During both pre-construction and construction stage, deliveries shall be made to site of goods and materials. The contractor, with confirmation from PMC and DMH, Component – 2, PMU Office and PMU (Safeguard), shall allocate a Lay Down area for storage of products and for waste management. This area shall not affect the general operations on the building and the DWIR / DMH staff. The store area will not impede the access to the building for daily duties.
The contractor shall develop a laydown plan or chart to map the storage areas and utilise the space allocated for them. This will also be included within the contractors waste management plan.

Deliveries
All deliveries to site require to be managed, including loading/unloading/ storage and traffic management. Section 17.6 covers traffic management for the project. The contractor will be required to submit a traffic management plan to cover all aspects of traffic management, including deliveries of goods and services in both stages of the project.
12 EMERGENCY MANAGEMENT

Contractor is to create Emergency Management Procedure to address and manage any potential emergencies associated with performance of their work. The processes and procedures have been developed in consideration of and in compliance with applicable governing Legislation and Regulations.

The plan gives guidance to ensure a planned and systematic response to various accidents and emergency situations and for preventing and mitigating any further impacts to the people, environment and assets.

A Chief Muster warden (team lead) and adequate assistant muster wardens shall be identified, chosen and then trained in what to do in an emergency. They will be trained in “what to do in an emergency”.

- A muster warden template is to be created and photos and contact numbers of wardens are to be inserted and displayed on all noticeboards
- A list of Emergency Contact numbers for staff and local emergency services. (Fire/Police/Ambulance).
- Emergency evacuation (muster points) points to be identified

12.1 Emergency Response Team

The contractor and any subcontractor have the responsibility to provide an ERT with the capability to perform initial response for emergencies within the project areas with respect to all identified hazards.

In the event of any emergency, the ERT should immediately mobilise to the area and commence emergency response activities to mitigate the emergency escalating or harm to other personnel or equipment.

The contractor shall identify and appoint an ERT;

- ERT Team Lead (Project Manager)
- Deputy Team Lead (HSE)
- First Aid (appointed and suitably trained personnel)
- Fire Team (Trained personnel in firefighting – fire extinguisher use)
- Rescue personnel (Supervision and site personnel / HSE)

12.2 Fire Training

The Contractor shall ensure that adequate number of personnel on site have received Fire Training and understand what to do in case of a fire emergency during the project. These personnel shall receive and be competent in the usage of all types and makes of Fire Extinguishers.

12.3 Emergencies, Drills and Evacuations

All personnel will participate in regular drills as scheduled to verify the effectiveness of the Emergency Management Plan and train personnel to execute emergency procedures.

Evacuation drills shall be undertaken at least once a quarter to ensure all personnel are familiar with the evacuation procedure.

The Evacuation procedure will be discussed in a Safety Meeting with all personnel and shall be posted in the office and on noticeboards for all personnel to read and have access to. An evacuation route
and muster point map shall be created and posted on all noticeboards. At least 2 (two) muster points shall be identified at the start of the project and each muster point shall have the correct signage in place.

13 INCIDENT / ACCIDENT

All injuries and incidents, regardless of how minor, including property damage, and environmental damage are required to be promptly reported to contractor management and the PMC, then investigated to accurately identify and evaluate the immediate and contributory causes to enable prompt and effective corrective actions to be implemented.

The Site HSE shall establish and maintain a register of all incident and injury reports, including all environmental spills.

The following occurrences are considered serious incidents and is reportable according to the World Bank guidelines and Framework:

- Any fatality or permanent injury leading to a disability
- Hydrocarbon or chemical spill into the environment that can cause a serious impact
- Any abuse to the community or other staff by either Site Security personnel or by any other worker- including physical assault
- Any breach of Myanmar labour laws, including child labour and forced labour.

13.1 Incident reporting Process

In the event of a workplace Injury, Incident or Environmental Spill.

- The event is to be reported to the PMC Project Manager, HSE Manager and DMH, Component – 2, PMU Office and PMU (Safeguard). This can be done verbally at the time of incident. World Bank shall be notified of all serious incidents by the PMU
- Within Two (2) hours a short basic description of the event is to be emailed to the HSE, Project Manager, DMH, Component – 2, PMU Office and PMU (Safeguard).
- Within Five (5) days a completed incident report with close out actions and evidence of close outs is to be forwarded to PMC and DMH, Component – 2, PMU Office and PMU (Safeguard). A copy of the report shall also be forwarded to the World Bank upon completion of the investigation for their information and reporting.

13.2 Spills

All Spills / Leaks are to be registered in a spreadsheet by the Contractor / Subcontractor.

Spills below 20litres are to be logged but no report required (All spills to water must be treated as an Incident)

All spills or leaks 20litres and above are to be reported and treated as an Incident, to help prevent further spills or leaks.
All sites are to adopt a good Waste Management practise. The 3R’s of recycling should be adopted and personnel educated on;

Reduce – The amount of waste
Reuse – repurpose your waste like scrap wood or plastic
Recycle – Separate your wastes so they can be correctly disposed

13.3 Serious Incident / Fatality
• In case of a “FATALITY”:
  o Immediate notification to PMC
  o Scene to be isolated and preserved
  o Medical Services on site to be notified
  o Client / PMC and Contractor Senior Management to be immediately notified. PMC shall notify DMH, Component – 2, PMU Office and PMU (Safeguard).
  o All works on the site must cease Immediately
  o Local Authorities to be notified and admitted with escort to scene
  o Security to shut down entry/exit gate – Stop entry of press and media personnel

13.4 Injury Management
All Contractors shall have a Return to Work Plan to manage injured workers. This is to allow the return of an injured worker to their role. If the injured person is not capable to return to their role, then a management plan shall be introduced to provide ongoing medical care and to assist with finding the worker alternative work duties until deemed fit to return to normal duties.

13.5 Lessons Learnt
Contractor / Subcontractor will ensure that lessons learned through audits, inspections, and investigations are shared and published, explained to the project personnel and the workforce. Contractor Management shall discuss Incident outcomes and lessons learnt at Monthly Progress Meetings

14 HSE REPORTING

14.1 HSE Reporting
The Contractor / Subcontractor HSE Manager will compile monthly Safety Performance Statistics and issue Monthly Safety Reports to the PMC in accordance with the Project monthly cut-off reporting dates. PMC will update the DMH, Component – 2, PMU Office and PMU (Safeguard) on HSE stats during weekly meeting and with a written report monthly.
The report will cover, as a minimum,
• Training
• Lessons learned
• Leading/lagging indicators and safety initiatives and events
• Areas of Concerns
• Incidents and high potential near misses
• Fatalities, injuries and occupational illnesses
• Safety performance statistics
• Any complaints from the public, actions taken and whether the issue is resolved (status)

A weekly report, covering man-hours spent, HSES metrics, and significant events and incident summaries, will also be prepared and distributed within the Project. A daily, weekly and monthly summary report of its HSES performance in the format provided by Contractor, shall cover man-hours worked and reports of all incidents and near misses.

14.2 Audits
The Contractors HSMP will be subject to audits both internally or by the Owner/PMC and will be subject to QA and HSE Audits as all other disciplines and project groups.

The engineering will be subject to HSE project audits that will be carried out by the Client/PMC HSE/QAQC Managers or Inspectors assigned by the respective Department Manager on request by the Project HSE Manager. These Audits will be conducted to ensure that the control processes are being effectively implemented and will include the following:

• Verification of the correct implementation of the HSES policy and requirements.
• Assessment of the effectiveness of the design reviews.
• Verification that the actions agreed during the design and safety reviews have been implemented in the plant design.
• Verification that engineering changes have been evaluated from HSE point of view.

Audits at the Site will be conducted to assess compliance with local laws and regulations, DMH, Component – 2, PMU Office and PMU (Safeguard), PMC requirements and Contractor HSE plans and procedures. These audits will be carried out by the HSES Department at key points during construction and commissioning, e.g. start of foundations, and structure and equipment erection; working at heights, heavy lifts, and energizing. Corporate HSES audits of the site activities will be conducted at least every 3 months.

Action items/non-conformances generated by the audits will be recorded. An Action Log will be prepared and maintained in such a way as to ensure that it is possible to trail from the initial recommendation to its final implementation. Contractor shall notify DMH, Component – 2, PMU Office and PMU (Safeguard)/PMC of the scheduled date and time of planned audits to allow DMH, Component – 2, PMU Office and PMU (Safeguard)/PMC representatives to participate, when available.

14.3 KPI (Key Performance Indicators)
KPI’s are means to measure the safety performance on a project. This is broken into two sections.

i) Lagging Indicator – Lagging indicators include number of injuries/accidents/near misses/lost days through accidents or through incidents

ii) Leading Indicator – Are a predictive value and are used to improve HSE. Such as percentage of trained workers/ number of meetings/ number of inspections/ number
of audits undertaken/ percentage of completed objectives/ number of management site walks/ number of actions closed etc

The contractor will implement and monitor a KPI programme for the project and provide ongoing statistics and trends within their weekly and monthly reports. All trends shall be monitored and any negative trend will be identified and changes made to manage and monitor the trend.

HSE inspections will be carried out on a schedule, including site walks, safety checks, safety inspections and mini audits.

14.4 Hazard Management

The contractor shall introduce a hazard reporting system. All hazards;

- Will be reported to Contractor HSE who will ensure the hazard is made as safe as practicable (barricaded if required).
- A report shall be created with photos by the Contractor HSE and entered into a Hazard Register Log
- HSE will record and assign a suitable person (supervisor) to investigate and rectify (with close out photographs – before and after)
- Actioned and closed within 1 week from the date of reporting
- Hazard actions will be monitored to ensure closeout was suitable
- Recorded in HSE stats and disclosed to workers at either Daily Toolbox or weekly safety share

Hazard reporting shall be introduced and implemented from the start of the project and all staff and workers shall be educated of this process during the project induction.

Any hazard identified will be directly reported to the Contractor HSE.

15 ENVIRONMENTAL

The contractors shall consider, review and implement mitigation controls to all activities that may impact the environment within and adjacent to the project site. These controls shall avoid, reduce and mitigate any environmental impacts during the renovation process. They shall implement;

- Systems
- Tools
- Targets and indicators

To mitigate the potential of environmental impacts. The contractor shall;

- Plan and conduct all activities within the project, giving high priority to the protection of the environment
- **The contractor shall ensure that all goods and materials utilised in the construction and operations stage, shall contain NO asbestos materials**
- Strive to reduce environmental risk to a level that is as low as reasonably practicable
- Minimise the production of waste and the consumption of materials, fuels and energy
- Educate and train the project staff and workers in environmental matters
• Establish a waste management plan or procedure
• Monitor, control and audit environmental mitigations
• Ensure compliance of all subcontractors and staff
• Identify trends and impacts of the renovation process.

Penalties should be applied to contractor / subcontractor or persons who do not adhere to environmental mitigations.

15.1 Dust
The contractor shall ensure that controls are in place to mitigate the impact of dust to the air quality. This can be done by;
• Reducing the speed of vehicles on the project
• Ensuring no excess clearing is carried out
• Control any unsurfaced road dust levels with water
• If required, shade cloth or mesh to be fitted around building openings to reduce dust
• Rubbish or soil waste piles to be kept covered or damp
• Building materials that can cause dust are to be kept covered

15.2 Noise and Vibration
The contractor shall implement controls to mitigate noise and vibration impacts on the community. Methods such as mentioned below can be implemented;
• Minimise the working hours of plant and machinery
• High level activities to be undertaken during daylight hours that will create less impact on the community.
• Project speed limits to be reduced
• Plant and generators to be placed near the renovation area, not near boundaries
• Regular maintenance to be undertaken on all machinery
• Set up temporary walls or shields to help diffuse noise

Noise levels for workers without hearing protection is moderated at 85Db, any noise levels above 85Db will require the worker and those in close proximity to wear rated hearing protection. If possible, an alternative method to lessen the noise level shall be utilised. The contractor shall monitor the use of hearing protection, either ear plugs or ear muffs and ensure that they are available to all workers.

15.3 Waste
Proper waste management measures shall be implemented by the contractor. These shall include;
• Waste Management Plan
• Education and training of workers
• Waste segregation (hazardous/non-hazardous/domestic)
• Biological waste (untreated sewage)
• Contaminated or Controlled waste (spills)
• Pick up and waste removal monitoring

The contractor should also introduce “Reduce/ Reuse and Recycle” method to reduce waste. (attachment 1.1)
15.4 Water Pollution
Wastewater and controlled waste (raw sewage) should be removed by licenced contractor on a regular basis. The contractor is to ensure that a plan is in place to empty and remove waste products to ensure there is no spillage to the ground or waterways.
Hazardous wastes from oil spills shall be Contained, Controlled and Cleaned up in a timely manner and reported to the HSE department. Contaminated soils from spills shall not be placed in general wastes.
All chemicals shall be controlled and stored in a bunded area so that no spill can contaminate ground water. Mobile generators shall also be bunded in trays to prevent spills.
Contractor is to monitor drains and remove all waste, rubbish and soil build up from drains during the renovation to prevent pollution.

16 OCCUPATIONAL HEALTH

The contractor shall recognise that a number of factors affect the individuals “fitness for work”, including:
- Medical fitness for task
- Fatigue
- Stress
- Alcohol and drugs

These factors can be a contributing factor in workplace injuries and incidents. The contractor shall be required to adopt measures to eliminate or reduce the risk of “fitness for work” incidents.

16.1 First Aid
The contractor shall appoint medical services (first aid) personnel to manage and administer care for sick or injured workers on the project. The contractor shall;
- Train and appoint adequate first aid personnel
- A lot facilities or an area for First Aid
- Supply adequate first aid supplies (first aid kits) for the project
- Ensure all medical kits are well stocked and in date at all times
- Create a first aid treatment log
- Ensure all personnel have access to required medical treatment when needed

16.2 Hygiene
High standards of personal hygiene are essential at all times.
- Working in close proximity to a large number of other people demands cleanliness in order to ensure comfort for everyone and to prevent the spread of sickness or disease.
- There will be designated smoking areas at each work site.
- All personnel are prohibited from smoking in meal areas, vehicles and offices.
16.3 Noise
Control and limit the levels of noise intensity to 85 decibels or less where practicable. Areas or equipment that exceeds 85 decibels shall be clearly sign posted.

All new plant/equipment purchased for the Project shall not exceed 85dB(A) unless no practical alternative is available.

Contractor and Subcontractor Supervisors shall be responsible for ensuring that the following measures are carried out or established in all areas of their responsibility:

- Wearing of hearing protection by all their employees in all designated hearing protection areas.

16.4 Heat Stress
The climate in the area the Project works will be carried out is moderately hot and at most times humid. This may lead to some personnel experiencing physical and physiological behavioural changes. The following guidelines should be considered at each Project work site for managing site personnel health and safety in heat stress conditions:

- Suitable drinking water station to be provided
- Shade or break stations to be erected
- If workers are undertaking a manual task in heat, a job rotation and rest period should be included
- Plan manual labour task, where possible, in the cooler parts of the day
- Provide fans if applicable, to create airflow
- Monitor workers for fatigue and dehydration

16.5 Shade/Shielding
Where continuous work is required in direct sunlight, Supervision shall ensure the work area is shaded as much as possible, i.e. Welding Stations.

In extreme temperatures the work group will structure the work to enable regular rest breaks.

16.6 Water
Cool or room temperature (not cold) drinking water will be made readily available at all work sites site for all personnel exposed to hot conditions. Personnel will be actively encouraged to take frequent small drinks to replace body fluid lost through sweating

16.7 Ventilation
Natural and mechanical ventilation should be used wherever practical and possible to provide and supplement the flow of fresh air through the workplace.

16.8 Worker Camp Management
If a worker’s camp is to be utilised then the Contractor shall prepare a Management Plan and Regulations for the accommodation camp. This is to avoid social or health problems arising during the renovation period.

The contractor shall cover the below points within the plan:

- Suitable facilities, including a bed, wardrobe of clothes storage, table or other furniture deemed suitable.
- All rooms will be adequately ventilated and illuminated
• Clean drinking water shall be provided
• Suitable water supply for washing clothes, cleaning and bathing shall be supplied
• Lavatory facilities shall be supplied and suitable for the number to resident ratio.
• Separate toilets and bathrooms shall be provided for women.
• The contractor camp shall provide suitable meals or suitable and adequate cooking facilities
• Wood cooking fires shall not be utilised
• Contractor shall provide staff to manage the workers camp as well as a security team. This team shall be trained in areas to assist preventing social conflicts, harassment and discrimination.
• All residents shall undertake training by the camp to cover, bullying, assault, sexual harassment and discrimination.
• Waste management procedures shall be in place. Adequate waste bins to be provided and emptied as required
• Any visitor to the camp must be authorised and signed in via security and have approval from the camp manager.

17  GENERAL HEALTH AND SAFETY

17.1  Safety Notice Boards
All primary work sites shall have a designated safety notice board placed in a prominent position. The safety notice board shall hold relevant HSE data, including:

• Safety Advice Notices
• Project Safety Statistics
• Topical HSE information
• Safety Committee Meeting Minutes
• Lessons Learnt – Findings from previous incidents or accidents
• Emergency notifications – Muster Point locations

Supervisors in charge of each work site shall be responsible to ensure the notice board at that site contains up to date information.

17.2  Security Management
The Security Management plan reflects the following requirements and shall:
• Provide what measure shall be implemented for security management (IE: security guard’s, roles, nightshift coverage, cctv?)
• protect all personnel and the public from security and related safety risks;
• secure Project assets for which it is responsible and information against security threats;
• ensure timely response to emergencies;
• provide confidence to regulators and the community that security is managed in accordance with Contractor Plans;
The Security Management Plan adheres to the following:

- security management is integrated with HSE / Emergency Response management to an appropriate degree;
- security management covers the three primary risk areas of people, assets (plant, equipment, materials) and information;
- security risks are derived from a consideration of:
  1. People / asset / information vulnerability (risk likelihood);
  2. Risk consequence; and
  3. The credibility of an external security threat is considered when assigning vulnerability (likelihood).

17.3 Housekeeping
A high standard of housekeeping to be maintained throughout all areas of the Project. In particular the following guidelines shall be adhered to:

- Access ways and walkways must be kept clear at all times.
- Tools, equipment, hoses and cables must be located clear of access way and be in good working order.
- All work areas must be kept free of dangerous projection or obstructions, and are to be maintained free of rubbish, oil, grease and water.
- All ablution facilities shall be maintained in a clean and hygienic condition.
- All waste bins shall be clearly marked for the type of waste to be deposited in them.
- Flammable products shall be stored in an appropriate storage area away from possible ignition sources.
- Materials must be stacked on a level surface in a stable configuration, chocked as required to prevent rolling.
- Any spillage of oil or grease must be cleaned up immediately.
- Manholes / hatches must be guarded and sign posted or secured.
- Barriers are to be erected around hazardous situations as required.
- Emergency exits and access ways shall be clear or all flammable items and will not be utilised as a storage area.

Work site supervisors are responsible for ensuring their work area is kept clean and tidy.

17.4 Barricading and Signage
Barricading and appropriate signage will be required around work areas such as,

- Drop Zones,
- Crane / Excavator Slew Zones,
- Excavations and piling works
- Floor Pen penetrations
- Confined Spaces and
- Below personnel working at Height where there is a potential risk of a dropped object.
Barricading should consist of Hard Barricading around fall potentials at a height between 900mm and 1100mm. Flagging can be used below drop zones and around slew zones.
As the building will be occupied during the renovation process, a barricade will be erected to differentiate between the renovation work area and the DMH work area. Each floor will be broken into 2 sections, DMH occupants will be relocated during the first stage of the renovation (zone 1). Once the first stage (zone 1) is completed, DMH occupants will be relocated to the competed areas, so that renovations can be completed in zone 2.

17.5 Manual Handling
Manual handling refers to any activity requiring the use of force by a person to lift, lower, push, carry or otherwise move an article.
Mechanical lifting devices should be used wherever possible.
All equipment design and work procedures must take manual handling into account. Formal ergonomic and hazard assessments may be carried out and where practicable all identified hazards designed out prior to installation.

17.6 Traffic Management
The contractor shall address the needs for traffic management, not only within the project boundaries, but also access to the project.
Considerations need to be made for:

- Vehicle access
- Vehicle parking
- Delineation between vehicle and pedestrian access ways
- Speed limits
- Traffic signage and layout
- Public access
- Interruption to traffic on public roads siding the project
- Peak hour congestion
- Waiting area for vehicles requiring offloading
- Plant and equipment access

Daily monitoring and inspection of the road usage and Traffic Management Plan is required to ensure project service vehicles or suppliers vehicles do not hinder or obstruct and impact local community and road users.
Any complaint received about vehicle access or road usage is to be reported and investigated with corrective actions implemented.

17.7 Alcohol and Drugs
All personnel shall be fit for work.
- No personnel are to be under the influence of alcohol or illegal (explicit) drugs.
- Random BAC testing will be undertaken during the life of the project
18 PPE – PERSONAL PROTECTIVE EQUIPMENT

When assessing a hazardous situation, consideration shall be given to other control techniques prior to the utilisation of a Personal Protective Equipment (PPE) program.

If PPE is required for a work activity, the importance of always wearing the Personal Protective Equipment when entering a specific work area shall be emphasised by Supervisors in charge of that area.

18.1 General Site Requirements

All persons entering the Project site shall be required to wear Personal Protective Equipment:

- Safety helmets
- Safety footwear
- Hi-Vis Vest
- Overalls or long pants and sleeved shirts (no singlets or open shoulder blouse)
- Safety glasses

Dependent on the specific work activity, additional PPE shall be worn which may include but is not limited to:

- Safety goggles/full face shields
- Hearing protection
- Fall arrest devices - full body harness, shock absorbing lanyard, inertia reels etc
- Respiratory protection - masks, respirators, Self-Contained Breathing Apparatus.

An employee shall report immediately to their supervisor any problems with any item of personal protective equipment. Attempts to make adjustments or tamper with the equipment in any way may be interfering with PPE efficiency. If in the performance of an activity an item of Personal Protective Equipment is damaged or unsuitable the matter shall be discussed with a Supervisor and resolution reached prior to recommencing the activity.

Any personnel entering the renovation zone shall be required to comply with site PPE requirements. The contractor and their personnel are not to enter the DMH office areas outside of the renovation zone. Once the first zone has been completed, DMH personnel shall relocate to the completed area, allowing the contractor access to zone 2.
ATTACHMENTS

A.1

REduce
Use less... buy less... avoid waste... turn off lights... take shorter showers... carpool!

REuse
Use things more than once... use cloth shopping bags... repair... regift... try travel mugs... compost!

REcycle
Separate waste materials so that the recyclable products can be transformed into something new!