

Zrenjanin Sewage Water Treatment Plant, Serbia.

Construction Environment, Health & Safety Management Plan (CEHSMP)

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Document Approval	Name	Title	Signature	Date
Prepared by	Karthik Namadevan	Corporate QHSE Manager		18-12-2025
Reviewed by	Karthik Namadevan	Corporate QHSE Manager		18-12-2025
Approved by	Winifred Kuller	Chief Business Support Officer		18-12-2025

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1.0 Introduction

1.1 Purpose

This Construction Environment, Health & Safety Management Plan (CEHSMP) has been developed to provide essential guidelines, enabling Metito Utilities Limited (MUL), its subcontractors, and their visitors to effectively manage Health, Safety, and Environment (HSE) requirements for the project. It ensures all undertakings and activities are conducted safely and sustainably, while fully complying with contractual obligations.

The purpose of this document is not to replace or supersede the contractual HSE requirements but to offer clear, actionable guidance to members of the Project Management Team on the HSE criteria to be applied throughout the project duration. It outlines specific work practices, the structure of the safety organization, and the roles and responsibilities of all personnel involved.

All project activities will be governed by this CEHSMP, which addresses hazard identification, risk assessment, and risk control measures for all operations. It also includes emergency response protocols, provisions for personnel safety and welfare, as well as other relevant aspects detailed in the subsequent sections of this document.

This CEHSMP is mandatory for all employees, contractors, subcontractors working on behalf of Metito Utilities Limited (MUL), and their visitors.

1.2 Purpose of the Work

This offer provides MUL with a comprehensive solution to meet their requirements for the construction of a Sewage Treatment Plant (STP) with a capacity of 25,000 m³/day average daily flow in Zrenjanin, Serbia.

The plant will utilize Moving Bed Biofilm Reactor (MBBR) technology. The contract requirements include building a new STP that encompasses all civil works, process tanks for the 25,000 m³/day capacity, and associated electrical, control, and mechanical equipment.

1.3 Scope of Work

The construction will include covering the following:

- Inlet head works.
- Buffer tank for the Excess flow (Off-Balance tank) - Addition part with capacity 500 m³, an offline balancing tank for off-specification industrial influent (as per MUL meeting).
- Ferric dosing system for the Phosphorus removal system- as provision.

- MBBR reactors along with anoxic and anaerobic treatment systems
- Secondary clarifies with a rotating bridge
- Mechanical thickening and dewatering system.
- Ultraviolet disinfection system.
- Service water -fire water tank with a capacity of 150 m3.
- Drainage pumping station
- Electrical works (MCC, Cables, lighting, Earthling).
- Instrumentation control and PLC.
- Standby generator for internal and external lighting.
- Administration building, including laboratory room.
- Laboratory tools and instruments.
- Workshop building with quick repair equipment.
- Roads and fencing.

2.0 Leadership and Commitment

The Corporate Management is fully aware of the importance of the CEHSMP and ensures that the approved plan is implemented. The MUL Corporate QHSE Manager shall ensure that all necessary resources are allocated for CEHSMP implementation, as requested by the Project Team.

The Project Management Team will conduct group meetings with employees and walkthroughs of the facilities at periodic intervals to identify non-conformances. Corrective actions will be implemented within the agreed timeframe. The Management Representative (HSE) shall ensure that these issues are discussed during Management Review meetings.

HSE Incentive Schemes

To encourage the individual to work safely by boosting their morale through recognition of their Safety Awareness and proper observance of Standard Health and Safety Practices within the Project Site.

Safe Personal Awards

A minimum number of personnel will be selected monthly, or quarterly, or annually, depending on the project requirements, based on the following criteria:

- No incident or accident record, including first aid cases.
- No unsafe acts observed.
- No instances of working in unsafe conditions, with priority always given to safety first.
- Demonstrated good housekeeping habits.
- Full compliance with the use of Personal Protective Equipment (PPE).

The bonus system will be based on the following:

- Selected workers will receive rewards and a certificate of appreciation.
- The names of the selected workers will be announced during the first week of the following month.

3.0 Document Control

3.1 Documentation and Data Control Procedure

The following is a comprehensive list of all documents used to demonstrate the achievement of Health, Safety, and Management System (HSMS) and Environmental Management System (EMS) requirements and their effective operation. This procedure outlines how these documents will be controlled to prevent the unintended use of obsolete versions and to manage changes to them effectively.

The MUL QHSE Team is responsible for maintaining a master list of documents that identifies the current issues of all relevant documents. They must ensure that:

- Controlled documents and data are reviewed and approved by authorized personnel prior to use.
- Documents are reviewed periodically and updated as necessary to remain suitable for use within the Environmental, Health, and Safety Management System.
- The relevant issues of documents and data are available at all locations where they are required to support the Environmental, Health, and Safety Management System.
- Superseded documents and data are promptly removed from all points of issue or use once identified.
- Superseded documents, where retained for legal or knowledge-retention purposes, are clearly identified as such.

Company procedures identify the records needed to demonstrate compliance with this Environmental, Health, and Safety Management System. These procedures also specify where the records are stored and how they are authorized.

These records serve as objective evidence to demonstrate the achievement of required quality standards and the effective operation of the system. The quality records provide proof that the Company's services meet the Client's requirements and that the Environmental, Health, and Safety Management System complies with the standards of ISO 14001 and ISO 45001. Health, safety, and environmental records will be made available to the Client or the Client's Representative at any reasonable time.

The Company's Document and Data Control Procedure ensures that controls are maintained for all documents and data (e.g., reference samples, computer software, Client drawings, and sketches) relating to the requirements of this Environmental, Health, and Safety and Quality Management System. It also ensures that:

- All documentation is legible, dated, clean, readily identifiable to the Client and Job, and maintained in an orderly manner.
- All entries are completed satisfactorily and signed, initialed, and dated by the individuals involved.

3.2 Distribution List of Construction Environment Health Safety Management Plan

The distribution of the Project Specific Construction Environment, Health & Safety Management Plan (CEHSMP) will follow the Distribution List detailed below.

The Project Specific CEHSMP and all related safety documents will be distributed to all concerned personnel by the Document Controller and the Site HSE Engineer.

All employees, line management, and supervisory staff will be thoroughly briefed on their roles and responsibilities, as assigned in the CEHSMP, during induction, refresher training, and toolbox talks. Each concerned personnel must sign for acceptance of their role in implementing the CEHSMP.

4.0 Policy & Strategic Objectives

4.1 QHSE Policy

MUL has established and implemented a QHSE and E&S Policy, which has been communicated to all its employees and shall also be communicated to all contractors, vendors, and visitors of MUL (Annexure-1).

4.2 Zero Accident Philosophy

MUL adopts a "Zero Accident" philosophy in performing work, with communication to all personnel and a complete understanding ensured. Methods and strategies to eliminate work-related accidents, incidents, injuries, and illnesses are outlined in this Project Health, Safety, and Environment Management Plan, which promotes:

- Immediate identification and elimination of unsafe work practices and conditions in the workplace. Refer to MUL QHSE Procedure: Hazard Identification and Risk Management.
- Heightened awareness of individual responsibility and increased supervisory attention to detail. Refer to MUL QHSE Procedures such as Competence, Awareness and Training, and Resource Management.
- Elimination of human error as a source of accidents, irrespective of rank or position in the organization. Refer to MUL QHSE Procedures such as Accidents and Incidents, Accident and Incident Investigation, and Non-conformity, Corrective and Preventive Action.
- Building a team safety mentality where each worker contributes to the effort and each supervisor is fully aware of the capabilities and limitations of their team. Refer to MUL QHSE Procedure: Communication and Consultation.

- A culture in which everyone accepts responsibility and accountability for their own and each co-worker's health and safety. Refer to MUL QHSE Procedure: Communication and Consultation.

4.3 QHSE Objectives

MUL has an existing QHSE Objectives in line with its QHSE Policy (Please refer to Annexure 2). Project-specific QHSE Objectives shall be established during the Construction Phase.

5.0 Organization, Resources and Competence

5.1 Project Organization Chart

(Please refer to Annexure 3)

5.2 Roles & Responsibilities

5.2.1 SPV (Special Purpose Vehicle) Manager, including Community Liaison Officer (CLO)

- Provide overall management, coordination, and leadership for the implementation of the Construction Environmental, Health, and Safety Management Plan (CEHSMP).
- Ensure compliance with the IFC Performance Standards, MIGA requirements, Serbian environmental laws, and other applicable international best practices.
- Oversee the performance of Contractors and subcontractors, ensuring adherence to approved Method Statements, Risk Assessments, and Environmental & Safety Procedures.
- Review HSE Plans, Emergency Response Plans, Traffic Management Plans, and Waste Management Plans, ensuring their alignment with the CEHSMP.
- Coordinate with the Consultant and Expert Supervisor to monitor site HSE performance, incident trends, and compliance levels.
- Lead monthly and quarterly HSE performance review meetings, track corrective actions, and ensure closure of non-compliances.
- Authorize and oversee the reporting of major incidents, environmental breaches, and community-related grievances to relevant authorities and stakeholders.
- Ensure that adequate resources (personnel, training, and budget) are allocated for environmental and safety compliance.
- Facilitate external and internal audits, ensuring timely submission of audit responses and implementation of recommendations.
- Serve as the key contact point for regulatory authorities, lenders, and external stakeholders on environmental, social, and safety matters.

Community Liaison Officer (CLO) Responsibilities:

- Act as the primary point of contact for local communities and stakeholders regarding all project-related environmental, health, and social concerns.
- Implement the Stakeholder Engagement Plan (SEP) and ensure that community engagement activities are documented and conducted in culturally appropriate ways.
- Manage the Grievance Redress Mechanism (GRM), ensuring all grievances are recorded, investigated, and resolved within agreed timeframes.
- Facilitate community meetings, awareness sessions, and consultations on potential project impacts, mitigation measures, and safety procedures.
- Ensure timely communication with vulnerable groups and ensure their concerns are addressed in line with IFC PS1 (Assessment and Management of Environmental and Social Risks and Impacts).
- Maintain an updated stakeholder database and grievance register; submit periodic reports to the SPV Manager and Project Company.
- Collaborate with local authorities, emergency services, and NGOs when addressing community safety, employment, and social development initiatives.
- Report recurring or critical community issues to the SPV Manager for escalation and corrective action.
- Support the communication of emergency alerts or planned construction activities that may affect nearby residents.
- Ensure that all community-related commitments made during the Environmental and Social Impact Assessment (ESIA) process are effectively implemented and monitored.

5.2.2 Project Manager

- Oversees the overall implementation of the company's QHSE Management System on the Project Site.
- Supports the implementation of all requirements listed in the project-specific CEHSMP.
- Fully supports the Construction Manager, Site Engineers, HSE Engineer, and all other staff in enforcing HSE-related matters, including client/monthly meetings, training for staff and operatives, etc.
- Sets a personal example (role model).
- Ensures all accident and incident cases are officially reported and submitted to the Client and concerned authorities.

5.2.3 Design Consultant

- Review all drawings, designs, and technical documents received from the Contractors to verify compliance with the Construction Permit Document, design specifications, and Serbian regulatory requirements.
- Evaluate design changes or modifications to ensure continued compliance with environmental, health, and safety requirements.
- Provide technical clarifications and design support to ensure construction activities adhere to design intent and safety standards.

- Participate in design risk assessments to identify potential environmental or safety risks associated with construction and operational phases.
- Support the preparation and update of as-built drawings and design revisions, integrating lessons learned and field adjustments.

5.2.4 Expert Supervisor (Consultant Engineer)

- Verify that construction activities comply with the design documentation, technical specifications, and Serbian Law on Construction and Occupational Safety.
- Supervise and monitor the HSE performance of contractors and subcontractors at site.
- Ensure that work execution aligns with environmental and social commitments, including the Environmental and Social Management Plan (ESMP) and IFC Performance Standards.
- Review and endorse contractor-developed Method Statements, Risk Assessments, and Permit-to-Work procedures.
- Participate in periodic inspections and audits, verifying that corrective actions are implemented and maintained.
- Provide regular HSE performance reports and non-compliance notifications to the Project Company (SPV).

5.2.5 Construction Manager

- Promote the implementation of the company's HSE Management system.
- Promotes the implementation of the company's HSE Management System.
- Ensures the implementation of the CEHSMP in the Project Site.
- Ensures that all necessary risk assessments are carried out within areas of responsibility and seeks specialist advice when required.
- Ensures that adequate safety resources are made available.
- Communicates with Consultant Engineers and attends HSE meetings.
- Extends support to the HSE Engineer.
- Ensures that HSE inspections are carried out within the scheduled period.
- Ensures that incidents, accidents, and near-misses are reported.
- Serves as the custodian of HSE documents and bears full responsibility for all HSE issues associated with the Project.
- Ensures that the names and details of the following personnel are posted on the site notice board:
 - First Aid Team
 - Fire Fighting Team
 - Emergency Numbers
- Ensures that all activities are undertaken with due regard to this Project Health, Safety, and Environment Plan, Consultant HSE requirements, and MULs contractual obligations.

- Ensures that all personnel work in a safe manner and comply with all aspects of this Project Health, Safety, and Environment Plan, Consultant HSE requirements, and MULs standards; sets a personal example.

5.2.6 Site Engineer/Project Engineer (Civil/Electrical/Mechanical)

- Acts on behalf of the Construction Manager in HSE-related matters during the Construction Manager's absence.
- Supervises and monitors work execution to the best of their abilities.
- Recognizes that their responsibility towards HSE is equal to their commitment towards productivity.
- Never allows unsafe activities to be carried out without first ensuring the following have been obtained/addressed: Permit to Work, Risk Assessment, and Environmental Assessment for every activity.
- Promotes Site HSE Inspections, Training, and Audits as required.
- Investigates all incidents, accidents, and near-misses in conjunction with the HSE Engineer.
- Ensures non-conformances are identified and addressed during inspections, audits, and/or meetings.
- Executes this Project Health, Safety, and Environment Plan in coordination with the Construction Manager and HSE Engineer.
- Sets a personal example.

5.2.7 QA/QC Engineer

- Works in close coordination with the HSE Engineer for the implementation of the Project HSE Plan.
- Ensures that pre-inspection meetings are held with subcontractors and at the vendor's premises to discuss project-specific HSE requirements, project quality specifications, ITP requirements, etc., and records the minutes of the meeting .
- Monitors that all applicable drawings and specifications are available at the site.
- Monitors that subcontractors/suppliers are following the latest revision of drawings and specifications.
- Verifies WPS/PQR/WPQ before the commencement of metallic fabrication.
- Is responsible for the preparation and updating of the Project Quality Plan as required by the contract.
- Conducts stage-wise inspection of materials at subcontractor/vendor's premises and at the site.
- Controls non-conforming products at subcontractor/vendor's premises and at the site, and reports to the Manager (QA/QC) and Management Representative (MR).
- Coordinates with vendors/subcontractors and the project team for arranging inspections as per the ITP.
- Performs any other duties as assigned by the QA/QC Manager/Projects Manager.
- Assists the QA/QC Manager and MR in the implementation of MUL Integrated Management Systems (QHSE) and project-specific requirements at subcontractor/vendor's premises and at the site.
- Monitors the calibration of measuring instruments at subcontractor/vendor's premises.

- Implements corrective and preventive actions.
- Verifies the as-built drawing prior to submission to the client as per site conditions.
- Complies with all applicable legal and HSE Requirements/Procedures.
- Sets a personal example.

5.2.8 HSE Engineer

- Identifies hazards and stops activities if there is imminent danger to the lives of personnel, client assets, or the environment during the project execution phase.
- Identifies hazards and ensures corrective actions are taken to rectify or mitigate them.
- Ensures that Method Statements for all activities are available.
- Implements and monitors Risk and Environmental Assessments.
- Develops outlines and presents induction trainings and safety awareness programs on a regular basis.
- Conducts periodic checks of the Permit to Work System as outlined in this Project Health, Safety, and Environment Plan.
- Carries out and conducts additional toolbox talks on new activities as necessary.
- Sets up Emergency Assembly Areas and executes the Project Emergency Plan in case of an emergency.
- Monitors firefighting equipment reflects findings in checklists and rectifies issues.
- Acts as a first responder when required and coordinates with ambulances/hospitals in the event of an emergency.
- Produces, updates, and maintains all HSE documents related to the Project for future reference, such as Consultant Engineers' inspections and audits.
- Facilitates all HSE-related audits by Consultants or Third Parties.
- Conducts Site HSE Briefings for visitors and third parties, as well as QHSE Safety Inductions for new employees on the project site.
- Sets a personal example.

5.2.9 First Aiders

- Provides basic nursing and first aid services to personnel who become ill or injured on the job at the site.
- Advises workers on health education and disease prevention.
- Carries out health monitoring of the workforce at the site, such as taking vital signs and monitoring blood sugar on a monthly basis.
- Collaborates with HSE Engineers/Officers on site to identify relevant facts associated with occupational injuries and illnesses.
- Maintains workers' health records and statistics associated with occupational injuries and illnesses.
- Develops and manages emergency procedures and staff awareness.
- Coordinates with and informs the HSE department about minor and major injuries and cases attended.

- Works with assigned HSE personnel at the site to support and facilitate safety and well-being initiatives.
- Conducts inspections of all first aid materials, including first aid boxes, for expiry dates and for the replenishment of supplies.
- Maintains an adequate supply level of approved first aid paraphernalia.
- Educates employees on preventive measures against occupational health hazards and promotes healthy living conditions.
- Supports the development and realization of a “Zero Incident Culture” to prevent serious injuries and achieve the best HSE performance.

5.2.10 Supervisor/Foreman/Technician

- Ensures the safety of all personnel during the supervision of work.
- Carries out the job in compliance with this Project HSE Plan.
- Conducts daily toolbox talks for all personnel on the Project Site, organized by the HSE Engineer before starting any operational phase, to identify potential hazards involved with the job.
- Takes an active part in the Monthly Safety Group Meeting.
- Ensures that all personnel under supervision are properly trained in their duties to carry out the work scope.
- Ensures organized workplaces for the safe execution of activities.
- Ensures that appropriate PPE, where applicable, is correctly applied.
- Reports all incidents, accidents, and near-misses by following the chart as described in this Construction Environment, Health & Safety Management Plan.
- Ensures all lifting equipment and appliances are in good condition.
- Acts as Safety/Fire Watch and initiates the Emergency Procedure when required.
- Ensures that housekeeping within the Project is properly maintained.
- Ensures that an adequate and safe means of access and egress is maintained throughout each workplace.

5.2.11 Worker/Helper

- Takes reasonable care to protect the health and safety of themselves and other workers present while working.
- Cooperates with superiors to complete the project safely.
- Makes appropriate and safe use of machinery, equipment, tools, hazardous substances, and other working equipment.
- Wears appropriate Personal Protective Equipment (PPE) at all times.
- Immediately reports to their superior any deficiencies in safety, as well as any hazardous or unsafe conditions.

- Does not remove or modify any safety signs or control devices at the site without permission.
- Does not undertake any work or activity for which they have not received adequate training.
- Follows road/traffic safety rules in addition to basic and personal safety rules. Inspects vehicles as per the checklist and submits records to the HSE Engineer.

5.2.12 Contractors, Subcontractors, Vendors and Suppliers

Every Contractor/Subcontractor/Supplier working on behalf of MUL shall:

- Comply with all requirements pertaining to health, safety, and environmental protection, and adhere to this Project Construction Environment, Health & Safety Management Plan (CEHSMP).
- Provide a subcontractor organization chart that shows key personnel (directly reporting to the subcontractor site manager) and the HSE engineer, whose function is to assist the subcontractor site manager in ensuring that all activities carried out on the site are in accordance with the approved CEHSMP (i.e., the project HSE requirements) and international standard safe working practices.
- Ensure sufficient manpower (staff and workers) on the project site.
- Ensure that all subcontractor personnel are aware of the HSE requirements.
- Ensure appropriate HSE training for subcontractor personnel and any other subcontractors they may use on the project.
- Identify and analyze all job hazards and apply all necessary preventive and protective measures, such as personal protective equipment (PPE).
- Ensure that the HSE records described in this Construction Environment, Health & Safety Management Plan are kept and easily retrievable.
- Cooperate with MUL in the investigation of incidents or accidents to identify corrective actions and prevent recurrence.
- Attend weekly/monthly HSE meetings and comply with client/consultant coordination.

5.3 HSE Training

Upon completion and arrival at the project site, HSE orientation and induction training will be provided to personnel by the Site HSE Engineer. Topics to be discussed will cover, but are not limited to, the following:

- Scope of work.
- Duties and responsibilities both at work and for HSE.
- Familiarity with the key personnel of MUL and the Consultant.
- MUL QHSE and E&S Policy.
- Emergency response in case of fire and high H₂S presence; emergency evacuation plan.
- Location of the emergency assembly point, first aid kit, telephone facilities, and fire extinguishers.
- Personal Protective Equipment (PPE).
- Working under extreme weather conditions.
- Permit to Work System (PTW).

- Accident reporting procedures.
- Back Injury Prevention Program.
- Safety promotions and safety violations.
- Near-miss awareness.

At the end of the safety induction, attendees will receive a site safety induction sticker to be placed on their safety helmet.

6.0 Risk Evaluation and Management

6.1 Hazard Identification, Risk Analysis and Control

All work activities will be executed in a safe and controlled manner. To accomplish this, hazard identification, risk analysis, and control systems will be introduced where necessary for the type of work to be carried out. Hazard identification, risk analysis, and control measures must be considered and implemented for all activities.

The Site HSE team will ensure that risks arising from hazardous activities are identified, eliminated, or managed in a way that reduces them to an acceptable level.

Safe Task / Job Analysis / Toolbox talk / Pre-Task Briefing

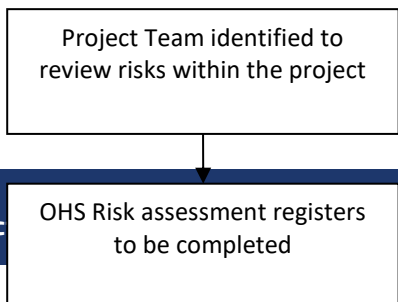
- Site supervisors will conduct a Toolbox Talk at the beginning of every shift and prior to starting any new task during a shift. This process takes approximately fifteen (15) minutes each shift or before beginning any new work task during a shift.
- The Project Team will ensure that personnel understand the purpose of and participate in the Job Hazard Analysis/Risk Assessment processes, and will use them as primary planning and lessons learned tools.

Health, Safety and Environment Assessments

- MUL will implement arrangements to assess the risks of site activities that are likely to result in injury or ill health to persons at work or to members of the public.
- The purpose of these assessments is to identify the degree of risk associated with the activities and to determine the preventive or protective controls required. Details of the assessments will be recorded and used to formulate HSE site instructions for personnel supervising and undertaking the work.
- All assessments will be continuously reviewed, and where circumstances change to such an extent as to render the original assessment invalid, a new assessment will be carried out.

- The Site HSE Engineer will review the study and provide additional instructions or requirements as necessary. They will carry out hazard identification, and the hazards identified will be graded as per the implemented HIRA procedure.
- These assessments will then be formatted for each identified hazard, with risks graded similarly.
- Included in these assessments will be the requirement for Personal Protective Equipment.
- Where reasonably practicable, risks will be reduced by changes in design or work methods, and where possible, engineering controls will be implemented.
- These assessments will state the task(s) to be performed, the identified hazards, the associated risks, and methods to be employed to reduce the risks.
- The final part of these assessments will state the lines of communication and emergency assistance available if necessary.
- Prior to work commencing, information on the contents of these assessments will be passed on to the workforce via toolbox talks and stand-up meetings.
- MUL will use the information derived from its assessment process in Supervisor HSE Meetings to enhance supervisor safety awareness and improve overall safety performance.
- It is likely that the same risk will be performed in several locations or on a number of occasions. Where this is the case, one assessment may be valid for many instances, with only minor alterations and changes of location.
- MUL will provide relevant access to its stakeholders to the safety process, files, records, etc., and will participate in this assessment as/requested.

Risk Management Process



OHS Risk Assessments

Risk Assessment Stages

There are five definite stages to conducting a risk assessment or a specific task risk assessment. These are detailed below:

Step 1: Identify the hazards

This is the starting point for the risk assessment and requires consideration of all the tasks that are likely to be carried out in the workplace. To adequately assess the risks associated with the tasks, a manageable level of detail is required, and this may require the task to be broken down into discrete steps or component tasks (SREDIM). Each of these tasks is then defined in terms of:

- Activities
- Use of plant and equipment
- Use of materials/substances
- Workplace
- Procedures

The method proposed for identifying the tasks is to categorise the tasks according to the lead job trade or discipline involved in carrying out the work. This should help to build up (over time) an inventory of tasks that the lead discipline gets involved in and the type of work carried out in the different workplace areas.

Once all the tasks have been identified, an inventory should be drawn up which lists all the lead disciplines and the tasks carried out in each workplace area. These tasks can be considered as being routine or generic and these should be fed forward for risk assessment.

To ensure that no hazards are omitted at this stage, it is proposed that personnel engaged in risk assessment use the hazard identification checklist. The checklist given is not exhaustive and should be updated each time a new hazard is identified. The checklists can be used as a guide to ensure that personnel involved in the risk assessment are not side-tracked into identifying things as hazards that are not in fact hazards.

Look for what could reasonably be expected to cause harm. Ignore the trivial and concentrate only on significant hazards, which could result in serious harm or affect several people by considering the equipment and materials being used and the environment where the work is being carried out. Manufacturer instructions or safety data sheets can also help you identify hazards and put risks in their true perspective.

The checklist tables provide examples of hazards within the following categories:

- The number of times the situation occurs
- Duration of exposure
- Quantities of materials involved

- Environmental conditions
- Competence of people involved
- Condition of equipment
- Lighting
- Distractions

Step 2: Decide who might be harmed and how?

Make a list of the groups of people who could be affected by the hazards; always ensure you consider:

- Employees
- Visitors
- Contractors
- Members of the public
- Consumers of products or services
- Neighbours/communities
- Other interested parties

Consider vulnerable groups such as new or expectant mothers, disabled persons, young or inexperienced workers.

Step 3: Evaluate the risks and decide on precautions

The important factors to consider are the control measures already provided or to be provided. In analysing the likelihood of harm, the risk assessor(s) must consider the possibility of control measures not being followed because of human error, lack of maintenance, difficulty in compliance, etc.

It is essential to discover how the task is carried out and base the assessment on this, rather than assessing the likelihood on how the task is supposed to be carried out. In this respect, it is necessary to involve the workers who performed the task to identify every step carried out and to analyse all potential hazards that might take place. When all factors have been considered and a decision is made on the likelihood of the hazard causing harm, a number can be entered in the likelihood column on the risk assessment form by using the likelihood rating guidance.

Analyse risk rating first without any control measures by multiplying the likelihood number and the consequence number; this will provide a risk rating (or ranking) for each hazard, which produces a number on a scale of 1 to 25. This number should be entered in the risk column on the risk assessment form.

The numbers in the risk column provide an indication of priority and of the extent of the risk without any specific control measures.

Rating	Frequency/Likelihood of Occurrence	Description
1	Improbable	This will probably never happen/recur
2	Remote	Do not expect it to happen/recur but it is possible it may do so
3	Occasional	Might happen or recur occasionally
4	Probable	Will probably happen/recur, but is not a persisting issue/circumstances
5	Frequent	Will undoubtedly happen/recur, possibly frequently

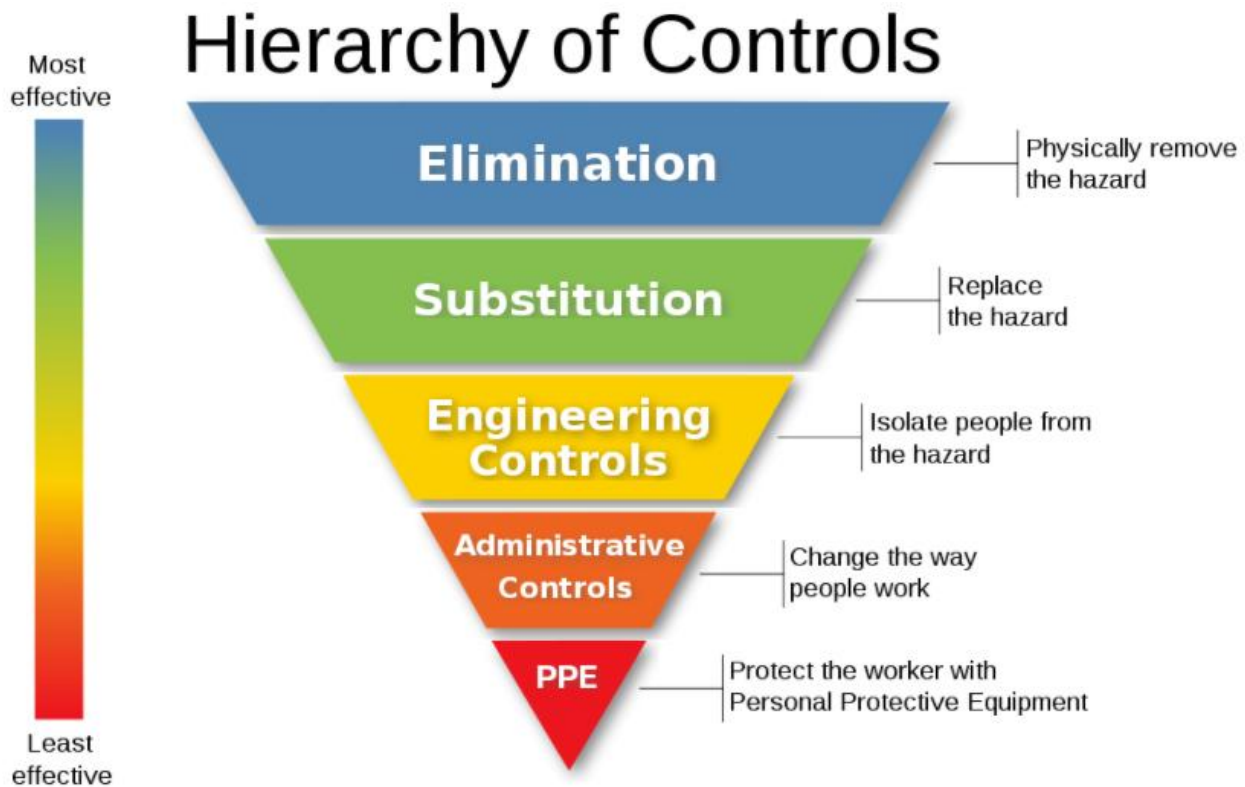
Rating	Injury	Asset damage
1	Slight injury. No lost time. E.g. Finger cut.	Slight damage to equipment. Minimal cost. No downtime. E.g. Gasket failure.
2	Minor/serious injury, first aid required. E.g. Burn with caustic, back or limb strain.	Minor damage. Parts replacement. E.g. Pump or compressor failure.
3	Major injury, Lost time accident >3 days. E.g. Falling from height.	Localised damage. Partial shutdown of part of plant or facility. E.g. Blending tank blow-by.
4	Single fatality or permanent disability. E.g. Release of carcinogenic substance.	Major damage. Partial shutdown of part of plant or facility. E.g. Condensate fire.
5	Multiple fatalities. E.g., Release of high toxic gas.	Extensive damage. Shutdown. Substantial loss of plant. E.g., Gas explosion.

5x5 Risk Matrix		Severity				
		Negligible	First-aid	Minor	Major	Fatal
Likelihood of Occurrence	Improbable	1	2	3	4	5
	Remote	2	4	6	8	10
	Occasional	3	6	9	12	15
	Probable	4	8	12	16	20
	Frequent	5	10	15	20	25

Risk level	Risk Rating	Actions
Low Risks (Green)	1 – 3	No immediate action required, unless escalation of risk is possible.
Medium Risks (Yellow)	4 – 6	PPE is mandatory & risks to be managed through normal control measures.
High (Orange)	8 – 12	PPE is mandatory & if required SOP/Work Instructions to be developed & actions to be taken to reduce the risk.
Extreme Risk (Red)	15 – 25	Activities must be stopped. Immediate actions required to reduce the risk. Seek specialist advice/ support.

PTW required	Work at height, Hot work, Confined space, work requiring LOTO, high-voltage electrical work, excavation work, maintenance work, etc.
Hazardous Substances	All Associated SDS and COSHH Assessments are to be attached to this Risk Assessment for information and record.

To determine the preventive and/or protective control measures needed to reduce or minimise the risk of each identified hazard, the preferred hierarchy for these measures is shown in the picture below.



The control measures may address the consequence, the likelihood or both. The required control measures for each hazard should be recorded alongside the hazard on the risk assessment form, which guides the types of control measures to be implemented. Where risk cannot be sufficiently controlled through engineering measures, an SOP will be developed to mitigate it further.

Residual risk is the risk that remains after control measures are in place; the consequence and likelihood ratings are reassessed using the scales, respectively. Multiplying these two ratings yields a measure of residual risk and completes the risk analysis stage. The information in the residual risk box is used in the next stage of the risk assessment to determine whether the risk is adequately controlled.

Step 4: Record your findings and implement them

Record findings, write down the more significant hazards, e.g. working above ground power cables, The completed risk assessment must be attached to the method statement, communicated to the work team in a language each person understands, and recorded on the attendance sheet.

Step 5: Review your risk assessment and update if necessary

Monitor and review the risk assessment periodically and revise as necessary.

6.2 Hazard Communication

This procedure is prepared to ensure that hazards associated with chemicals, whether imported or used, are evaluated, and that this hazard information is communicated to affected employers and employees:

- Safety Data Sheets (SDS) will be obtained for all materials in use to identify those that are hazardous or potentially hazardous.
- All SDS will be collated into a single file to be held by the HSE Engineer.
- All hazardous materials will be suitably labelled to identify the nature and severity of the hazard. Storage areas will be appropriately posted with safety and health hazard warning signs.
- Appropriate personal protective equipment (PPE) will be made available and required for use during the handling, use, storage, and transportation of hazardous materials.
- Manufacturer's recommendations and the operator's site requirements for the safe storage, transportation, and use of materials will be followed at all times.
- Where appropriate, physical barriers or warning tape will be placed to exclude non-essential personnel from an area (e.g., during lifting operations).
- Copies of SDS will be readily available at working locations.
- SDS and hazard communication training will be conducted for all workers every month through special toolbox talks.

6.3 Risk and Environmental Assessments

(Refer to Annexure 4)

7.0 Planning, Standards & Procedures

7.1 Planning

7.1.1 Schedule of Activities

The Schedule of Activities is a live document that will be submitted separately and requires client approval. This schedule will indicate both the start and end dates of all Project work activities, as well as the associated HSE Activities.

7.1.2 Working Hours

Regular Working Hours for Employees (follow local legal/labour regulation):

- Monday to Friday:
- Morning Session: 07:00 to 12:30 (5.5 hours)
- Lunch Break: 12:30 to 13:30 (1 hour)
- Afternoon Session: 13:30 to 16:00 (2.5 hours)
- Total working hours per day: 8 hours
- Saturdays, Sundays, and Public Holidays: Rest Days

7.1.3 Site Access Control/Site Security System

All personnel and vehicles entering the site must comply with MUL and Consultant HSE requirements as outlined in the Project CEHSMP.

Visitors and Members of the Public:

- Arrangements will be implemented to prevent, as far as is reasonably practicable, access to the site by any unauthorized person or vehicle.
- This will include the erection of barriers, fences, warning signs, notices, and the provision of security guards.

Site Security System:

- Only authorized personnel will be allowed access to the site.
- A checking system will be introduced for material control entering and exiting through the main gate.
- All material gate passes must be submitted at the security gate with the valid signature of an authorized person.
- A vehicle entry and exit logbook will be maintained.
- At least one security guard will be assigned during both day and night shifts.
- All visitors must report to the security office before being permitted to enter the site premises.

7.1.4 Temporary Site Welfare Facility Management

This section outlines the management of all temporary facilities and arrangements to be established within the project site area, specifically addressing health, safety, and environmental concerns related to welfare. This includes all temporary site welfare facilities that will be utilized throughout the project, particularly during initial stages and by subcontractors. These encompass:

- Facilities and Procedures for Health, Safety, Security Management, and Control:
- Washing and Sanitary Arrangements
- Eating and Resting Area Arrangements for Workers
- Health Monitoring for Workers
- Potable Drinking Water

7.1.5 HSE Committee

- A Project HSE Management Committee will be established to monitor the implementation of the Construction Environment, Health & Safety Management Plan in line with statutory and contractual HSE requirements.
- The HSE Engineer will serve as the Chairman of the Committee Meetings, and representatives from the Client will be invited to attend these weekly meetings.
- Attendees of these meetings will include the Project Manager and other personnel from MUL Project Management, subcontractors, the Site Engineer, and Safety Representatives.
- The functions and terms of reference of the HSE Committee are:
 - To monitor the adequacy of the Construction Environment, Health & Safety Management Plan and ensure its implementation.
 - To study accident statistics and trends to identify unsafe practices and conditions.
 - To review emergency and rescue procedures.
 - To promote HSE requirements on site.
 - To review results of HSE inspections.
 - To determine that required follow-up actions have been implemented.
- Minutes of the HSE Meetings will be circulated to all concerned parties within 7 days of the meeting date.
- The HSE Engineer will, if necessary, arrange a special meeting via the Project Manager or Construction Manager to discuss any urgent HSE business.

7.1.6 Management of Subcontractors

- MUL will achieve high levels of accident prevention and reduce pollution levels emitted from its operations. Subcontractors used by MUL on this project will be selected only if they can demonstrate the ability to perform work safely and healthily.
- MUL will review the arrangements that subcontractors and vendors have in place for managing the health and safety of their employees, protecting other persons not involved in their activities, and safeguarding the environment.
- Questions asked of subcontractors to establish their HSE competency will include, but are not limited to:
 - Copies of the subcontractor's HSE policy and Client's Liability Insurance.
 - Accident frequency rates for the past three years.
 - Method Statements for high-risk activities.
 - Assessments for the control of hazardous substances.
- MUL will impose the same level of standards on work performed by subcontractors, who are expected to perform to MUL's satisfaction in respect of HSE matters. They will be subject to the same monitoring and assurance systems as work carried out directly by MUL.

- The relationship between MUL, subcontractors, and vendors will be no different from the relationship between the Client and MUL. Therefore, the subcontract agreement requires the subcontracting party to fulfill all HSE regulations undertaken by MUL in the main agreement.
- Subcontractors and vendors will be held responsible for all persons employed by them.
- Each subcontractor will be issued a copy of this Construction Environment, Health & Safety Management Plan, together with HSE procedures applicable to their activities. They will be subject to the document control and issuance system for updates.
- Major and specialist subcontractors will produce a Project HSE Plan for their section of work. These plans will include detailed method statements for high-risk activities.
- HSE procedures will be discussed at HSE meetings.
- Project Management will liaise regularly with subcontractors to establish the HSE requirements of their work and make arrangements for them to work safely.
- Subcontractors and vendors who do not perform to MUL's satisfaction will be subject to penalties and the risk of removal from the site.

7.1.7 HSE Communication and Reporting

HSE Campaign: Site HSE Engineer to conduct a monthly HSE campaign at the site.

Project HSE Meetings:

Weekly Meeting:

- The Site HSE Engineer will coordinate among the staff of the Consultant and Subcontractor.
- The Construction Manager will facilitate the meeting, and in their absence, it will be arranged by the HSE Engineer among the staff.
- Topics to be discussed will be based on the Weekly Health and Safety Inspections, concerns from previous Weekly Health and Safety Meetings, Consultant health and safety-related issues (e.g., near misses), the HSE Plan, and other health and safety-related issues.
- All required parties will attend the Weekly HSE Meeting, which will be conducted at the end of every week.

Monthly HSE Meetings

- The Site HSE Engineer will coordinate among the staff of the Consultant and Subcontractor.
- The Construction Manager will facilitate the meeting, and in their absence, it will be arranged by the HSE Engineer among the staff.
- Topics to be discussed will be based on the Monthly Health and Safety Inspections, concerns from previous Monthly Health and Safety Meetings, Consultant health and safety-related issues (e.g., near misses), the HSE Plan, and other health and safety-related issues.

- All required parties will attend the Monthly HSE Meeting, which will be conducted at the end of every month.

Toolbox Talks

- Toolbox Talks will be conducted daily at the Project Site by the Supervisor and/or Foreman.
- The HSE Engineer will ensure that Toolbox Talks are conducted daily. The Site HSE Engineer will supply the relevant topics needed for the toolbox discussions.
- The Supervisor/Foreman will ensure that a copy of the workers' signed attendance sheet is provided after the toolbox meeting and forwarded to the HSE Engineer.
- In addition to project-specific activities, Toolbox Talks will also cover general issues such as emergency preparedness, fire prevention and firefighting techniques, first aid measures, emergency contact numbers, reporting accidents and near misses, wearing personal protective equipment, identifying hazards, the permit to work system, transportation safety, incentives and disciplinary actions, etc.

Internal HSE Correspondence

- All internal HSE correspondence occurs in two directions: from Management to Employees and from Employees to Management.
- The Construction Manager is responsible for monitoring the implementation of this Project Construction Environment, Health & Safety Management Plan. He must ensure that all personnel are well informed through the Supervisor/Foreman (with the assistance of the HSE Engineer).

External HSE Correspondence

- The Project Manager and/or Construction Manager are responsible for dealing with all HSE-related issues with the Consultant or External Agencies.
- The Project Manager and/or Construction Manager will ensure that all concerns raised by the Consultant or External Agencies are properly attended to and replied to.

HSE Violations

- The Company recognizes the need for workers' contributions in maintaining the Company's HSE record intact and therefore encourages them to follow safe working practices when carrying out activities.
- However, disciplinary actions will be imposed, as per the Company's disciplinary action guidelines, on personnel who violate the rules and regulations specified in this Project CEHSMP, Consultant HSE Requirements, and Zrenjanin-Serbia Municipality Construction Regulations.
- Disciplinary measures are as follows:
 - **First Safety Violation – Verbal Warning**

A verbal warning will be given to the offender. The warning will include a clear explanation of the corrective action required to prevent recurrence.

Information regarding the offense will also be entered in the safety violation logbook.

- **Second Safety Violation – Written Warning**

A written warning will be given to the offender, and a copy will be kept in their personal file.

The written warning will include a clear explanation of the corrective action required to prevent recurrence. Information regarding the offense will also be entered in the safety violation logbook.

- **Third Safety Violation – Disciplinary Action**

If a person commits a third offense despite previous warnings, they will be subjected to disciplinary action. Actions may include suspension, termination, or other measures.

Project HSE Signs

- A Health and Safety Statistics Board will be prominently displayed in front of the Project Site Office.
- A Health and Safety Notice Board will be prominently displayed in front of the Site office. This board will contain all relevant safety documents, including HSE schedules and emergency contact numbers.
- Safety signs and notices convey particular messages to those who may be exposed to hazards associated with the work environment. This can prevent incidents and significant health hazards. They also indicate the locations of safety and fire protection equipment or provide guidance and instructions during emergencies.
- A 'Signboard' refers to a specific object, activity, or situation providing information (warning) about a hazard or danger to health and safety at work, a prohibition, a mandatory action, an escape route, or the location of firefighting and first-aid equipment.
- Specific safety signs will be provided wherever there is a risk that cannot be controlled by other means (e.g., by engineering controls and safe systems of work).
- The Project Manager will consider using the following safety signs at the workplace, depending on the situation:

Site Safety Signage			
Vehicle			
1	No Smoking	2	Mobile Phone Not Allowed
3	Speed Limit	4	Fasten Your Safety Belt

Project Site			
1	Face mask	2	Fire Extinguisher
3	First Aid Room	4	This way to the Emergency Assembly Point
5	Assembly Point	6	Emergency Telephone
7	Authorized Personnel Only	8	Exit / Entrance
9	No Entry	10	One Way
11	Danger - Deep Excavation	12	Danger - Electrical Hazards
13	Flammable Material	14	Wear Your PPE
15	Body Harness Must Be Worn	16	Lifting Operation
17	Keep Your Site Clean	18	Emergency Telephone Number List

7.2 Reference Standard

7.2.1 Statutory (Legal) and Contractual Obligations

- MUL will fully comply with all relevant statutory (legal) and Contractual HSE requirements and will ensure that these are adhered to as minimum standards.
- MUL shall establish and maintain an HSE Management System that has been designed to ensure compliance. The HSE Management Systems include, but are not limited to: Construction Environment Health Safety Management Plan, Inspections, Safety Audits, Safe Working Procedures, HSE Meetings and other applicable HSE Communication Systems.
- MUL shall recognise its responsibilities to other persons and will ensure that protection of the public and project personnel is given top priority on all assigned scope of activities as per the contractual agreements.
- MUL shall implement an HSE inspection and audit system to enable all of its obligations to be effectively supervised and monitored in accordance with procedures for various hazards likely to occur on the project.

7.2.2 HSE Reference & Other standard requirements

- ISO 45001– Occupational Health & Safety Management Systems
- ISO 14001– Environmental Management Systems
- MUL EHSMS & Construction Requirements

- MUL QHSE Management Systems

7.3 Procedures (Operational Controls)

7.3.1 Personal Protective Equipment (PPE)

Mandatory PPE

Personal Protective Equipment (PPE) does not eliminate hazards; it is designed and used to provide an effective barrier between a person and harmful objects, radiation, or other hazards. Site Supervisors/Foremen will ensure that all employees are protected against personal injury through the proper usage of PPE. Induction stickers will be provided to differentiate MUL employees from other contractor workers.

The Site HSE Engineer will be responsible for issuing and controlling PPE. All PPE must carry an EN or CE mark, such as safety helmets (EN397). The HSE Engineer will explain the correct application and storage of PPE during Toolbox Talks.

The standard requirements and minimum mandatory Personal Protective Equipment are:

- Face Mask
- Hard Hat
- High Visibility Vest
- Safety Glasses
- Ear Plugs
- Dust Masks
- Safety Boots
- Hand Gloves

Depending on the activity, additional PPE may be required. For example, welding shields, safety goggles, and leather gloves are required for gas cutting. Face shields with safety goggles are required for tasks that require additional face protection.

In addition to minimum PPE, a self-contained breathing apparatus (SCBA) or any cartridge-type respirator will be used in confined spaces. Disposable coveralls will be used in sewage areas to avoid contamination. Rubber gloves must be worn when working on electrical equipment.

All employees will be provided with the necessary PPE as identified in the Risk Assessments for specific work activities. Supervisors are responsible for ensuring that all personnel on the project are trained in the

use of, provided with, and wearing all required PPE for the work activity. Hard Hat Color Coding will be followed:

- Contractor Supervision: White
- Contractor HSE: Green
- Banksman / Signalman: Red
- General Labor/Carpenter: Yellow
- Visitors: White
- Technician: Blue

7.3.2 General Guidelines at Work Site

- The following rules and regulations must be followed at all times on the Project Site to ensure health, safety, and environmental compliance:
- Smoking is strictly prohibited on the Project Site.
- All occupational injuries and illnesses, even minor ones, must be reported to the relevant Foreman or Supervisor immediately.
- Horseplay, gambling, spreading rumors, instigating acts against authorities, quarreling, fighting, and other misconduct are not allowed.
- The use or possession of intoxicants or drugs on the job is prohibited. Any personnel reporting to work intoxicated or under the influence of intoxicants will be terminated.
- Only intrinsically safe equipment is permitted for use on the Project Site.
- Any vehicle without a proper permit is not allowed to enter the Project Site.
- Always remain alert and follow all information and warning signs.
- Personal protective equipment (PPE), such as hard hats, safety shoes, eye protection, hearing protection, and respiratory protection, must be used whenever required.
- Do not use compressed air to dust off yourself or to clean any area.
- All fire protection and emergency equipment is plainly marked and must be kept free from any obstruction.
- Report all unhealthy and unsafe practices and conditions to your Foreman or Supervisor immediately.
- Only authorized and properly trained personnel are permitted to operate equipment, vehicles, electrical devices, valves, and similar machinery.
- Gas cylinders must be stored and used in a secure, upright position with their valves/caps secure and the cylinders shielded from sunlight.
- Always maintain good housekeeping. Keep waste, dustbins, and rubbish cleaned up.
- Keep all machinery guards, guardrails, and other protective devices in place and in good operating order.
- Always remain alert to conditions and work processes in your area and surrounding areas, including the presence of other workers and equipment, so that you can foresee and avoid potential dangers.

- Work area guidelines and regulations for environmental protection must be strictly followed. All hazardous materials must be properly handled, stored, and disposed of.
- Drugs and alcoholic beverages are not permitted.
- Connections for electricity and other temporary facilities will be made in accordance with contract requirements, local laws, rules, and regulations.
- Existing equipment inside plants and facilities must not be touched or used.
- Speed limits will be enforced in accordance with local laws, rules, and regulations.
- All parties involved in the execution of the project must maintain clear access ways, roadways, and walkways.
- Attention must be given to the removal of slipping and tripping hazards and to the proper stacking of materials.
- Access roads must be kept free of mud, obstacles, and slippery substances. If this cannot be avoided, roads and walkways must be immediately and regularly cleaned.
- Protective clothing and appropriate PPE must be used in accordance with the requirements.
- Infractions of the following items are considered gross misconduct and may result in immediate termination of employment and/or removal from the Project Site:
 - Fighting on the worksite
 - Refusal to do assigned work
 - Incidents involving drugs and alcohol
 - Theft of any kind
 - Sleeping on the worksite
 - Failing to obey instructions
 - Smoking in "no smoking" areas
 - Damaging, removing, or displacing safety devices
 - Gambling, threats, and/or intimidation
 - Violation of work permits
- All equipment must be inspected daily before use by the operator, who will complete the daily checklist.
- Defective equipment must be repaired or taken out of service.
- Vehicles used to transport personnel must have seats attached and adequate for the number of persons to be carried, with all passengers properly seated.
- All personnel and vehicles must enter and leave the worksite only by the approved designated gates and routes. Only vehicles and equipment required for the performance and inspection of the work are permitted on the worksite.
- Cars or vehicles must not be parked on worksite roads, under power lines or pipe racks, or in designated "No Parking" areas.

- All fuels, lubricants, starting fluids, oils, etc., must be stored at appropriate locations with the provision of drip trays.
- Lubrication and servicing of equipment on site will be in accordance with relevant procedures.
- Any spillage must be immediately cleaned up.

General Housekeeping

Good housekeeping will always be maintained throughout the Project site. The accumulation of debris and rubbish will be avoided through regular disposal by an approved contractor. Adequate space will be provided for:

- New Materials
- Plant and Equipment
- Recovered, redundant, and salvaged materials

Regular checks will be conducted on all designated emergency exits and access passageways, fire doors, firefighting equipment, first-aid facilities, and other emergency stations, all of which will be kept clean and unobstructed.

Barricades and Signalling

Imminent danger areas will be identified by using a hard barricade with appropriate warning tape. A physical barricade will be erected using wooden or metal guardrails where hazards are expected to remain for more than 24 hours (e.g., excavations). Only appropriate warning signage will be provided for existing hazards.

Perimeter fencing or sheeting will be installed to protect the public from construction-site hazards. Fencing will be capable of withstanding heavy winds and similar hazards.

Flashing amber lights or floodlights will be provided as necessary to warn passersby and vehicles of hazards, especially at night.

A Flagman will be provided with the usage of a red and green flag during the daytime and red and green lights during nighttime. A suitable handheld STOP sign will be used.

Floor and Wall Openings

All floor and wall openings will be communicated to all concerned personnel working on the project site. Suitable covers and warning signage (e.g., "FLOOR OPENING – DANGER, DO NOT REMOVE") will be provided for easy identification. No materials will be stored on any floor covers with openings to minimize

the potential for overloading. All personnel working within a barricaded area around or near a floor opening must wear and use a full-body harness with a shock absorber.

In the event of cover removal, an employee will be assigned to guard the area involved, keeping people away from it. The assigned employee must remain in the area at all times.

7.3.3 Fire Protection & Prevention

Fire Safety Management:

The overall aim is to provide a simple set of guidelines to promote robust fire safety management within the project. As a general rule, no controlled or uncontrolled fires are permitted on any site. MUL will develop, implement, and maintain strict housekeeping practices as an integral part of daily activities.

General Material Storage:

- Combustible and flammable waste must not be allowed to accumulate in any work area.
- Flammable and combustible materials must not be stacked or stored against any temporary or permanent building, structure, or storage facility.
- Rags, fabric, and timber contaminated with any hydrocarbon product must be contained in a closed metal container and removed daily from the workplace to a safe disposal area.
- Smoking will be strictly prohibited in all construction areas. Designated smoking areas will be established.
- Materials will be stored in a manner that does not obstruct access to fire protection equipment, doors, aisles, and hallways that serve as a means of exit.
- Storage areas will be kept clean, and materials will be neatly stacked or placed.

Flammable and Combustible Liquids:

- Only approved containers and portable tanks will be used for the storage and handling of flammable and combustible liquids.
- Flammable liquids will be handled and used only in approved, properly labeled safety cans.
- Flammable and combustible liquids will not be stored in areas used as exits, stairways, or passageways and will not adversely affect a means of egress.
- No equipment will be fueled while the engine is running.
- Particular care will be taken when welding and cutting in locations where combustibles are exposed.
- Combustible material will be protected with fire-resistant blankets or equivalent, and an adequate number of approved fire extinguishers will be immediately available.

Fire Drill:

The purpose of fire drills is to ensure that all personnel respond correctly to warnings, exit the area via the correct emergency routes, and assemble at the designated assembly point/area. Fire drills will be recorded in the appropriate logbook with drill results, allowing for any problems that occurred during the drill to be identified and eliminated from the next drill. Emergency drills will be executed at a minimum of every 6 months or as per Client/Consultant requirements.

7.3.4 Permit to Work System

To allow adequate time for planning and adjustments of onsite activities, all Permits to Work should be provided to the Engineer in advance of the associated work commencement.

The following are requirements for obtaining a Permit to Work:

- A precise Method Statement detailing all hold points requiring approval from the Engineer/Consultant.
- A sequential list of activities, including all tasks to be carried out, indicating locations, timeframes, and highlighting whether there will be any night-time activities.
- A list of equipment that is to be used or is likely to be used.
- A list of manpower (numbers and safety competency) that is to be or is likely to be deployed at the site.
- If the Permit to Work will affect any other party within or directly adjacent to the site, the Permit to Work will be issued to the affected party for comment and approval.

Certain work activities are inherently hazardous and may pose a risk to personal safety. All such activities should be conducted in coordination with the Client. MUL PTW forms will be used, which will be authorized by the MUL Construction Manager.

Examples of such activities include:

- Hot Works
- Working at Height
- Access equipment and cradles
- Lifting Works
- Electrical Works
- Confined Space Works
- Excavations

All activities in the Project will be subject to a Permit to Work System due to their nature. Permits can be obtained from the MUL HSE Engineer.

A. List of Activities Requiring a Permit to Work System (If deemed necessary):

- Confined Space Entry Permit
- Excavation Permit
- Hot Works Permit (Welding/Gas cutting work)
- Lifting Permit

- Blanket Permit (combination of permit systems for Confined Space and Hot Work)
- Working near live services

The permit will be raised by the person supervising the activity and authorized by the Project Manager /Construction Manager or Site Engineer (Civil/Mechanical). No activity can be initiated without securing approval of the Permit to Work.

7.3.5 Fall Protection & Prevention

- The Construction Manager and/or HSE Engineer must ensure that all scaffoldings required on site comply with internationally accepted standards.
- Scaffolds will be obtained from an approved Supplier. They must only be erected, modified, or dismantled by a well-experienced and qualified Scaffolding Erector, under the supervision of a Competent Scaffolding Supervisor.
- Inspection of erected scaffolding, including the installation of the scaffolding tag and periodical checks, is usually carried out by the Scaffold Competent Person.
- Supervisors/Foremen must ensure that the scaffolding tag and Warning System are observed to identify whether the scaffolding is safe to use or not before carrying out their task.
- Scaffolding users will be supplied with suitable PPE (e.g., a full body harness) and properly trained to be aware of the hazards they will encounter when working at height. Similarly, Scaffolding Erectors will be periodically reminded of safe working practices before and whilst carrying out their task.
- A full body harness with a shock absorber must be used when working at heights above 1.8 meters. Also, fall protection measures, such as handrails, lifelines, and safety slings, must be used when working in areas without handrails. All scaffolds must be erected and dismantled by competent scaffolders only and will be inspected weekly. Records of these inspections will be maintained in scaffold tags by a competent person.

7.3.6 Scaffolding

The Construction Manager and HSE Engineer must ensure that all scaffolding work carried out within the Project Site is in accordance with the Standard Scaffolding Safety Procedure and is only carried out after obtaining the necessary Permit to Work. The Construction Manager and HSE Engineer must ensure that a sufficient number of Scaffolding Erectors and Scaffolding Supervisors are available. Supervisors/Foremen must conduct Toolbox Talks and discuss the following items:

- The use of boxes, crates, containers, and drums for scaffolding is not permitted.
- All scaffolding must be inspected by third-party certified and qualified personnel prior to the commencement of work.

- Scaffolding and related materials will be inspected weekly, and a competent person will update the scaffolding tag.
- Running scaffolds must be anchored to a wall or other applicable structures every 10 meters of length and 4-6 meters of height. Additional anchors will be added as needed.
- In case nominated qualified scaffolding subcontractors are to be used, the Contractor will perform coordination.
- Designed and/or engineered types of scaffolding, such as "mobile," "suspension," and formwork, may be used, provided proper scaffolding inspection procedures are applied.
- Planking must not be painted.
- Planks used for platforms must be of uniform thickness (5 cm), 20 cm wide, with scaffolding width of 130-200 cm, and laid close together.
- Planks must be overlapped at the bearers by at least 0.5 meters, with the bearing in the center of the overlap.
- Work platforms must be kept clear of rubbish, waste, slippery substances, and tripping hazards to prevent slipping or falling.
- Concrete reinforcement bars must not be used for scaffolding construction.
- Scaffolding, platforms, and their entrance ladders must have sufficient lighting for work after sunset. Scaffolding used for welding operations and scaffolding in place for periods longer than 4 weeks must be properly grounded.
- A full body harness or fall stop equipment must be used when working above 1.8 meters unprotected height, and where other adequate protection against falls cannot be provided during the erection, modification, or dismantling of scaffolding components.
- Working platforms must have a top rail (950 mm), mid rail (470 mm), and toe board (150 mm) with an access ladder.
- A scaffolding tag must be provided after inspection by the scaffolding supervisor.

7.3.7 Excavation, Trenching and Shoring System

A competent person must complete a full, specific risk assessment to ensure that all site-specific hazards are identified and that suitable control measures are implemented to minimise any risks. General Safety Requirements for Excavations:

- All adequate and appropriate personal protective equipment (PPE), including safety helmets, high-visibility vests, safety shoes, and gloves, will be provided.
- A suitable shoring system must be provided for excavations greater than 1.2 meters deep.
- The angle of repose will not exceed 40 degrees, measured from the horizontal.
- Excavated material/spoils must be placed behind a hard barricade.
- Protective barriers and flashing warning signs must be placed around all excavations.
- Do not jump across excavations; a footbridge must be used.

- Protective systems will be inspected daily and regularly by a competent person.

7.3.8 Confined Space Environment

The Construction Manager and HSE Engineer must ensure that all works carried out in a confined space environment comply with relevant health, safety, and environmental standards. The HSE Engineer will review the requirements and provide feedback to the Construction Manager or Site Engineer in case of any discrepancies.

Supervisors/Foremen must monitor and ensure that warning signs, barricades, warning tapes, etc., are provided around the work area to prevent entry by any unauthorized personnel. They must also ensure that the following are provided and/or followed:

- A written Permit to Work must be obtained from the concerned Engineers before starting any activity.
- Air monitoring must be performed with the aid of a Gas Monitor (or Multi-Gas Detector) prior to any activity starting.
- If the oxygen level is within the safe range (i.e., 19.5% to 23.5%), the job can be performed without the aid of a Self-Contained Breathing Apparatus (SCBA) or any cartridge-type respirator; however, the table below must also be monitored.
- If the atmosphere is not safe to work in, then the use of an SCBA is required at all times.
- Hazardous materials and products must be removed from the confined space.
- Adequate ventilation must be provided (e.g., using blowers and exhaust fans (LEV)).
- Continuous monitoring of the atmosphere is required, especially if activities are being performed in the confined space that will decrease the percentage of air and pose an explosion hazard (e.g., welding, grinding).

An attendant must be available to monitor entry and exit. The attendant must not enter the confined space for any reason, including during rescue operations. Their duties are as follows:

- Monitor the entry and exit of the entrants.
- Check for required PPE and other equipment needed.
- Ensure that the Confined Space Entry Procedure has been complied with.
- Contact the entrants frequently.

SN	Oxygen / Vapor / Gases	Explosive Range			PPM
		LEL	UEL	Safe Range	Safe Range

1	Oxygen, O ₂	N.A.	N.A.	19.5% - 23.5 %	
2	Methane, CH ₄	5.0%	15%	Below 5.0%	
3	Hydrogen Sulphide, H ₂ S	4.0%	44%	Below 4.0%	Below 10 PPM
4	Carbon Monoxide, CO	12.5%	74.0%	Below 12.5%	Below 50 PPM
5	Natural Gas	3.8 – 6.5%	13 – 17%	Below 3.8%	

Lighting

Sufficient lighting should be provided while working inside the confined space. An emergency lighting system will also be provided. Special requirements will be in accordance with the Permit to Work.

Toxic Fumes Release

Confined space work will automatically stop in the event that a major emergency alarm, any fume alarm, gas alarm, or area fire alarm (with the exception of a test alarm) is sounded. Personnel inside the confined space must exit and follow the emergency procedure. When an "all clear" siren is sounded, permits may be reinstated after atmospheric tests have been retaken and recorded on applicable forms.

7.3.9 Electrical Safety

The Construction Manager, Site Engineer, and HSE Engineer must ensure that all electrical works carried out within the Project Site comply with established electrical safety procedures. A Permit to Work should be obtained from the relevant Engineers.

The Construction Manager or Site Engineer should ensure that a trained and qualified Permit Holder is available on the Project Site to obtain Permits to Work from the concerned Engineers.

Prior to the commencement of electrical works, the Construction Manager or Site Engineer should ensure that detailed Method Statements and Risk Assessments for the activity are submitted for approval. Upon approval, the identified Risk Control Measures must be implemented by the Supervisor/Foreman.

Supervisors/Foremen are responsible for monitoring and ensuring that safeguards such as warning signs, barricades, warning tapes, etc., are provided around the work area to prevent the entry of unauthorized personnel, and that relevant PPE is used.

All circuits serving electrical equipment must be provided with Earth Leakage Circuit Breakers (ELCBs) of a maximum 30 milliamp tripping leakage current. MUL will ensure that all 220-volt single-phase 15- and 20-ampere receptacle outlets not part of the permanent wiring of any building have earth fault circuit interrupters for personal protection.

The Construction Manager, Site Engineer, and HSE Engineer must ensure all works are carried out with due consideration for the following:

- Faulty or damaged wiring or equipment
- Loose connections
- Lack of earthing, grounding, or bonding
- Lack of protective safety devices
- Working on live equipment
- Poor housekeeping
- Qualified personnel availability
- Lack of communication
- Failure to use PPE and appropriate tools
- Lack of warning signs

7.3.9.1 Safety Tagging & Locking

Tagging and locking procedures are implemented to prevent accidents caused by unintentionally operating machinery, switching on power, or similar actions when work or maintenance is being carried out in designated areas. To maintain a record of these actions, a Log must be completed as required. A copy of the safety tagging and locking tracking log will be provided to the HSE Engineer and Project Leader/Site Engineer for their information.

Among applicable safety procedures, danger, out-of-service, caution, and information tags, as well as lock procedures, may apply to this project.

7.3.9.2 Safety Tags

In general, danger, caution, information, and out-of-service tags will be used in this Project. Tags are usually supplied by others and must be dated, signed, and securely attached. To avoid misunderstanding, tags will not be reused and must be destroyed upon removal. Alterations are to be avoided. No device or equipment will be operated with a lock or tag attached, regardless of circumstances, as this may cause a fatal accident.

7.3.9.3 Safety Locks

Only individual locks will be used to avoid confusion. The key to the lock will typically remain in the person placing the lock's possession. If not, the instructions in the contract and applicable procedures must be followed.

A master series of locks, to be used specifically for lockout, may be provided to each craft that requires them. Master keys for the craft will remain in the possession of the designated party. Locks and lock systems will be in accordance with contract requirements.

7.3.9.4 Work On / Near Energized Electrical Equipment

This section outlines general requirements for work conducted on or near energized, un-insulated electrical conductors or terminations.

Live Installation Work refers to any task where an un-insulated part of an energized conductor or terminal could be touched with any body part, tool, or equipment.

Proximity Work is defined as any task performed close to energized, un-insulated conductors or terminals where contact with any body part or tool could occur due to unexpected movement. The installation of protective barriers may itself constitute proximity work, necessitating prior planning. Once barriers are in place, subsequent work might no longer be classified as proximity work. However, removing the barrier could again fall under proximity work.

7.3.9.5 Commencing of Electrical Work

Personnel Safety During Live Work:

Personnel must never work on live equipment alone. In addition to the electrician performing the job, another electrician must be standing by. A Supervisor should also be present during this work and must know how and where to isolate the equipment if needed.

Voltage Verification:

Before starting any job, the exact voltage must be known. This is important as it defines the type of personal protection required for the work. If there is any doubt about voltages, a check must be made before work begins.

Equipment Grounding:

Work platforms and equipment used near energized equipment must be properly grounded.

Safe Live Work Practices:

Work on live equipment can be as safe as work on isolated equipment, provided the following are observed:

- Thorough knowledge of the equipment and the job to be done.
- If there is any doubt, advice from a supervisor or responsible person must be sought.
- The work must be correctly planned before the job is started.
- Protective equipment must be used correctly.

7.3.10 Ladder Safety

The Construction Manager, Site Engineer, and HSE Engineer must ensure that all ladders within the Project Site comply with safe ladder use procedures. Only metal ladders of Consultant-approved types will be used for ingress to and egress from workplaces where other means of access are not available.

Ladder Inspection and Maintenance:

- Inspect ladders regularly before use and when in storage.
- Always check:
 - All surfaces are to be ensured they are free of oil or grease.
 - Rungs and side rails to make sure they are not missing or damaged.
 - Extension ladder parts, such as ropes, pulleys, and guides, to ensure they are in good working order.
- Use clear varnish to protect ladders; never paint any ladder, as it might cover defects and damage.
- Ensure the ladder is set on a firm, level base.
- Secure or foot ladders longer than 3 meters in length when possible.
- Position ladders correctly: 1 foot out at the base for every 4 feet of vertical height.
- Do not lean sideways from a ladder; it is safer to move the ladder.
- Keep one hand on the ladder at all times or use a fall arrest system; maintain 3-point contact.
- Beware of wet, greasy, or icy rungs.

7.3.11 Heavy Mobile Equipment

MUL will ensure that all plant heavy mobile equipment is maintained in good operating condition, with competent operators and trained flagmen deployed to operate the equipment safely, preventing harm and injuries to personnel involved in the activities.

All heavy vehicles, such as excavators, shovels, and dumper trucks, must have valid registration. Lifting equipment must be accompanied by valid insurance and third-party testing certificates, be load tested, and thoroughly examined before use. Operators must hold a valid appropriate license and an operator competency certificate. Operators will inspect their equipment on a daily basis and complete the checklist to ensure safe operation.

Key safety measures for mobile crane operations include:

- Ensuring the ground is level and outriggers are fully extended, while remaining aware of the load chart and safe load indicator throughout the operation.

- Controlling loads from the ground using tag lines to prevent turning or swinging.
- Lifting loose materials in covered hoisting buckets to avoid dropping or spilling.
- Determining and barricading the crane's swing area for the safety of personnel and other equipment.
- Allowing only assigned and qualified signalmen to give signals to the crane operator.
- Being aware of the approximate weight of the load, including hooks, ropes, spreaders, and other elements.
- Never lifting loads exceeding the safe working load (SWL) limits of the crane.
- Using certified lifting materials (e.g., ropes, buckles, nylon slings, wire rope slings) for hoisting operations.
- Ensuring competency certificates for personnel are valid for 1 year from the training date, with retraining conducted upon expiry.
- Ceasing lifting operations in case of low visibility or wind speeds reaching or gusting in excess of 20 knots.
- Prohibiting the use of cell phones (or any other mobile phones, pagers, etc.) by anyone essential to the operation (e.g., operator, banksman, slingers, riggers).

Assignment of Lifting Supervisor:

a. The Supervisor must be tasked with the supervision of lifting operations and must be able to:

- Communicate verbally in the language spoken by the equipment operator, banksman/signer/rigger.
- Be fully familiar with the lifting equipment in use (i.e., physical capabilities and limitations).
- Have in-depth knowledge of lifting equipment operator competency requirements.
- Demonstrate competency to identify and control potential hazards during and prior to lifting activities.
- Act as an emergency leader if required during lifting operations.

b. Crane Operators will:

- Be over 21 years of age and certified by an approved body as competent to operate the crane.
- Be physically fit and capable of operating the crane safely.
- Understand the duties of the slinger/rigger, with full understanding of the signals used.
- Be competent to operate the crane by examination and hold a current certificate from an approved accreditation body.
- The Contractor will provide evidence of valid certification from an approved and internationally recognized source.

c. Competent Personnel (Banksman/Slingers/Riggers) will:

- Be trained, certified, and experienced; documents must be provided.
- Be able to determine the weight, center of gravity, and characteristics of a load.
- Be familiar with different and correct slinging techniques.

- Know the correct hand signals.
 - The Contractor will provide evidence of valid certification from an approved and internationally recognized source.
- d. Lift Plans are required for all lifting activities. A standard lift plan must contain:
- A sketch of the lift operation showing a plan and elevation view of the lift.
 - Details of the lifting equipment being utilized, including capabilities.
 - Details and specifications of the load being lifted.
 - Any other appropriate information (e.g., clearance zones around other equipment).

7.3.12 Use of Chemicals

The Store In-Charge will be responsible for maintaining the master list of chemicals to be used for the Project and submitting it to the HSE Engineer.

The Storekeeper must ensure that chemicals are received along with the necessary Safety Data Sheets (SDS). Chemicals must be stored according to the Manufacturer's Information for Proper Storage. SDS must be displayed and accessible for everyone's information.

The HSE Engineer must discuss chemical safety during Toolbox Talks. This is to educate workers and staff on the proper use and disposal of chemicals, and emergency procedures in case of spills, accidental contact, inhalation, etc. All hazardous chemicals will be stored in separate areas. The standards for the storage arrangement are as follows:

The Client may approve the location of the Chemical Storage/Disposal yard, or the area will be selected to maintain a minimum distance of at least 6 meters from other storage yards and office buildings.

A signboard indicating "CHEMICAL STORAGE YARD" will be displayed at the entrance. Warning signs such as: "NO SMOKING", "ONLY AUTHORIZED PERSONS ENTRY", "HAZARDOUS CHEMICALS – KEEP AWAY" will be displayed.

7.3.13 Hand / Power Tools

Hand Tools:

Site Supervisors will ensure that the correct hand tools are used for the right job and in the proper manner. Hand-made and defective tools will be immediately removed from the Site.

Portable Electrical Tools:

All portable electrical tools will be periodically tested and certified by a competent Electrician, and a color-code system will be followed. Each power tool will bear a safety sticker highlighting the next check date,

and a register will be maintained. Electrical tools will be connected to proper/approved power sources, using the correct plugs and sockets.

Grinding/Cutting Wheels:

The use of grinding/cutting wheels with both portable and pedestal machines will be carried out with specific safety precautions. Changing of disks/wheels should be done by trained personnel. The safety guards provided by the manufacturer must not be removed from machines. The storage and issuance of grinding disks/wheels will be properly monitored. Necessary eye protection/face shields will always be used by workmen.

7.3.14 Platforms

7.3.14.1 Suspended Personnel Platforms (Man Basket)

- Prior to using any suspended personnel platform, a comprehensive Lift Procedure must be developed and accepted by the HSE Engineer. This procedure will include, but not be limited to, personnel training, pre-lift meetings, trial lifts, and platform inspection.
- Personnel platforms (baskets) provided will be designed by a qualified engineer and manufactured by competent personnel. They will have permanent markings indicating maximum weight and will carry a certified Third-Party certification.
- The crane used for suspended personnel platforms must be thoroughly inspected to ensure it has an operational anti-two-block device and locking devices on the hook. Any free-fall capacity, if present, must be positively locked out or disabled. The area under the lift will be isolated by barrier tape and signs.
- A positive means of communication must be provided between the crane operator and personnel in a crane-suspended personnel platform.
- Personnel in the platform must wear full-body harnesses attached to a designated anchor point.
- Man baskets will be used for working over water in case of an emergency when the plant is running.

7.3.14.2 Articulated Boom Platforms (MEWP)

- Machines manufactured and used for elevated personnel platform work (e.g., Manlifts) will be operated and maintained in accordance with manufacturer recommendations and only by trained and qualified individuals. Training and comprehension test records must be maintained on file at the site and made available to the Consultant upon request.
- All persons inside work platforms must wear a full-body harness attached to a designated anchor point.
- A fire extinguisher will be provided on all such equipment.
- Equipment used to hoist personnel must not be used for material if this constitutes a hazard.
- Mobile working platforms, such as Manlifts and scissor lifts, must be used for working at height.

7.3.15 Hot Works

7.3.15.1 Compressed Gas Cylinders

The safe use, handling, and storage of compressed gas cylinders of all sizes are very critical in avoiding fire and explosion hazards in the workplace. All defective parts and valves must be immediately removed and replaced. All cylinders must be stored in an upright position and properly secured by means of a substantial chain, cable, or equivalent method.

All storage locations must have adequate ventilation, preferably open air. Signage must be placed at all locations where compressed gases are stored.

Trolleys will be used to move cylinders from one location to another, thus avoiding dragging and sliding of cylinders. Flashback arrestors and non-return valves must be provided on all compressed gas cylinders' blowpipe inlets and outlets when in operation.

7.3.15.2 Electrical Welding

The Construction Manager, Site Engineer, and HSE Engineer must ensure that all electrical welding complies with the appropriate Permit to Work system for hot works. The main hazards associated with electrical welding are:

- Electric shock
- Fire
- Burns to eyes and skin due to molten metal
- Exposure to fumes

Therefore, it is essential that only qualified and/or authorized personnel work on welding machines. Appropriate PPE (eye protection, gloves, protective clothing, and safety shoes) must be worn. Ensure that the electrode holder is fully insulated and always place it on an unearthed surface when not in use. No welding will be performed on used barrels or any other flammable or combustible material until they have been cleaned thoroughly. The provision of fire-retardant blankets and fire extinguishers for the hot work area is essential at all times.

7.3.16 Occupational Health Procedure

MUL will ensure that all necessary arrangements have been made to identify any hazardous exposures to employee health and that precautionary measures have been taken to protect personnel and the workplace.

General Health and Safety Requirements while working in a Sewage Treatment Plant:

MUL follows the latest legislation to provide a safe work environment. In addition to the guidelines in this Plan, Health and Safety requirements for operations staff will be adhered to. Operations staff are required to wear protective equipment appropriate for working with wastewater.

The following Health and Safety requirements are mandatory while working around a Sewage Treatment Plant:

- Inoculation to protect against Hepatitis A + B and Typhoid fever is required for all staff, personnel, and workers at the site working in close proximity to raw sewage.
- Hands and fingers must be kept away from the nose, mouth, eyes, and ears.
- Hands and forearms up to the elbow must be washed thoroughly with disinfectant soap and hot water before eating or smoking, and after work.
- Fingernails must be kept short, and foreign materials removed from the nails with a stiff, soapy brush.
- Smoking must be avoided when handling wastewater or when in any wastewater facility.
- Dirty hands or gloves must not contaminate doorknobs and other building fixtures.
- Work clothes worn in wastewater areas must be thoroughly cleaned before being put away.
- Street clothes and clean clothes must be stored in a locker separate from used work clothes.
- All cuts and scratches must be treated with antiseptic and covered immediately.
- A shower must be taken as soon as practical after each workday.
- Protective clothing should be worn appropriate to the nature of the work and the environment, including the following:
 - Surgical or rubber gloves must be worn when performing tasks involving direct contact with wastewater or sludge.
 - Hard hats – where there is potential for head injury.
 - Protective footwear – to protect from crushing.
 - Gumboots – to protect from contaminated soil, wastewater, or effluent.
 - High-visibility clothing – in areas of moving machinery or harvesting equipment.
 - Flotation jackets – over water.
 - Ear protection – in noisy environments.
 - Gauze-type masks – in high aerosol areas.
 - Safety glasses or goggles – to protect from eye injury.
 - Harnesses and lifelines – to assist in safely recovering those affected by a hazard.
 - Radio or mobile phone – for emergency calls.
 - Gas Monitoring Device – to monitor the presence of obnoxious gas/es in the area.
 - Explosion-proof torch – for use in hazardous areas with poor natural light.
 - Self-Contained Breathing Apparatus – for work in confined spaces.

7.3.17 Back Injury Prevention Program

- MUL will establish an acceptable Back Injury Prevention Program. This program may consist of morning stretching, continuing education, etc., and will apply to all MUL personnel.

- The Back Injury Prevention Program will be an integral part of MUL's new employee orientation. Back injury prevention awareness training will be conducted as per the training matrix.

7.3.18 Control of Visitors

- MUL will ensure, as far as is reasonably practicable, that persons not employed by MUL who may be affected by its operations are not exposed to risks to their health and safety when they come onto the site premises.
- MUL will implement arrangements designed to prevent, as far as is reasonably practicable, access to the Site by any unauthorized persons and vehicles.
 - This will include the erection of barriers, fences, warning signs, notices, and the provision of security guards, etc., depending on the Site conditions.
- Photography, filming, and video recording on the project site are generally not permitted. Authorization must be obtained in advance from MUL. This authorization must be presented upon request.

7.3.19 Management of Change

MUL recognizes that changes to project scope, design, personnel, procedures, equipment, or materials, as well as shifts in regulatory requirements, can introduce new hazards or alter existing risks. Therefore, a robust Management of Change (MOC) process is essential to ensure that any modification is systematically reviewed, approved, and implemented without compromising health, safety, or environmental performance.

The MOC process at MUL aims to:

- **Identify and Assess Changes:** All proposed changes, regardless of their perceived significance, will be formally identified and assessed for their potential impact on personnel, processes, equipment, and the environment. This includes considering both direct and indirect consequences.
- **Evaluate Risks:** A comprehensive risk assessment will be conducted for each identified change by competent personnel. This assessment will identify new hazards or altered risks and determine appropriate control measures, including updates to Method Statements, Risk Assessments, and HSE Plans.
- **Implement Control Measures:** Necessary preventive and protective measures will be developed and implemented prior to the change being executed. This may involve new or revised procedures, updated training for affected personnel, modifications to equipment, or changes to Personal Protective Equipment (PPE) requirements.
- **Obtain Approvals:** All changes will undergo a formal approval process involving relevant stakeholders, such as the Project Manager, Construction Manager, Site Engineer, HSE Engineer, and, when applicable, the Client. This ensures that the change aligns with project objectives, contractual

requirements, and regulatory obligations. For critical changes, a Permit to Work system may be integrated into the MOC process.

- **Communicate and Train:** All personnel affected by the change will be thoroughly informed and trained on the revised procedures, equipment, or conditions. This communication will occur through channels such as Toolbox Talks, HSE meetings, and dedicated training sessions.
- **Document and Monitor:** All aspects of the change, including the initial proposal, risk assessments, approvals, implementation details, and training records, will be formally documented. The implemented change will be continuously monitored to verify the effectiveness of control measures and to identify any unforeseen impacts.

Responsibilities within the MOC Process:

- **Project Management Team:** Oversees the entire MOC process, ensuring adherence to the policy and allocation of necessary resources.
- **HSE Engineer:** Plays a central role in conducting and reviewing risk assessments, developing control measures, and ensuring compliance with HSE standards.
- **Supervisors/Foremen:** Are responsible for communicating changes to their teams, ensuring understanding, and verifying the correct implementation of new procedures and controls.
- **All Personnel:** Are encouraged to identify potential changes that could impact safety and to report them through established channels.

By consistently applying this Management of Change framework, MUL maintains control over project evolution, proactively manages risks, and upholds its commitment to a safe, healthy, and environmentally responsible work environment throughout all phases of the project.

7.3.20 Medical Services & Medical Treatment

- Site personnel who provide medical treatment will be properly trained and qualified, with a copy of their current certifications maintained on site.
- The HSE Engineer will review all return-to-work orders before personnel return to work.
- Emergency equipment will be inspected daily to ensure effective operation. All such inspections will be documented, kept on file, and made available to the Consultant.
- First-aid facilities and locations where first aid treatment is provided will be maintained as clean and orderly.
- Injured personnel will be referred to qualified industrial/occupational medical providers if off-site treatment is needed.
- Transportation for such off-site medical treatment will be provided.

7.3.21 Emergencies and Evacuations

7.3.21.1 First Aid

- To comply with its contractual and statutory obligations, MUL and its subcontractors will provide adequate First Aid Facilities and suitably trained personnel within their working areas.
- Additional local First Aid Facilities will be provided at various work locations to render immediate first aid treatment as necessary.
- Advice on what is considered adequate and appropriate will be provided by the MUL HSE Engineer.
- All First Aid Facilities will have suitable signs displayed to indicate their existence. These facilities will be under the charge of a trained First Aider.
- First Aid Facilities will be properly maintained and inspected on a frequent basis by the HSE Engineer. Subcontractors and vendors are expected to establish their own First Aid Facilities.
- MUL will arrange First Aid Training courses to ensure that adequate numbers of trained First Aiders are available.
- First Aiders will also be responsible for maintaining records of the First Aid Treatment rendered, including date, time, name of injured person, identity card or passport number, address, telephone, injury circumstances, treatment rendered, and action taken.
- Depending on the nature and seriousness of the injury, the First Aider will either arrange transport or request an ambulance to assist in transporting the injured person to the hospital. In the event of any doubt, and provided the injured person is not in a dangerous area, the First Aider will await the arrival of the ambulance to transport the injured person.
- MUL will maintain liaison with the local Emergency Services to ensure that emergency services arrive at the incident in the shortest possible time.
- Notices in the necessary languages will be posted at each workplace providing the telephone number of emergency services, the Project Emergency Team, and the Project HSE Team.

7.3.21.2 Heat Stress Management

Any worker exhibiting symptoms or conditions of heat stress, heat stroke, or heat exhaustion must seek immediate medical attention from a professional medical provider. Heat stress may occur any time work is performed at elevated temperatures or when protective clothing is worn. Heat stress symptoms include fatigue, irritability, anxiety, and decreased concentration, dexterity, or movement.

Preventive Measures:

- All employees are encouraged to drink water before beginning work in the morning and after lunch.
- In hot temperatures (greater than 30 degrees Celsius), employees should be encouraged to drink water at regular intervals throughout the working day.
- Employees should aim to drink 5-8 litres of water per day.
- Adequate rest breaks will be provided to all employees; hourly rest breaks will be given during extremely hot weather conditions.

- Oral Rehydration Salts (ORS) and Prolyte rehydration solutions will be provided to all employees engaged in work activities during hot weather conditions.
- A successful hydration program, including pre-hydration, dehydration prevention, and re-hydration, will be introduced.
- Good hygienic standards will be maintained through frequent changes of clothing and showering.
- Adequate shelter will be provided to protect personnel from heat, as well as cold, rain, or snow. A rest area with air conditioning is preferred.

Cold Stress Management

Any worker exhibiting symptoms or conditions of cold stress, hypothermia, or frostbite must seek immediate medical attention from a professional medical provider. Cold stress may occur any time work is performed in low temperatures, high winds, wet conditions, or when protective clothing retains moisture. Cold stress symptoms include shivering, numbness, confusion, fatigue, and decreased coordination, dexterity, or movement.

Preventive Measures:

- All employees are encouraged to consume warm fluids (e.g., hot tea or soup) before beginning work in the morning and after lunch.
- In cold temperatures (less than 5 degrees Celsius), employees should be encouraged to take warm breaks at regular intervals throughout the working day.
- Employees should aim to consume 2-4 liters of warm fluids per day to maintain hydration and body warmth.
- Adequate rest breaks will be provided to all employees; hourly warm breaks will be given during extremely cold weather conditions.
- Warm clothing layers, insulated gloves, and heated rehydration options (e.g., hot beverages) will be provided to all employees engaged in work activities during cold weather conditions.
- A successful warming program, including pre-warming preparation, prevention of moisture buildup, and post-exposure rewarming, will be introduced.
- Good hygienic standards will be maintained through frequent changes of dry clothing and access to warming facilities.
- Adequate shelter will be provided to protect personnel from cold, as well as wind, rain, or snow. A rest area with heating is preferred.

7.3.21.3 Emergency Preparedness

An emergency may arise from various events, including but not limited to:

- Fire
- Explosion

- Flood
- Storm
- Personal injury
- Toxic release or spill
- Major component failure
- Structural collapse

Project Management is responsible for ensuring that all foreseeable emergencies are identified and that plans are prepared to minimize the effects of such situations.

The Project Manager or Construction Manager will form an Incident Control Team to assist with the emergency response plan. This team will include, but not be limited to:

- HSE Engineer
- Site Engineer
- Supervisors / Foremen

The Incident Control Team will possess specific competencies to effectively respond to the stated emergencies for which the plans are designed. Each plan will include, but not be limited to, the following information:

- Type of Emergency: (This implies a section for each type of emergency plan)
- Location
- Responsible persons and contact details
- Roles and responsibilities
- Affected parties
- Procedure to be followed
- Escalation procedure
- Additional resources that may be required for the plan's implementation, such as alternative premises or additional equipment
- Reference to a company-wide recovery plan (if required)

7.3.22 Emergency Contingency Plan

Introduction

This emergency contingency plan outlines the roles and responsibilities of personnel during emergency situations and specifies actions to address various emergencies. The primary objective is to optimize the use of available manpower and resources to ensure safety, minimize impacts, and facilitate effective response.

Personnel Roles and Responsibilities

Health, Safety, and Environment (HSE) Coordinator

The HSE Coordinator is responsible for maintaining personnel safety and work conditions by taking immediate corrective actions, such as stopping work, shutting down electrical facilities, or initiating evacuations as needed.

Key responsibilities include:

- Assessing the incident and requesting external support if necessary.
- Checking the affected area for casualties.
- Ensuring non-essential personnel safely evacuate the area.
- Liaising with external responders, civil defense, and authorities to provide direction, information, and advice.
- Assisting with the shutdown and isolation of the affected work area.

Emergency Response Leader

Upon notification of an emergency incident or fire, the Emergency Response Leader proceeds to the scene and coordinates with the HSE Coordinator for assessment and control. Additional support is requested from the HSE team or relevant departments as required.

Key responsibilities include:

- Monitoring significant developments.
- Directing site shutdown in consultation with senior on-duty personnel.
- Accounting for all personnel in affected areas at designated assembly points and keeping non-responders at a safe distance.
- Ensuring key personnel are notified or called in.
- Coordinating with subcontractor safety supervisors and escorting external responders, authorities, and civil defense to the affected area.
- Arranging evacuation of the affected area with agreement from relevant authorities if needed.
- Controlling traffic movements entering, within, and leaving the site.
- Maintaining communication with the HSE Coordinator and senior management to keep higher authorities informed, and declaring the emergency's end in consultation with them.
- Conducting regular reviews and updates to the evacuation plan as required.

First Aider

Upon notification and arrival at the incident, the First Aider reports to the HSE Coordinator or Emergency Response Leader for instructions.

Key responsibilities include:

- Responding to all first aid calls.
- Prioritizing personal safety at all times.
- Stabilizing the casualty's condition to the extent practicable and providing trained assistance.
- Offering aid within the limits of their competency and training.
- Managing the casualty until recovery or handover to medical professionals.
- Referring the patient to a hospital for further treatment if required.

Security Personnel

Upon notification of an incident or fire, security personnel await instructions from the HSE Coordinator or Emergency Response Leader.

Key responsibilities include:

- Meeting at entry points to escort external responders, civil defense, and firefighting vehicles to required areas.
- Assisting the Emergency Response Leader with requests for additional manpower or equipment.
- Guiding personnel to assembly points.
- Acting as messengers in case of communication failures.
- Controlling traffic inside and outside the premises.
- Reporting developments and significant issues to the Emergency Response Leader or HSE Coordinator.

Definitions

Assembly Points

Designate safe locations for personnel to gather during an emergency.

Emergency/Evacuation Alarm

An alert system is activated by the HSE Coordinator or Emergency Response Leader to direct all personnel to assembly points immediately.

Evacuation Plan

A layout indicating locations of fire extinguishers, fire exits, first aid boxes, nearest routes, and assembly points. Its purpose is to enable the rapid and safe movement of all personnel from danger to safety.

Fire Extinguisher

A pressurized device containing chemicals for extinguishing fires in emergencies. Personnel should familiarise themselves with the locations of nearby extinguishers, which are marked on the evacuation plan.

First Aid Box

A container with essential first aid supplies. Locations are indicated on the evacuation plan, with smaller kits available in site offices.

Simulation Exercises

Emergency response mock exercises and drills will be conducted at regular intervals to test readiness. Evacuation alarms will be tested at least annually (once installed) to verify understanding of plans and system functionality. These exercises will cover:

- Emergency alarms.
- Basic firefighting with extinguishers.
- Evacuation according to the plan.

Emergency Controls

Accident/Incident Response

For major accidents:

- Immediately contact relevant authorities, consultants, the HSE Coordinator, and the Construction Manager.
- Follow the incident/accident reporting procedure as outlined in the designated chart.

For minor or non-injury accidents:

- Follow the incident/accident reporting procedure as outlined in the designated chart.

This plan ensures comprehensive preparedness, covering identification of emergencies (e.g., fire, explosion, flood, storm, personal injury, toxic release, major failure, structural collapse), personnel coordination, defined roles, key definitions, training through drills, and structured response protocols to mitigate risks and support recovery. Regular reviews will maintain its effectiveness.

Incident/Accident

For accidents involving fatalities, serious injury to five or more project employees, or damage to project equipment or property, a written report will be submitted promptly to the relevant Project Management. In addition, Project Management may convene an engineering review investigation committee in accordance with project requirements.

Fire

In all cases of fire, the relevant Project Management, Authorities, and the Fire Department/Civil Defense must be notified. Clearly state your name and describe the precise location of the fire. Familiarize yourself with the location and operation of fire extinguishers in your work area.

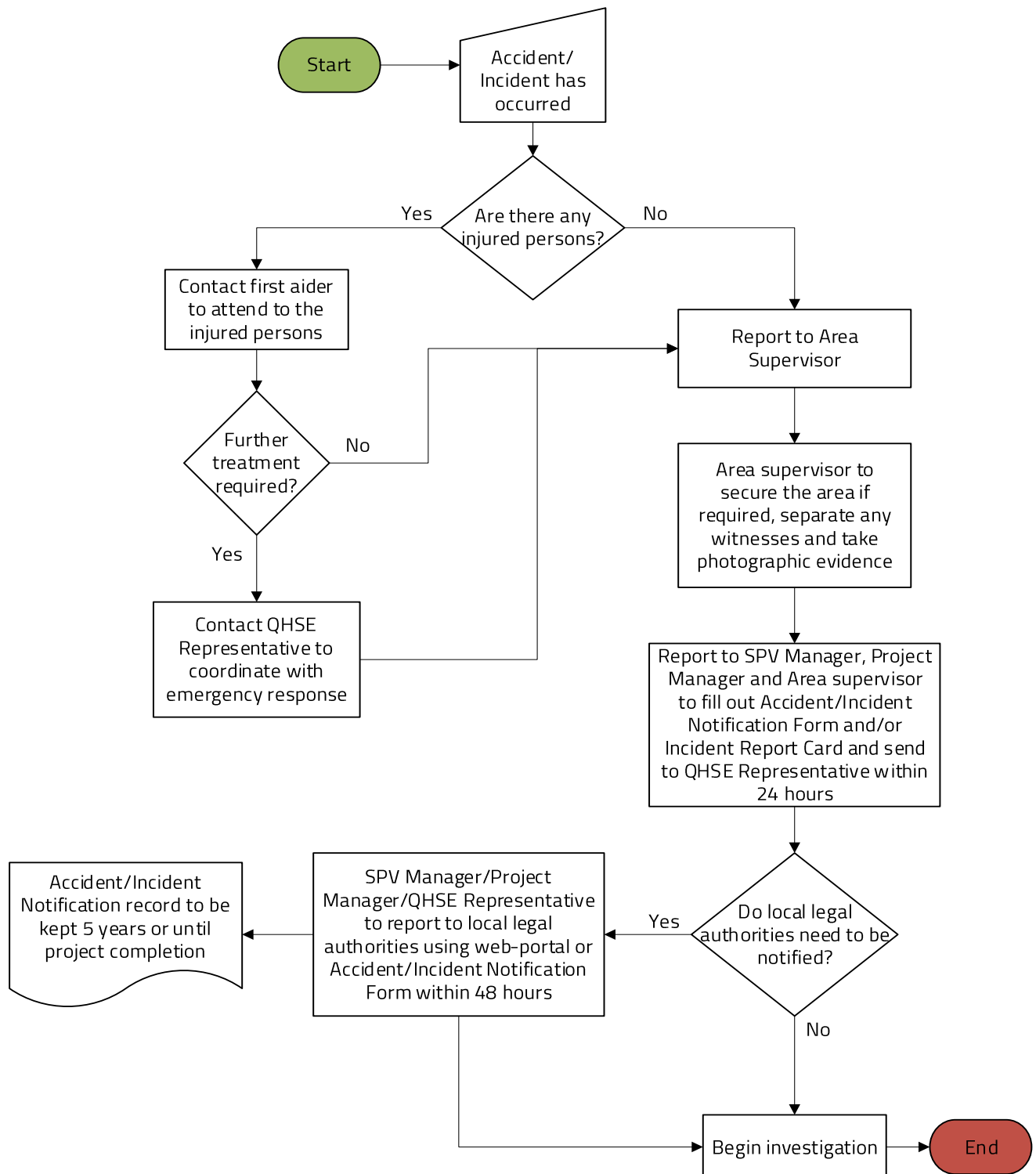
For minor fires that appear controllable, CAUTIOUSLY follow these steps:

- Immediately call the Fire Marshal/Warden or send someone else to make the call.
- Locate the nearest fire extinguisher (they are marked by signs).
- Remove the pin from the extinguisher.
- Aim the extinguisher at the base of the flames and use a back-and-forth motion while discharging. Continue until the fire is out.
- Ensure that the HSE Engineer and/or Emergency Leader have been informed.

For major fires that do not appear controllable, IMMEDIATELY contact the Authorities/Fire Department/Civil Defense:

- Evacuate all affected rooms by pulling a fire alarm.
- Ensure that the HSE Engineer and/or Emergency Leader have been informed.
- If you are the last person out of a room, close the door behind you – do not lock it.
- Warn all personnel to evacuate the threatened or adjacent areas and proceed to the nearest Fire
- Exit and Assembly Point.
- If you become trapped inside a room, stay near the floor (more breathable oxygen will be available) and shout at regular intervals to alert emergency personnel to your location.

Figure 1 – Accident/Incident Reporting



Emergency Telephone Numbers		
Police	Fire Department	Ambulance
192	193	194
Name	Designation	Contact No.
Sinisa Petric	SPV Manager	+381 64 856 6189
Milind Hungund	Project Manager	+ 971 562214182
TBA	Construction Manager	TBA
TBA	Consultant	TBA
Vinayak Shewale	Project Management	+971 501322649
TBA	QHSE Representative	TBA

8.0 Implementation & Monitoring

8.1 Health & Safety Program

MUL is committed to safeguarding the well-being of all personnel on site. To achieve this, a comprehensive health monitoring program will be established and rigorously implemented. This program, detailed further in Section 6.3.17 of this Construction Environment, Health & Safety Management Plan, aims to proactively identify, assess, and mitigate potential health risks associated with project activities.

The execution and ongoing oversight of this vital health program will be managed and monitored by the dedicated MUL site First Aider, ensuring immediate attention to employee health needs and consistent adherence to established protocols.

8.2 Environmental Management

8.2.1 Waste Management

MUL will ensure compliance with local requirements for the Protection and Development of the Environment. MUL will ensure proper disposal systems are in place for all types of waste within the Project Site, workshops, etc. All waste disposals, whether solid or liquid, will be properly coordinated and managed in accordance with local waste management requirements.

Construction waste will be suitably segregated before final disposal. The workforce will be periodically educated through Toolbox Talks and HSE Group Meetings about significant contributions through observing proper waste disposal practices.

Solid Waste Management:

Solid wastes are classified as inert non-hazardous and hazardous wastes. Some inert wastes are recyclable, such as packaging materials (e.g., paper, craft, plastic, and wood). Examples of non-recyclable inert wastes include excavation cuts, electrode waste, pipe waste, and organic food waste. Hazardous solid wastes include contaminated soils, oily sludge, and chemical containers.

Control Measures for Solid Waste Management:

- MUL will keep large containers at its Site office and in Project sites for collecting non-hazardous wastes.
- Hazardous Solid Waste, such as contaminated soil, empty chemical drums, and containers, will be segregated from other inert solid waste.
- Clean soil cuts resulting from excavation works or demolishing of existing bund walls can be reused in backfilling, provided they pass soil testing and analyses for reuse as per Company standards.

Liquid Waste Management:

Liquid wastes generated during the project period include:

- Chemicals used for hydro testing, such as anti-scaling agents, corrosion inhibitors, scale inhibitors, biocides, etc.
- Brackish water is used in hydro testing.
- Used engine oils and lube oils.
- Removed water, oily water, or oil during excavation works.
- Wastewater as a result of domestic and sanitary use.

Mitigation and Control Measures for Liquid Waste:

The Company will apply all control measures in accordance with governmental regulations, as follows:

Domestic and sanitary effluent water will be collected in a septic tank and properly disposed of.

Water used in hydro-testing will not be drained onto open land.

Used and expired oils for equipment and vehicles, and expired chemicals, will be collected in separate containers. These containers will be labeled and disposed of either directly or through a contract with an approved cleaning company.

8.2.2 Air Surveillance Program

An Air Surveillance Program will be maintained for sampling, monitoring, and identifying the source of contaminants. All records generated from this program will be made available to Project Management upon request.

8.2.3 Control of Liquid and Gaseous Emissions

- Measures are taken to ensure that the produced levels of exhaust gases comply with applicable regulations. All plant and equipment used will be maintained in good working condition. Particular attention will be paid to fuel pumps, injectors, exhaust systems, etc.
- The prevention of oil and sewage spills is regarded as a high priority on any project. Liquids, such as fuel and lubricants, will be stored in leak-proof containers, and drip trays will be used.
- If, despite adherence to proper procedures, an oil spill occurs, all operations will be stopped by the quickest possible means and will not be re-started until the source of the leak has been identified and rectified. Immediate measures will be taken to prevent the oil spill from further spreading, and the oil spill will be cleaned as soon as possible.

The most commonly recorded cases of operational spills include:

- Bunkering / Refueling: During bunkering/refueling operations, precautions will be taken to ensure that no spillage occurs during uncoupling of hoses, and that all hoses are suitably drained before being stowed.
- Tank Overflow: Should a tank overflow occur, the flow to the tank should be stopped immediately, and the level in the tank lowered by the most practical means.
- Pipeline Leakage: Should a leakage occur from a pipeline, the operation should be stopped immediately, and pressure relieved from the leaking section of the pipeline. The remaining pipeline content should be pumped into an empty or slack tank.

Mitigation and Control Measures for Spillage of Oil / Diesel / Chemicals / Raw Sewage:

- MUL will apply all control measures in accordance with governmental regulations. The Project Manager will ensure adequate measures are taken by their team, in coordination with the HSE Engineer.
- Drip trays will be provided under generators/machines, and concrete bunds will be provided around Diesel Tanks.
- A trap sheet will be provided to avoid any spill of oil/diesel/chemical during its handling and use at the site.
- A designated refueling area will be assigned.
- Contaminated soil will be replaced, and disinfectants will be sprayed on the ground/area if any spillage of raw sewage occurs.
- Arrangement and availability of a Spill Response Kit will be ensured at a notified location.

8.3 Reporting & Investigation

8.3.1 Incident Classification

All work-related or occupational injuries or illnesses, and significant aggravations of pre-existing injuries or illnesses, must be recorded for the project. These include:

- Death/Fatality

- Lost Time (days away from work)/Lost Time Incidents
- First Aid cases
- Restricted Work Activity/Minor Incident
- Medical Treatment beyond First Aid
- Significant injury or illness as diagnosed by a physician/licensed medical professional
- Property Damage

First Aid – A work-related injury or illness requiring limited or minimal medical assistance will be classified as first aid, regardless of who provides the treatment.

Lost Time Incidents (LTI) – An injury sustained by an employee that leads to loss of productive work in the form of absenteeism and requires time off to recover from the injury.

Restricted Work Activity/Minor – A work-related injury or illness that involves one or more days of restricted work will be classified as a restricted work case.

Medical Treatment beyond First Aid – Medical treatment beyond first aid that is required for a work-related injury or illness and provided by a physician/licensed medical professional will be classified as a Medical Treatment/Recordable case.

Property Damage – An incident that has occurred as a result of company activities on or off site and has resulted in damage to buildings, property, or vehicles, whether owned by the company or not.

8.3.2 Accident/Incident

After the Accident / Incident

- The Supervisor/Foreman will complete the MUL Accident/Incident Report Form and submit it to the MUL HSE Engineer within 24 hours.
- The MUL HSE Engineer will finalize the report and submit it to the MUL Corporate QHSE Manager and the Project Management team.

8.3.3 Near Miss

Internal Report

- All near-misses must be reported by completing the MUL Near Miss Report Form and submitting it to the HSE Engineer, who will then forward it for review.
- All closed near-miss reports will be kept on record.
- The MUL HSE Engineer will prepare near-miss trend analyses for the project.

- A near-miss reporting campaign will be introduced, and an appropriate reward system will be given to selected personnel reporting significant near-misses in the Project by the Project Management team.

8.4 HSE Record/Reports

HSE Engineer should maintain the following records at the Project Site and ensure that every record is updated:

Site HSE Record			
1	Toolbox Talks Record	12	HSE Monthly Inspection Record
2	First Aid Record	13	HSE Monthly Record
3	Equipment Pre-use Checklist Record	14	PPE Inspection Record
4	HSE Daily Inspection Record	15	Incident/Accident/Near miss record.
5	HSE Weekly Inspection Record	16	Camp Inspection Record
6	Weekly HSE Performance Statistics Record	17	Safety Data Sheet (SDS)
7	Monthly Internal HSE Training	18	HSE Meeting (for Staff) Record
8	HSE Awards Record	19	Group Safety Meeting (For Workers) Record
9	Action Tracking and Record (ATAR)	20	Permit To Work
10	Incident/Accident/Near Miss Record	21	3 rd Party Certificates for Lifting Tools and Tackles
11	Competent Person 3 rd Party Certificates		

Site HSE Engineer shall ensure that all the identified HSE Records in this Project Construction Environment Health Safety Management Plan are generated, filed and easily retrievable.

Weekly HSE Report

The HSE Statistics Report will be prepared and submitted to Corporate QHSE Management (or their designate) every Thursday evening or Saturday morning. A copy of this report will be forwarded to the Project Team for their information.

Monthly HSE Report

Monthly HSE Reports will be prepared and submitted at the end of every month to Corporate QHSE Management (or their designate). These reports will be compiled in the HSE Engineer's office.

8.5 Chance Finds

Chance Find (any artefact, structure, human remains, or feature of cultural, historical, or archaeological significance unexpectedly discovered during project activities) process applies to all construction activities, including excavation, trenching, grading, piling, and any other ground-disturbing works undertaken by the Contractor, subcontractors, or third parties within the project boundaries.

Stop Work:

- Upon discovery, stop all work immediately in the affected area and within a minimum 10 m radius.
- Mark and secure the area to prevent disturbance or damage.

Initial Notification:

- Inform the Site Supervisor, HSE Engineer, and HSE/Environmental Officer immediately.
- Record the location, time, and brief description of the find.

Assessment:

- The HSE/Environmental Officer conducts a preliminary inspection and notifies the Project Manager.
- A Cultural Heritage Specialist (if available) is mobilized for evaluation.

Communication with Authorities:

- The Project Manager formally notifies the competent cultural authority within 48 hours.
- No object shall be moved or disturbed until clearance is granted.

Protection Measures:

- Install temporary fencing and signage ("Protected Area – Do Not Enter").
- Arrange for 24 to 48-hour security if deemed necessary by the authorities.

Decision and Documentation:

- The Cultural Heritage Specialist and the authority determine whether:
 - Work may resume (no significance found),
 - Salvage excavation is required, or
 - The area must be permanently protected.
- The HSE/Environmental Officer documents all findings, decisions, and communications.

Resumption of Work:

Only resume work once written clearance is received from the competent authority and the Client.

8.6 Soil Investigation

A comprehensive geotechnical investigation for the Zrenjanin Wastewater Treatment Plant was conducted by Geomehanika d.o.o. in 2021. The study included:

- 6 geotechnical boreholes drilled to depths up to 15 m
- Standard Penetration Tests (SPT) performed in all boreholes
- 11 Cone Penetration Tests (CPTu)
- 5 trial pits with Dynamic Cone Penetrometer (DCP) testing
- Groundwater level monitoring
- Laboratory analyses of disturbed and undisturbed soil samples
- Engineering geological mapping and site characterization

The report provides detailed physical–mechanical soil properties, bearing capacity calculations, settlement analyses, and foundation recommendations consistent with Eurocode 7 and Serbian geotechnical standards.

Based on the scope and results, the soil investigation is deemed sufficient and appropriate for WWTP design and construction planning. Supplementary geotechnical work will only be required if:

- The WWTP layout changes significantly outside the investigated footprint,
- Major new structures with higher loads are introduced, or
- Authorities or lenders require updated data due to material changes in site conditions.

8.7 Alien/Invasive Plant Management

Purpose

The purpose is to outline the procedures for preventing, identifying, controlling, and monitoring alien/invasive plant species (AIPS) within the Zrenjanin WWTP project footprint. This is required based on ESIA findings that disturbed soils, vegetation clearance, site access roads, and stockpiles may accelerate the growth of alien invasive plants and erosion if unmanaged.

Project Context (from the ESIA)

The site is classified as a transformed habitat, previously disturbed by agriculture, with existing alien invasive vegetation established in “edge areas and uncultivated patches.”

Soil disturbance during site preparation will increase the likelihood of seed dispersal, invasive species establishment, and erosion if not controlled.

Preventing the spread of alien plants is part of the ecological mitigation hierarchy for maintaining local biodiversity integrity and preventing further degradation of the already sensitive riparian ecosystem near the Begej River.

Pre-Construction Survey

Based on the findings of the approved Environmental and Social Impact Assessment (ESIA), the Project area is classified as a transformed and disturbed habitat, and no significant alien or invasive plant species were identified within the Project footprint that would warrant a dedicated pre-construction vegetation survey prior to site mobilisation.

Accordingly, a standalone baseline vegetation survey for alien or invasive plant species is not required at this stage.

Nevertheless, in line with good international industry practice, the Project will adopt a precautionary and adaptive approach during construction and operation. Site personnel and environmental representatives will remain vigilant for any opportunistic alien or invasive plant species not identified in the ESIA.

Should any alien or invasive species be encountered during construction or operation, appropriate control or removal measures will be implemented promptly, consistent with applicable national requirements and good environmental management practices, without causing unnecessary delays to project activities.

Prevention Measures

Machinery and Vehicle Hygiene

- Because the ESIA identifies machinery movement as a source of seed dispersal:
- All machinery must arrive clean and free of soil, mud, or plant material.
- Equipment used in infested areas must be cleaned before relocating.

Soil Handling & Stockpiling

- The ESIA links poor soil stockpiling management to invasive plant growth.
- Stockpiles > 30 days must be stabilised, mulched, or temporarily seeded.
- Stockpiles must be compact, no higher than 2 m, and inspected monthly.
- No water pooling around stockpiles to prevent seed establishment.

Removal and Control Procedures

Manual Removal

- Suitable for small, scattered infestations:
- Uproot the entire plant, including roots.
- Bag material in heavy-duty sealed bags.
- Transport to an approved municipal disposal facility.

Mechanical Removal

- Used in larger infestation zones:
- Topsoil scraping (5–10 cm) where invasive root networks exist.
- Collected soil must be segregated and disposed of appropriately.

Chemical Control (only if required)

- Apply herbicide only with environmental approval.
- Use licensed applicators familiar with local Serbian regulations.

Rehabilitation & Restoration

- Consistent with ESIA objectives to prevent further vegetation fragmentation and promote habitat stability.
- Stabilise disturbed areas immediately after construction.
- Use indigenous plant species preferred for the region.
- Replanting to occur progressively, not only at the end of works.
- Monitor re-vegetated areas for 12 months to ensure establishment.

8.8 Dewatering Procedure

Purpose:

The purpose of this Dewatering Method Statement is to outline the procedures, equipment, monitoring requirements and environmental controls for safe and compliant dewatering during excavation and construction works. The method ensures:

- Stability of excavations
- Protection of workers and adjacent structures
- Prevention of soil erosion and sediment discharge
- Protection of groundwater and surface water quality
- Compliance with Serbian regulations, IFC PS1/PS3, ESIA commitments, and the Soil & Groundwater Management Plan (SGWMP)

This dewatering procedure applies to all groundwater control activities across the project, including excavation of foundations for tanks, basins, and buildings; pipe trenches and underground utilities; pumping station excavations; in-ground sludge or process structures; temporary works such as cofferdams and shoring; and management of any water accumulated from rainfall, seepage, or groundwater inflow.

The primary objectives of the dewatering process are to maintain dry, stable excavation conditions; prevent collapse or sidewall instability; mitigate uplift pressure on slabs or tank bases; control sediment and turbidity levels before any discharge; prevent contamination of both groundwater and surface water resources; and ensure safe access for workers, machinery, and concrete pours throughout construction activities.

Dewatering Methodology: Pre-Construction Requirements

Before starting:

- Confirm groundwater depth using piezometers installed from geotechnical investigation.
- Identify sensitive receptors (streams, drains, wetlands, agricultural land).
- Mark dewatering discharge points.
- Obtain any applicable water extraction/discharge permits from authorities.
- Conduct toolbox training for workers.

Dewatering Techniques (Selection Depends on Excavation Needs)

(a) Sump Pumping (Shallow Excavations): Used for trenches and small pits.

Procedure:

- Excavate to create a sump pit at the lowest point.
- Install submersible pumps.
- Pump water to a sediment tank.
- Maintain a slope of 1:2 to avoid erosion.

(b) Wellpoint System (Moderate Depth 3–6 m): Suitable for pipelines, basins, and building footings.

Procedure:

- Install a header pipe with multiple wellpoints spaced 1–2 m apart.
- Connect to a vacuum pump.
- Lower water table to below the excavation base.
- Maintain 24/7 pumping until the base slab is cast.

(c) Deep Wells (Excavations > 6 m or High Permeability Soils): Recommended for large tanks or deep structures.

Procedure:

- Install deep wells at the perimeter.
- Submersible pumps are placed at the bottom of wells.
- Pumping continues during excavation and until the permanent structure stabilises the groundwater.

Sediment and Water Quality Control

Dewatered water will not be discharged directly into surface water bodies or municipal drainage systems. The following control measures will be implemented to ensure compliance with Serbian regulations and IFC EHS Guidelines:

Required Controls:

- Sediment settlement tanks to allow suspended solids to settle.
- Silt bags or geotextile filters to capture fine particulates.
- Oil-water separators where hydrocarbon contamination is possible.
- Monitoring of turbidity and pH levels prior to discharge.

Water Quality Criteria Before Discharge (aligned with Serbian limits and IFC EHS Guidelines):

- Turbidity less than 50 NTU above background levels.
- No visible oils or grease.
- pH between 6.0 and 9.0.
- Suspended solids less than 100 mg/L.

Approved Discharge Locations for Dewatered Water

Water may be discharged ONLY to approved drainage channels, sedimentation basins, municipal stormwater systems (if permitted), or agricultural canals (provided water quality meets applicable legal limits). Discharge to sensitive habitats, such as the Carska Bara Special Nature Reserve, is strictly prohibited.

8.9 Stakeholder and Community Grievance Mechanism (External)

In line with the Stakeholder Engagement and Communication Plan, the Project has to establish an external grievance mechanism to enable community members, nearby residents, suppliers, and other affected stakeholders to raise concerns related to project activities in a fair, transparent, and accessible manner. Grievances may be submitted verbally, in writing, or electronically through designated channels such as grievance boxes, site offices, or to the SPV Manager (CLO). Anonymous submissions are accepted, and all complaints are logged in the Stakeholder Grievance Register. The mechanism ensures acknowledgement within seven (7) days, investigation within thirty (30) days, and resolution within thirty (30) days, depending on the complexity of the issue. Outcomes and actions are communicated back to the complainant, and unresolved cases are escalated to senior management. This mechanism ensures confidentiality, non-

retaliation, and complete alignment with IFC Performance Standards 1 and 2 and Equator Principle 6 requirements.

8.10 Infrastructure Maintenance, Monitoring, and Service Plan

The purpose of this Method Statement is to define the maintenance, inspection, monitoring, and servicing procedures required to ensure the safe, reliable, and efficient operation of water and wastewater infrastructure assets.

This plan ensures:

- Compliance with design requirements and regulatory standards
- Prevention of asset failure, environmental incidents, and service disruption
- Protection of workers, community, and environment
- Full alignment with IFC PS1, PS3, PS4, national regulations, and MUL's ESMS

This applies to all Operation & Maintenance (O&M) activities related to infrastructure assets, including but not limited to:

Civil Infrastructure:

- Tanks, basins, clarifiers, channels
- Buildings, administration blocks, laboratories
- Roads, fencing, drainage, stormwater systems
- Foundation structures and earthworks

Mechanical and Electrical (M&E) Infrastructure:

- Pumps, blowers, compressors
- Valves, pipelines, meters
- Screens, grit removal units, sludge equipment
- Switchgear, transformers, MCCs, generators

Process Infrastructure:

- Biological treatment units (MBBR, ASP, MBR, SBR)
- Chemical dosing systems
- Disinfection systems (chlorine/UV)
- SCADA and instrumentation

Maintenance Strategy

A comprehensive, integrated maintenance approach is adopted to ensure optimal equipment performance, safety, and reliability throughout the project lifecycle:

Preventive Maintenance (PM): Scheduled, routine activities designed to prevent equipment failure, including lubrication, cleaning and inspection, replacement of consumables, calibration, safety checks, and adherence to OEM-recommended service intervals.

Predictive Maintenance (PdM): Condition-based monitoring utilizing advanced techniques such as vibration analysis, thermal imaging, flow/pressure monitoring, bearing temperature trends, and motor current signature analysis to predict and prevent failures.

Corrective Maintenance (CM): Reactive maintenance is implemented when equipment fails, abnormal performance is detected, SCADA alarms are triggered, or safety issues are identified.

Emergency Maintenance: Immediate response triggered by sudden breakdowns, environmental breaches, flooding, overflows, pipe bursts, or power outages affecting critical systems.

Maintenance Procedures

Civil Structure Maintenance

Activities include inspecting all concrete tanks for cracks, settlement, and corrosion; draining and cleaning tanks annually; repairing concrete spalling with approved materials; maintaining the integrity of protective coatings; inspecting drainage channels after storms; and ensuring fencing and access gates are secured.

Mechanical Equipment Maintenance

Includes daily pump checks for noise, vibration, and leakage; weekly lubrication per OEM specifications; monthly inspection of valves and pipe supports; quarterly servicing of blowers and compressors; and annual overhaul of pumps and mechanical units.

Electrical & Instrumentation

Daily monitoring of SCADA alarms; monthly calibration of pH, DO, turbidity, and flowmeters; quarterly thermal scanning of electrical panels; and annual certification of transformers, switchgear, and generators.

Chemical Storage & Handling Areas

Monthly integrity checks of chemical tanks; secondary containment inspection; ventilation and emergency shower inspection; and spill kit availability checks.

Monitoring Requirements

Operational Monitoring

Key operational parameters will be monitored continuously to ensure optimal plant performance and compliance, including flow rates, pump pressures, dissolved oxygen (DO), pH, total suspended solids (TSS), chemical oxygen demand (COD), biochemical oxygen demand (BOD), ammonia (NH₃), sludge age, and mixed liquor suspended solids (MLSS), along with power consumption trends.

Environmental Monitoring

Environmental monitoring will align with ESIA requirements, encompassing semi-annual groundwater monitoring, daily and monthly effluent discharge monitoring with comprehensive reporting, annual noise monitoring, continuous or complaint-based odor monitoring, and ambient air quality monitoring (particularly H₂S where applicable).

Infrastructure Monitoring

Structural integrity will be maintained through regular monitoring of settlement markers and cracks, tank water-tightness testing, stormwater drain capacity assessments, and corrosion protection inspections.

Servicing Requirements

All servicing activities must comply with Original Equipment Manufacturer (OEM) manuals and applicable Serbian regulatory requirements. Annual servicing will include a comprehensive program encompassing full pump and blower overhauls, generator servicing (including filter replacement, load testing, and battery replacement as required), calibration of all instrumentation, structural auditing of tanks, walkways, and railings, fire system inspection and certification, and lifting equipment certification for cranes, hoists, and slings.

8.11 Water and Electricity Usage

The purpose of these procedures is to ensure efficient, responsible, and compliant use of water and electricity during the construction, operation & maintenance phases of water and wastewater treatment facilities.

This method supports:

- IFC Performance Standard 3 (Resource Efficiency & Pollution Prevention)
- Serbian utility legislation
- MUL Corporate ESMS requirements
- Project-specific ESIA commitments

This method applies to all activities under the project requirements, including:

Construction Phase

- Concrete batching

- Curing, dust suppression, and cleaning
- Worker welfare facilities
- Temporary offices and storage areas
- Dewatering management systems
- Mechanical/electrical installation

Operational Phase

- Process water usage at WTP/WWTP
- Chemical dilution and cleaning
- Pumping, aeration, and SCADA operation
- On-site buildings and utilities
- Auxiliary systems (HVAC, lighting, compressors)

Methodology – Water Usage

Water Sources and Authorisation: Permitted water sources for the project include municipal water supply (via a permitted connection), treated effluent reuse (Class A or Class B, depending on regulations), borehole water (only with a valid abstraction permit), and tankered water (with documented origin and volume). Unapproved groundwater abstraction is strictly prohibited.

Water Use in Construction:

Dust Suppression: Water will be applied via controlled spraying to avoid over-watering and pooling. Treated effluent will be utilized for dust suppression where feasible.

Concrete Works: Batching plant recycle systems will be used where feasible, and wash water will be collected and reused for non-structural purposes.

Housekeeping / Cleaning: High-pressure nozzles will be used instead of free-flow hoses, and leaving open hoses running on site is prohibited.

Worker Amenities: Water-saving taps and toilets will be installed, and weekly leak checks will be conducted.

Water Use During Operations:

Process Water: Influent, effluent, and recycle streams will be continuously monitored. Backwash frequency will be reduced where process conditions allow, and sludge dewatering water usage optimized.

Chemical Preparation: Closed-loop preparation systems will be used to avoid spillage, and rinse water will be reused where safe.

General Facility Use: Water-efficient fixtures will be installed, weekly leak detection and repair will be implemented, and SCADA-based tracking will be used to detect abnormal consumption.

Water Efficiency Measures

- Monthly monitoring of water consumption per m³ treated
- Benchmark against design values and industry standards
- Use treated effluent for landscape irrigation and dust control
- Recover and reuse filter backwash where feasible

Methodology – Electricity Usage

Electrical Supply Sources: The project will utilize a diversified power supply strategy including the national grid as the primary source, backup diesel generators for reliability, solar photovoltaic (PV) systems where available, and uninterruptible power supplies (UPS) for critical SCADA and control loads.

Electricity Use in Construction: Energy efficiency during construction will be prioritized through the use of LED temporary lighting, switching off equipment when not in use, employing energy-efficient tools, running generators only when required with no idling, and maintaining daily generator logs documenting runtime, fuel usage, and maintenance activities.

Electricity Use During Operations: Major energy-consuming systems include pumps, blowers/aerators, sludge handling equipment, SCADA and control systems, and HVAC for MCC rooms. Electrical efficiency controls will incorporate variable frequency drives (VFDs), DO-based aeration optimization, operation of pumps at optimal duty points, scheduling of non-critical loads during off-peak tariff hours, and annual motor efficiency testing to ensure sustained performance and energy optimization.

Generator Efficiency & Emissions

- Operate generators only during outages
- Maintain monthly service logs
- Use low-sulphur fuel where available
- Dispose of waste oil through licensed contractors
- Record CO₂ emissions for ESG reporting (Scope 1)

9.0 Audit

9.1 HSE Inspection and Audit

9.1.1 HSE Inspections

The site's HSE professional will conduct daily and weekly HSE inspections of the workplace. Monthly HSE inspections will be carried out at the Project Site, with participation from the Site Engineer. The results of

these inspections will be discussed during the Monthly HSE Meeting. A copy of the Monthly HSE Inspection report will be distributed to the Construction Manager, Project Manager, and Corporate QHSE Manager.

9.1.2 HSE Audit

The responsible HSE professional will prepare and coordinate the Internal HSE Audit Schedule. Audits will be conducted at least every 9 months or as per the agreed schedule. A copy of the audit findings and report will be forwarded to the Construction Manager, Project Manager, and Corporate HSE Management. HSE audits will be planned and performed on-site to:

- Verify that activities affecting HSE are carried out in accordance with HSE procedures and/or project HSE plan provisions.
- Evaluate the adequacy and effectiveness of the HSE system and/or Project HSE Plan in meeting the established HSE goals.
- Identify any deficiencies, and their causes, and initiate preventive or corrective action where necessary.
- Verify the adequacy of preventive or corrective action taken.
- Internal audits for subcontractors will be conducted.

10.0 Management Review

10.1 Management Review Introduction

It is the stated objective of the organization to ensure continuous improvement in its Health, Safety, and Environment (HSE) performance. A key factor in achieving this is to conduct regular HSE Management reviews, as per client requirements, to guarantee the continued effectiveness, suitability, and improvement of the Construction Environment, Health & Safety Management Plan (CEHSMP) / HSE Plan.

Project HSE Management Review Committee (MRC) Members

The Management Review Committee will include, as a minimum, the following roles:

- Project Manager
- Construction Manager
- Project Engineer/Site Engineer
- HSE Engineer
- QA/QC Engineer
- Other designations as decided by the MRC Members

HSE MRC Meeting Frequency

The MRC will meet, as a minimum, once every three months to review the Construction Environment, Health & Safety Management Plan implementation. There may be a requirement, as deemed by the Management Review Committee, to meet on a more regular basis. This requirement will be decided through the review process and documented in the minutes of the meeting.

HSE MRC Agenda

The MRC will follow a set agenda, which will consist of, as a minimum:

- Review of previous minutes
- Legal updates
- HSE Objectives
- The extent to which HSE objectives and targets have been met
- HSE improvement plans
- Client Feedback
- HSE Plan – updates or changes
- Internal Audit & Inspection information
- Client Audits
- Accident and near-miss data
- Non-Conformances and Preventive Action
- HSE Training Matrix and delivery plan
- HSE Committee meetings
- Other HSE initiatives

The MRC will, if required, add additional items to the agenda to ensure a complete review of the HSE system is undertaken. The HSE Engineer will be responsible for the development and publication of meeting minutes for the HSE Management Review. These minutes will be produced within one week following the meeting.

The minutes will include information on follow-up corrective actions required following the review. The HSE Engineer will ensure that where action has been highlighted, appropriate ownership is given, along with timescales and adequate resources. The HSE Engineer will ensure that these actions are monitored, and where it is felt that the timescales or objectives will not be met, Senior Management will be informed, and appropriate action taken.

11.0 Annexure

11.1 QHSE Policy

Quality, Health, Safety and Environment (QHSE) Policy



MUL-20-QHSE-001-R0 / Aug 2025

Our Commitment

At Metito Utilities, our mission is rooted in building sustainable, climate-resilient water infrastructure that empowers communities and safeguards resources for future generations. As a global investor, developer, and long-term operator of essential water and wastewater assets, we hold ourselves to the highest standards of quality, health and safety, environmental responsibility, and social stewardship.

Our approach is grounded in integrity, innovation, and continuous improvement—delivering lasting impact across every project, partnership, and market we operate in.

We operate under a fully integrated, process-driven management system that meets the requirements of ISO 9001, ISO 14001, and ISO 45001. This ensures that quality, environmental sustainability, and health and safety are not standalone goals—they are embedded in how we work, grow, and lead.

Policy Principles

- **Leadership, Governance & Compliance**
 - Operate with discipline and accountability—complying with all legal, regulatory, and contractual obligations in all jurisdictions we operate in.
 - Lead with integrity, ownership, and transparency at all levels of the organization.
 - Embed governance into our everyday decision-making to protect people, the environment, and long-term value.
- **Health & Safety First**
 - Commit to zero harm by creating a safe and healthy environment for all employees, contractors, and visitors.
 - Identify and manage risks proactively to prevent incidents and protect wellbeing.
 - Empower everyone on-site with the right—and responsibility—to stop work if safety is compromised.
- **Quality Without Compromise**
 - Deliver reliable, high-performing solutions that meet or exceed client and stakeholder expectations.
 - Apply quality controls, continuous oversight, and industry best practices across all phases of our operations.
- **Environmental Stewardship**
 - Minimize environmental impact through sustainable operations, energy efficiency, and pollution prevention.
 - Champion responsible use of water, materials, and energy while embedding circular economy principles wherever possible.
 - Support biodiversity and climate resilience as integral to infrastructure planning.
- **Continuous Learning & Improvement**
 - Set measurable QHSE targets aligned with our strategic priorities and stakeholder needs.
 - Use internal audits, performance monitoring, and feedback loops to drive smarter, better outcomes.
 - Learn from experience and innovate to raise the bar on operational excellence.
- **Culture, Capability & Engagement**
 - Build a strong QHSE culture through tailored training, knowledge sharing, and visible leadership commitment.

- Encourage ownership, collaboration, and accountability at every level—from the field to the boardroom.
- Foster a workplace where safety, quality, and sustainability are shared values.
- **Transparent Communication**
 - Engage openly with stakeholders—internal and external—on QHSE performance, challenges, and progress.
 - Maintain visibility and accessibility of this policy across all operating sites and platforms.

Policy Review & Availability

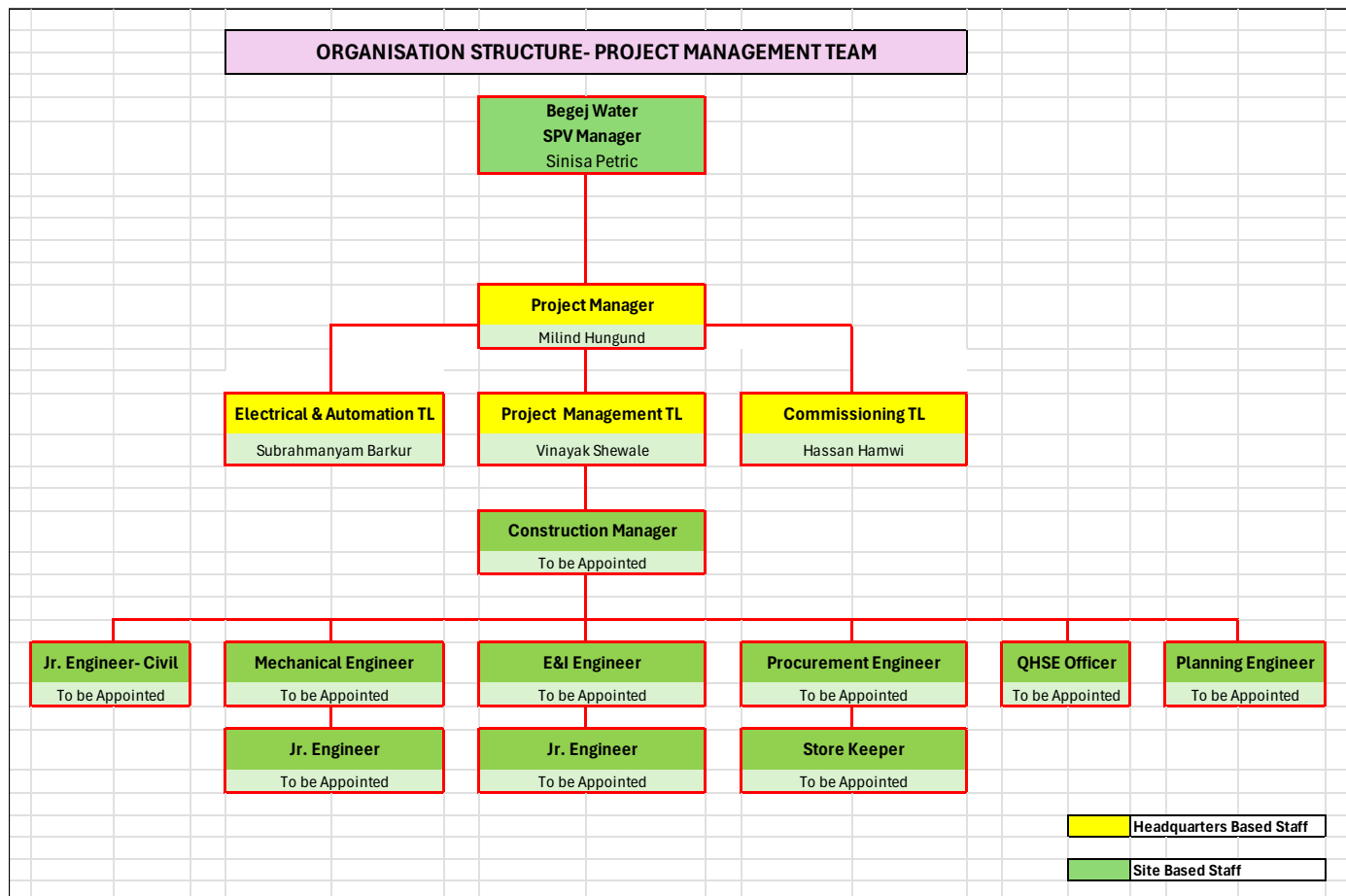
This policy is reviewed regularly to ensure it remains relevant, practical, and aligned with Metito Utilities' purpose and growth. It is made available to all team members, partners, and stakeholders and forms a core part of our governance and operational culture.


Rami Ghannouch
CEO, Metito Utilities

11.2 QHSE Objectives

PROJECT MANAGEMENT OBJECTIVES								Form No.	QHSE-ST019	
Year : 2022		Rev. No: 0	Rev Date: 02.02.2022	Responsible Name : Steven Nash				Form Rev. No.	3	
Purpose of Process : To execute projects as per contract requirement in a cost efficient method to achieve timely delivery with quality and safety.								Date	12.09.2017	
Planning of Objectives								Performance monitoring		
								Monitoring Frequency: Every 3 months (Indicated to give when first start of Review)		
#	Strategic Objectives (Link to QHSE Policy)	Process Objectives - Specific ?	What will be done	What resources will be required	How the results will be evaluated	Target to reach	When it will be completed (Target Date)	Results / date (as per monitoring)	Objective Achieved ? (annual average)	Comments / Date
1	S04 - Ensure continuity by achieving current and future targets to ultimately realize its vision	Improving communication and participation amongst Team Members to achieve Project completion in a cost effective and timely manner	Monthly Project Review Meetings shall be held with all relevant Project team members to discuss relevant issues, including reporting Lessons Learned. Types of Lessons Learned to be reported: • What worked well or didn't work well • What needs to be done over or differently? • What surprises did the team have to deal with? • What project circumstances were not anticipated? • Were the project goals attained? If not, what changes need to be made to meet goals in the future?	Meeting Agenda / Meeting notes/ Availability of relevant personnel (Engineering, Procurement, QHSE, Operations staff and Sub-contractors) Communication tools/ Minutes of Meeting Format Lessons Learned Log QHSE-ST008	a. No. of Minutes of Monthly Meeting /PM/ Project b. Monitor as of Lessons Learned reported	100%	End of 2022	QI : a.() b.() QII: a.() b.() QIII: a.() b.() QIV: a.() b.()		
2	S012-Enhance client and interested parties relationships	Enhance Customer Satisfaction	a. Reduce Customer Complaints b. Address Customer Complaints in a timely manner (Correction/ RC / CA Proposal / Cost within 48Hours)	NCR Log Monthly/Weekly Team Meetings Availability of relevant personnel	a. Reduction in Customer Complaints by 50% (not exceeding 3 NCRs/year) b. No of open NCRs c. Delay in response to NCRs (Hours)	100%	End of 2022	QI : a.() b.() c.() QII: a.() b.() c.() QIII: a.() b.() c.() QIV: a.() b.() c.()		No of Customer NCRs in Year 2021 :
3	S06 - Enhance communication process to ensure adequate and necessary QHSE information are effectively communicated as well as roles and responsibilities and to develop employees, contractors and relevant external parties' involvement, awareness, participation and consultation.	Demonstrate commitment towards improving QHSE culture	PM shall ensure that a minimum of 3Mo. NCR's are raised for any currently active project exceeding 55M For Projects exceeding 55M, PM should be accountable for raising Near Miss Reports. Minimum - 3 Near Miss / PM / Project / per month PM shall undertake Quarterly "Senior Management HSE walk down" and record Observations/ Conversations	Internal Training on NCR Procedures / Communication tools Near Miss Report Format HSE Senior Management visit form and Program / Relevant Personnel	No of Internal /Supplier NCRs / PM / Project No of Near Miss / PM / Project / per month No of HSE Walkdowns / PM / Project	100%	End of 2022	QI : QII: QIII: QIV : QI : QII: QIII: QIV :		
4	S01 - Continuously maintain and ensure compliance to lists of requirements	Ensure safe workplace	PM to ensure strict compliance to all requirements at all times including subcontractors - 1. Leading by example on QHSE matters 2. Supporting QHSE staff at site in case of violations 3. Implement motivational/disciplinary actions for best and worst practices respectively.	Motivation program/Disciplinary policy/Regular meetings with site teams	Reduce HSE Default Violations as below for existing projects/ sites / per month/ project for new projects	Reduce by 80% or max. one per month/ per site	End of 2022	QI : QII: QIII: QIV :		No of HSE default violations (Year 2021) :
Process Performance :		% Achievement	45%	No of KPI defined		No KPI achieved				
Actions / comments about performance :										

11.3 Project Organization Chart



11.5 Risk Assessment

Concrete Coring:

S N	JOB STEPS	- Physical (e.g. slips, trips and falls, entanglement, noise, vibration, harmful energy sources); - Chemical (e.g. inhalation, contact with or ingestion of chemicals); - Biological (e.g. contact with allergens or pathogens such as bacteria or viruses); - Psychosocial/ psychological (e.g. threat of physical violence, bullying or intimidation); - Ergonomic hazards	Who could be harmed?	RISK RATING (current controls)			Does a next step Eliminate the risk?	What control exist to address the risk? apply hierarchy of control	Residual Risk			RISK ACCEPTABLE	If risk not acceptable initiate Remedial action
			considered all affected interested parties	Probability	Severity	Risk			Probability	Severity	Risk		
1	Mobilization & Movement of Vehicles, Plant & Equipment within the site	- Over speeding - Lack of controls on traffic diversion safety. - Movement of vehicles - Incompetent Operator - Lack of training - Lack or poor communication. - Haste or shortcut - Lack of supervision - Poor housekeeping	Staffs/Workers	3	3	9	Yes	- Suitable and applicable one-way traffic arrangements should be implemented. - Equipment unloading during mobilization should be performed under supervision. - Arrangement and appointment of trained flagman to control vehicular movement. "Reduce Speed" and "Slow Down, Men at Work" signboard to be placed beside the working area. - Avoid blind spot movement of equipment and Work area to be properly barricaded. - Use sandbags on safety cones and signboards to keep it firm and avoid falling. - Operator to ensure the equipment is switched off, keys removed, hand brakes & safety latch engaged before leaving out. - A daily visual inspection of the equipment should be performed prior to the start of day. - If Required Provision of sufficient water inside jersey barriers for hard barricade and needs to be interlocked together if required. - All plant equipment should be parked in designated parking area.	1	3	3	Yes	
2	Preparation to start work	- Security Vulnerability - Lack of hazard identification and mitigation - Production pressure - Not signed permit - Method statement or procedures not approved. - Lack of supervision - Poor Housekeeping - Scattered / obstacles material. - No periodic tools inspection and color-coding system	Staffs/Workers	3	3	9	Yes	- Obtain General PTW prior to starting any physical work. - Attach the approved RA with PTW - Ensure the presence of warning signs and barricading of the area. - Ensure a site inspection was carried out by job supervisor with safety personnel. - Conduct the toolbox talk to discuss all hazards of the jobs with employees. - All workers will sign the toolbox talk attendance sheet to ensure their presence & acceptance that they understand the instructions. - Ensure personnel have attended the induction training & instructions of site. - Competent Supervisor shall be assigned to supervise the job. - Keep unauthorized persons away from job site. - Ensure provision & compliance of adequate PPE's. - Ensure that all plant/equipment to be 3rd party certified. - Good housekeeping shall be maintained in all areas before, during and after the work. - Ensure that all equipment and tools are inspected for purpose and color coded.	1	3	3	Yes	
3	Preparation work / PTW	- Invalid permit / Working without Permit - Lack of hazard identification - Mismanaged Toolbox Talk - Lack of cautions board - Unauthorized entry	Staffs/Workers	3	3	9	Yes	- Ensure the availability of permit from client prior to start any physical work and Risk assessment must be attached with permit. - Ensure all required supplementary permits or NOC has taken from authority. - An Electrical Isolation Permit is mandatory if working required on live lines or energized equipment. - Permit receiver must take the signatures of all the mandatory hierarchies. - The permit shall be placed in the permit box near the job location. - Ensure provision & compliance of adequate PPE's. - Ensure implementation of warning / Danger and hazardous notices. - Ensure the appropriate barricading of danger zone. - Keep unauthorized persons away from job site.	2	2	4	Yes	



4	General Pre- Installation activities	- Invalid permit - Mismanaged Toolbox Talk - Incomplete or improper PPE's - Presence of Unauthorized person - Lack of hazard identification and mitigation	Staffs/Workers	4	4	16	Yes	- Job supervisor shall deliver the toolbox talk (TBT) to all crew. In TBT he must communicate all the hazards related to the job, emergency plan, mandatory PPE's, emergency telephone numbers, location of emergency assembly points, eye washes, emergency showers and nearest medical or first aid facility. - The Job Supervisor shall ensure that each and every member of job crew must attend the TBT. - Appropriate PPE's e.g. (safety shoes, Non-conductive hand gloves, hard hat helmet, high visibility jacket, and safety glasses) must be worn at all times. - Ensure that adequate Lighting arrangements are made. - Post the caution signs at the job location to aware the persons regarding the hazards related with job. - Unauthorized persons are not allowed at the job location and any concerned person should be certified for the job - Ensure site inspection was carried out by job supervisor. - All tools and equipment must be inspected & certified.	2	3	6	Yes	
5	Handling and use of Power tools	- Dropped load during handling. - Congestion restricted. - Flying particles/ object - Improper isolation of power tools - Power Tools without proper guards - Frayed, cut, broken wires. - Untrained labor - Improper PPE's	Workers	4	4	16	Yes	- Follow safe work procedure as manufacturer recommendation. - Proper electrical connections with the provision of ELCB/ RCD (32mA). - Ensure that all electrical equipment is properly grounded. - Cable management and protection of electrical cables from physical damage. - Trailing cables to kept to the minimum. - Ensure to always keep safe distance and body position from the materials being handled. - Ensure access and the working area is clear of all obstacles. - Visual inspection shall be done on all power tools prior to usage. - Selection of the right tools for the right job must be ensured. - Ensure proper insulation of electrical conductors or electrical equipment. - Do check for frayed, cracked, or exposed wiring on tools cords. - Do not drape power tools cords over hot pipes, radiators or sharp objects. - Defective tools shall be immediately removed from site. - All portable power tools must be double insulated. - Disconnect tool before adjusting or repairing. - Personnel must be trained and competent. - Person operating power tools must wear PVC gloves, shoes with electrical insulated sole.	2	3	6	Yes	
6	Working at Height (If any) / Working and stable platform	- Wrong platform type or damaged and unsafe platform - Improper setup scaffold platform. - Falling from height - Overreaching, falling, or tool drops. - Slips, trips, or falls. - Falling or equipment failure - High winds, poor lighting, or uneven ground - Electrical shock	Staffs/Workers	4	4	16	Yes	- Scaffolding shall be erected as per ARADA SOP Rev 02. - All scaffolds shall be as per compliance OSHU-CoP-23 Scaffolding. - Ensure that scaffold shall be erected only by competent scaffolder under the supervision of competent scaffolding supervisor. - All scaffold materials shall be inspected for wear and tear prior to use. - Scaffold structures shall be inspected by a competent scaffolding inspector every week and every after adverse weather condition. Green tag must be signed weekly after inspection. - Safety harness shall be worn by workers while working at height and 100% tie off must be followed with 2 lanyards. - The FTW system must be in place. - TBT must be conducted prior to start the activity. - Ladders must be inspected, color coded and tied securely on top and bottom. - Maintain 3-point contact while using ladders. - Warning signs to be displayed. - Never carry materials while ascending and descending from a ladder. - Lower tools and materials with the use of rope. - Ensure that scaffolding is fully boarded before use. - Use non-conductive materials when working near electrical sources. - Create an exclusion zone at the back of the wall or slab where the coring is carried out.	4	1	4	Yes	
7	Handling and use of Hand tools	- Improper handling - Misuse of handheld tools that can lead to hand/eye injury. - Lack of competency - Haste or shortcut - Lack of supervision - Unauthorized work - Incompetent workers	Workers	3	3	9	Yes	- All hand tools should be inspected for any defects prior to use. - Proper use of hand and portable tools, choose the right tools for the right job. - Handmade and defective tools shall be immediately removed from the site. - Visual inspection shall be done on all tools prior to usage. - Impact tools (i.e. chisel, hammer wrenches) with mushroomed striking surface shall be removed until the surface can be dressed down. - Wooden handles of tools shall not be taped or covered to avoid hiding defects / damage. - No alterations shall be done on hand tools. - The performer must wear adequate PPEs such as hard hat, face and eye protection, Ear protection, high visible vest, safety shoe and hand gloves. - Mushroom headed, homemade and damaged hand tools shall be removed from site. - All hand tools to be maintained adequately. - Always Hand tools must be placed inside the toolbox. - Use right tools for right job. - Job Specific Training/Awareness Programme/TBT to be conducted to the workers. - Supervisor / Foreman to monitor the activity and advise accordingly.	3	1	3	Yes	



8	Manual Handling	- Occupational injury, muscle pain caused by heavy manual handling like lifting, carrying, pushing, pulling. - Slips, trips, loss of balance and repeated awkward postures and movement - Unauthorized persons involved in the task. - Lack of training - Lack of supervision	Staffs/Workers	3	3	9	Yes	- Ergonomics Training, Job Safety Assessment and Provisions of lifting aids. - Ensure to maintain stable, balance and correct body position at all times and during handling materials. - Don't do over exertion and do not try to exceed your capacity. - Ensure authorized person involved in the task. - Ensure to always keep safe distance and body position from the materials being handled. - Use appropriate PPE required. - Conduct toolbox talks on manual handling to promote awareness for the workers prior to start the job.	1	3	3	Yes	
9	Storage, Handling, and Use of Chemicals (Foam)	- Fire hazard due to flammable foam materials. - Risk of explosion or burst when exposed to heat. - Chemical exposure from inhaling fumes. - Risk of skin irritation - Improper disposal of hazardous materials.	Workers / Applicators	3	3	9	Yes	- Ensure foam used is fire-resistant and non-combustible. - Store foam canisters away from direct sunlight or heat sources. - Follow manufacturer's instructions for storage and handling. - Keep fire extinguishers nearby. - Prohibit smoking in the area. - Use PPE (masks, gloves, goggles, coveralls). - Ensure proper ventilation. - Provide training on handling hazardous substances. - Minimize time spent in enclosed spaces. Implement Job Rotation. - Provide material safety data sheet (MSDS) training. - Use mild soaps for washing hands after work. - Dispose of foam canisters in designated hazardous waste bins. - Provide training on safe disposal practices.	1	3	3	Yes	
10	Hazards Associated with Concrete Coring	Dust inhalation, noise, health risk, electric shock, flying debris, Pinch and Crushes injuries, trip and slip hazards, core drill kickback, structural damage.	Staffs/workers	4	3	2	Yes	- Dust control - use wet coring methods, vacuum systems, respiratory protection - Hearing protection using ear plugs or earmuffs rated for high-decibel environments, limit exposures time in high-noise zones. - Electrical safety use GFCI (ground fault circuit interrupter) on all power tools, inspect cables and plugs for damage, keep electrical components dry and elevated. - Mandatory PPE hard hats, safety goggles, hear protection high-visibility vest, steel-toe boots. - Machine safety pre-use inspection of all parts, rotating components and guards. - Only trained and competent personnel should operate coring machine. A training from the manufacturer must be ensured for the operator. - The Coring machine must be third-party certified. - Secure Anchoring to fix to prevent movement. - Keep hoses and cords organized and out of walkways, mop or vacuum excess water and slurry promptly. - Use proper bit types and avoid forcing the drill, maintain a firm grip and correct stance when operating. - Consult structural drawings and engineers before coring, use scanning tools (GPR or X-ray) to detect re-bar, conduits, or post-tension cables	2	3	6	Yes	
11	Adverse weather	Adverse weather (such as High temperature, sandstorm, foggy condition and high and strong wind)	Staffs/workers	3	4	12	Yes	- Conduct TBT for adverse weather conditions to workers to make them aware. - All heavy equipment must be stopped during thick fog. - No lifting to be performed in adverse weather conditions such as heavy rain, poor visibility, sandstorm, high wind etc. - Provide ORS fluids during summertime. - Provide cool shaded area at summertime. - Work under direct sunlight to be lessened during the summer. - Provision of cold drinking water. - Frequent rest periods must be followed or provide another shift if applicable. - Dust mask and goggles must be provided during sandstorm. - Observed and followed summer break timings issued by U.A.E. government from 15 June to 15 September at 12:30 pm to 03:00 pm in every year. - Conduct toolbox talks to workers regarding Heat Stress and how to prevent it. - Heat Stress management plan should be made to minimize the risk.	1	3	3	Yes	

Precast Boundary Wall Erection:

SN	JOB STEPS	•Physical (e.g. slips, trips and falls, entanglement, noise, vibration, harmful energy sources); •Chemical (e.g. inhalation, contact with or ingestion of chemicals); •Biological (e.g. contact with allergens or pathogens such as bacteria or viruses); •Psychosocial/psychological (e.g. threat of physical violence, bullying or intimidation); •Ergonomic hazards	Who could be harmed?	RISK RATING (current controls)			Does a next step Eliminate the risk?	What control exist to address the risk apply hierarchy of control	Residual Risk			RISK ACCEPTABLE	If risk not acceptable initiate Remedial action
			considered all affected interested parties	Probability	Severity	Risk			Probability	Severity	Risk		
01	Mobilization of plant & equipment Delivery of Materials on Site	• Unauthorized Vehicle / equipment Movement • Over speeding • Vehicle colliding and damaging site equipment. • Uncertified equipment • Reversing • Unsafe driving • Loads / uneven Roads • Working without PTW.	Staffs/Workers	4	4	16	Yes	• All workers involved in the activity must be HSE Inducted & MSRA briefing shall be conducted prior to start the activity. • Ensure the competency certificate of operator or driver. • Reversing of any equipment will not be allowed without banks man. • Must have a clear route for all machines, trucks, flat bed trailers and equipment. • "Reduce Speed" and "Slow Down, Men at Work" signboard to be placed beside the working area. • Equipment's must be inspected and certified by an approved third party with valid certificate. • Ensure the competency certificate of operator. • Must have numerous and clear directional signs and speed limit signs along the route going inside the site to the storage area. • Ensure that pedestrian access and equipment routes shall be defined. • Make sure that all personnel are in the right position during vehicle movements and maneuvering. • Permit shall be acquired prior to start of activity; no work shall commence without permit.	2	3	6	Yes	
02	PCC Concrete Pouring	• Skin irritation, chemical burns from wet concrete • Slipping on wet surfaces, tripping over tools or forms • Collision risks with trucks or mixers transporting concrete.	Yes	3	3	9	Yes	• Provide PPE (rubber gloves, goggles, rubber boots, aprons). • TBT to be conducted on safe handling of wet concrete. • Keep work area clean and free of obstacles. • Designate loading/unloading zones. • Assign flagman for traffic control. • Maintain a safe distance from moving vehicles, especially reversing concrete mixers. • Ensure all workers wear appropriate PPE at all times during the pour.	2	2	4	Yes	
03	Use of Crane for Lifting Operations such Unloading of materials on site and Erection of Precast Wall	• Crane Overturned • Unsecured Load • Failure of slings, wire rope, belts and crane parts • Injury / fatality • Assets damage • Unsecured lifting gears • Poor communication between operator & rigger • Unknown load • Human error • Damage to underground utilities (pipes, cables, etc.) due to crane movement or positioning. • Incompetent Riggers, banksman and operator • Uncertified lifting gears and equipment. • Defective Equipment • Uneven or Unstable ground. • Risk of pinch points and crush injuries during assembly and alignment of components.	Staffs/Workers	4	4	16	Yes	• A PTW shall be acquired prior to start of activity; no work shall commence without PTW. • Daily visual inspection of the Crane and lifting tools shall be carried out by Operator & Rigger prior to start lifting. • All operators and personnel involved in lifting activity shall be inducted and trained prior to start of activity. • Ensure that the crane capacity is appropriate for the load. • The load shall be lifted using the designated lifting points as provided by the manufacturer. • Tag line shall be used to control loads during lifting. • Lifting activities sign boards shall be displayed at locations. • Workers to wear required PPE such Helmet, Safety Shoes, Hard Hat particularly visibility vest to ensure that driver will notice workers working nearby. • During breaks, the key of the equipment shall not be left on the machine unattended, the equipment shall be in view by the operator all the time and shall not distance himself by 10 meters or more. • Use 3rd party certified Cranes and Accessories • Crane Operators, Rigger and Lifting Supervisor must be 3 rd Party certified with valid certificates. • All lifting gears i.e. Slings and Shackles shall be 3rd party certified and color coded. • Out riggers will be fully extended, and spreader plate will be placed under the out-rigger jacks on level ground. • All the lifting shall have approved lifting plan and lifting permits prior to lift which shall be prepared by competent person. • No crane movement in the work area without any trained banksman/flagman in place. • Exclusion Zone shall be created. The area shall be barricaded and isolated from non-essential	2	3	6	Yes	



								- personnel to avoid personnel walking/standing below the suspended load. - Train workers to avoid placing hands near pinch points. - Communication should be clear between the operator & rigger and international rigging signal should be followed. - Single point instructions to be given to crane operator. - Assess soil condition before the erection of crane's out riggers, to avoid collapse of cranes. - Ensure lifting point is capable to withstand load. - Competent Rigger must ensure that the item to be lifted is well stacked and secured. - Lifting Supervisor / Operator to monitor weather condition during lifting (i.e. wind speed, visibility condition like fog, rain etc.) - Cranes must be equipped with anemometer and shall not start or continue lifts if wind speed exceeds 38 kmph. - The load chart shall be available in the crane cabin and understood properly by operator. - Operate the crane at a controlled speed; avoid swinging it too quickly. - The equipment shall have audible alarms especially when reversing signal lights and beacon light. - Conduct a ground survey and ensure that underground services are avoided while positioning or moving the crane inside the work area.					
04	Manual Handling	- Occupational injury, muscle pain cause by heavy manual handling like pushing, pulling Slips, trips, loss of balance and repeated awkward postures and movement. - Unauthorized persons involved in the task. - Lack of training - Lack of supervision	Staffs/Workers	3	4	12	Yes	- Ergonomics Training, Job Safety Assessment and Provisions of lifting aids. - Ensure to maintain stable, balance and correct body position at all times and during handling materials. - Don't do over exertion and do not try to over exceed your capacity. - Ensure authorized person involved in the task. - Ensure to always keep safe distance and body position from the materials being handled. - Use appropriate PPE required. - Conduct toolbox talks on manual handling to promote awareness for the workers prior to start the job.	2	3	6	Yes	
05	Use of Scaffolding / Working At Height	- Falling of workers - Falling of materials - Collapse of the scaffold structure - Incompetent scaffolder - Damaged ladders - Unsafe use of ladder - Defective scaffold materials	Staffs/Workers	3	4	12	Yes	- Ensure that scaffold shall be erected only by competent scaffolder under the supervision of competent scaffolding supervisor. - All scaffold materials shall be inspected for wear and tear prior to use. - Scaffold structures shall be inspected by a competent scaffolding inspector every week and every after adverse weather condition. Green tag must be signed weekly after inspection. - Safety harness shall be worn by workers while working at height and 100% tie off must be followed with 2 lanyards. - The PTW system must be in place. - TBT must be conducted prior to start the activity. - Ladders must be inspected, color coded and tied securely on top and bottom. - Maintain 3-point contact while using ladders. - Warning signs to be displayed. - Never carry materials while ascending and descending from a ladder. - Lower tools and materials with the use of rope. - Ensure that scaffolding is fully boarded before use.	1	4	4	Yes	
06	Use of Ladders	- Ladder defects, instability. - Ladder slips, unstable surface, proximity to hazards. - Slips, trips, and falls from height. - Overreaching, ladder instability, dropped tools. - Pinch points, ladder collapsing during positioning and closure	Workers	3	4	12	Yes	- Ladder must be inspected and tagged by a competent person periodically. - Conduct visual checks for defects (cracks, broken rungs, etc.) before each use. - Ensure ladder is on level, stable ground. - Ensure proper ladder angle (4:1 ratio). - Always face the ladder while climbing or descending. - Never carry materials or tools while ascending and descending from a ladder. - Maintain 3-point contact (two hands, one foot) - Avoid overreaching or leaning sideways. - Keep body centered within ladder rails. - A frame ladder shall be held by person below to support the ladder .	2	3	6	Yes	



07	Use of Electrical connection and Power Tools (Grinders etc) for surface preparation/repairing of precast walls	• Fire due to short circuits. • Shock burns. • Electrocution • Contact with wheel/disc causing cuts, injuries, or projectiles. • Major injury • Fatalities	Staffs/Workers	4	4	16	Yes	• Temporary electric supply must be planned & cable Routing must not come in contact with conducting Materials. • All electrical sources such as generator control panel and distribution boards to be properly earthed. • All connections should be routed through circuit breakers (ELCB) – 32mA. • Cables should be chased based on load capacity. • Connections and junction boxes should be weather proofed. • Ensure no loose connection. • Use waterproof industrial plug and socket only. • Avoid cable routing exposed on ground, and sharp-edged materials. • Arrange proper cable management system and maintain it properly. • Ensure vehicles are not running on top of electrical cables. Isolate connections if not in use or not required. Additional protection of cables wherever chances of movement of machineries. • Avoid joints as far as practicable possible and insulate the joints properly. • Trained electricians only to attend electrical works. • Fire extinguishers and sign boards are to be provided at electrical work areas. • Only trained operators to use power tools. Store to issue materials to trained operators only. • While making temporary electrical connections, ensure non-conductive gloves are worn to avoid electric shocks. • While operating electrical power tools, make sure it is inspected and tagged for safe use by a competent electrician for the current inspection cycle. • Ensure grinder is in good condition and equipped with the correct abrasive wheel for the material. • Ensure abrasive wheels are inspected for cracks or damage before use. • Use a wheel guard and avoid using excessive force. • Wear appropriate PPE (gloves, face shield, goggles). • Job Specific Training/TBT/Awareness to be conducted to all the workers prior to the activity.	2	3	6	Yes
08	Use of Hand tools	• Hand injury • Musculoskeletal injury • Soreness • Aches • Pains • Sprains & Strain	Staffs/Workers	4	3	12	Yes	• The performer must wear adequate PPEs such as hard hat, face and eye protection, Ear protection, high visible vest, safety shoe and hand gloves. • Mushroom headed homemade and damaged hand tools shall be removed from site. • All hand tools to be maintained adequately. • Color Coding of Hand tools to be done. • Always Hand tools must be placed inside the toolbox. • Use right tools for right job. • Job Specific Training/Awareness Programme/TBT to be conducted to the workers. • Supervisor / Foreman to monitor the activity and advise accordingly	2	3	6	Yes
09	Heat Stress	• Heat stroke. • Heat Exhaustion • Collapse • Major accident.	Staffs/Workers	4	3	12	Yes	• Minimize the work under direct sunlight. • Encourage job rotation policy. • Take frequent breaks and drink plenty of water. • Avoid carbonated drinks. • Provide ORS fluids during summertime. • Wear Cotton, loose clothes. • Conduct Toolbox to make the workforce aware of it and the drinking water facility provided. • Provide a safe rest shelter. • Conduct training for recognizing conditions caused by rain and cold. • Weather monitoring & Training/TBT/Awareness to be conducted to all the workers prior to the activity. • Certified first aider with FA Box available full-time at the site. Area and seek medical attention if necessary.	2	2	4	Yes



10	Adverse Weather	- Flooding - Dust storm - Poor visibility - Major injury	Staffs/Workers	4	4	16	Yes	- Ensure all the lifting activities stop until the weather is clear. - Plan the activity and suspend/stop the work in case of any adverse weather conditions. - Carry out vehicle and equipment inspection after the adverse weather condition including windshield wipers, lights, reverse Horn etc. - Provide the necessary dewatering equipment if needed after floods. - All electrical connections and tools are secure from water. Provide appropriate PPE (raincoat, gloves boot). - Provide a safe rest shelter, provide first aid box and first aider, training for recognizing conditions caused by rain and cold. - Weather monitoring Training/TBT/Awareness to be conducted to all the workers. - If the dust storm is severe pull vehicle equipment off the road and wait. - Observed and followed summer break timings issued by the U.A.E. government from 15 June to 15 September at 12:30 pm to 03:00 pm in every year. - If on foot, seek shelter (building, vehicle). Wear suitable eye protection Wear a dust mask, Cover your nose and mouth with a cloth rap. - Ensure all the lifting activities stop until the weather is clear. Hot work will not be carried out at the input door. - All flying objects tie and square properly. - Weather monitoring Training/TBT/Awareness to be conducted to all the workers prior to the activity	2	2	4	Yes
11	Emergency	- Lack of awareness - Absence of first aider and emergency vehicles etc. - Lack of supervision - Lone working	Staffs/Workers	3	3	9	Yes	- General Emergency procedures will be communicated to all employees. Procedures will be displayed on site. - First Aid cover will be made available at site. - Emergency contact numbers will be communicated to all, displayed at site. - Emergency vehicles will be available at site. - Competent supervision will be ensured during the course of work. - Lone working will not be entertained.	1	3	3	Yes

Excavation:

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11.6 Mock Drill Matrix

	METITO OVERSEAS LIMITED												Form No.	QHSE-ST007
													Revision	0
	ZRENJANIN – SERBIA Sewage Treatment Plant (Mock Drill Matrix for Year 2023)												Date	01.04.2009
													Page	

Legend	 Fire	 Oil / Chemicals Spill	 Flood	 Major component Failure	 Major accidents / Medical Emergency	 Major environmental Disaster
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Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Remarks
													

Prepared by:

Mahendra Rajput
Sr. QHSE Engineer

Approved by:

Abdul Haleem
Project Manager

11.7 Abbreviations

Abbreviation / Definition	Description
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Accident	It is an incident which has given rise to occupational injury, ill health or fatality.
Audit	A systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are being fulfilled
CEHSMP	Construction Environment Health and Safety Management Plan
Control Measure	A measure put in place, physically or otherwise, to mitigate risks
Corrective Action	Action taken to eliminate the cause of an existing non-conformity, defect, or other undesirable, and to prevent recurrence.
Customer	A person or organization that could or does receive a product or a service that is intended for or required by this person or organization.
Dispatch	To send off to a destination
Doc. No.	Document Number
Document	Information and its supporting medium, which can include paper, electronic or optical computer disk, photograph, or a combination thereof Within Section 7.1: Document – Information used to support an effective and efficient organizational operation
DOR	Date of Revision
Emergency	Unplanned, unforeseen situations where there are immediate risks to the organizational activities that require an immediate response
Hazard	Sources with the potential to cause injury and ill health, hazards can include sources with the potential to cause harm or hazardous situations, or circumstances with the potential for exposure leading to injury and ill health
HOD	Head of Department
Immediate Cause	Immediate actions or situations that led to a non-conformance
IMS	Integrated Management System
Incident	An occurrence arising out of, or in the course of, work that could or does result in injury and ill health

Inspection	A careful examination of the organizational activities to determine conformance to the system
Interested Parties	Person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity.
Method Statement	A documented control to ensure that tasks are undertaken in a safe manner.
MR	Management Representative
Non-Conformance	The non-fulfilment of specified requirements.
Objectives	Result to be achieved.
OH&S	Occupational Health and Safety
Organization	A person or group of people that has its own functions with responsibilities, authorities, and relationships to achieve its objectives.
PPE	Personal Protective Equipment
Probability	The likelihood of an occurrence.
Product	The output of an organization that can be produced without any transaction taking place between the organization and the customer MUL Products - As stated within section four (4) of this manual.
QHSE	Quality, Health, Safety, & Environment
QHSE Policy	A statement of intent regarding the organizational commitment towards standards and objectives for Quality, Health, Safety, Sustainability & Environment.
Quality	The degree to which a set of inherent characteristics of an object fulfils requirements.
Record	Document stating results achieved or providing evidence of activities performed. Within Section 7.5: Record – Evidence about a past event as per the defined documented information.
Ref. No.	Reference Number
Regulatory requirement	An obligatory requirement specified by an authority mandated by a legislative body.

Retention Period	A defined period during which a record must be kept in a controlled manner.
Rev. No.	Revision Number
Risks and opportunities	Effect of uncertainty – deviation from the expected, positive or negative.
Root Cause	The actual failure (underlying cause) that allowed the Non-Conformance to occur.
S. No.	Serial Number
Service	The output of an organization with at least one activity necessarily performed between the organization and the customer.
Specified Requirements	A specified requirement is stated, for example, in documented information.
Supplier	An organization that provides a product or a service.
Tender	Offer made in response to an invitation to satisfy contract requirements to provide products or services.
Traceability	Ability to trace the history, application, or location of an object.

12.0 Appendix

The list below is Part of the IMS documents that shall be used during the implementation of this Plan at the site.

12.1 MUL Level 2 – Procedures

SN	Department	Document Number	Description
7	QHSE	MUL-P-QHSE-001-R0	Organizational Context and Interested Parties Analysis
8	QHSE	MUL-P-QHSE-002-R0	Leadership and Commitment
9	QHSE	MUL-P-QHSE-003-R0	Organizational Roles, Responsibilities, and Authorities
10	QHSE	MUL-P-QHSE-004-R1	Risk and Opportunity Assessment
11	QHSE	MUL-P-QHSE-005-R1	Hazard Identification and Assessment
12	QHSE	MUL-P-QHSE-006-R1	Environmental Risk Assessment and Control
13	QHSE	MUL-P-QHSE-007-R1	Legal and Other Requirements Compliance
14	QHSE	MUL-P-QHSE-008-R0	QHSE Objectives and Planning
15	QHSE	MUL-P-QHSE-009-R0	Resource Management
16	QHSE	MUL-P-QHSE-010-R0	Equipment Calibration
17	QHSE	MUL-P-QHSE-011-R1	Competency, Training and Awareness
18	QHSE	MUL-P-QHSE-012-R1	Communication, Consultation and Participation
19	QHSE	MUL-P-QHSE-013-R2	Control of Documents
20	QHSE	MUL-P-QHSE-014-R1	Control of Records
21	QHSE	MUL-P-QHSE-015-R1	Operational Planning and Control

22	QHSE	MUL-P-QHSE-016-R0	Contractor Management
23	QHSE	MUL-P-QHSE-017-R1	Change Management
24	QHSE	MUL-P-QHSE-018-R0	Customer Communication
25	QHSE	MUL-P-QHSE-019-R1	Emergency Preparedness and Response
26	QHSE	MUL-P-QHSE-020-R0	Control of External Provided Process, Product & Services
27	QHSE	MUL-P-QHSE-021-R0	Production and Service Provision
28	QHSE	MUL-P-QHSE-022-R1	Inspection and Testing
29	QHSE	MUL-P-QHSE-023-R0	Control of Nonconforming Outputs
30	QHSE	MUL-P-QHSE-024-R3	Performance Evaluation and Monitoring
31	QHSE	MUL-P-QHSE-025-R2	Internal Audit
32	QHSE	MUL-P-QHSE-026-R1	Management Review
33	QHSE	MUL-P-QHSE-027-R1	Nonconformity and Corrective Action
34	QHSE	MUL-P-QHSE-028-R1	Accident-Incident Reporting and Investigation
35	QHSE	MUL-P-QHSE-029-R0	Continual Improvement

12.2 MUL Level 3 – Standard Operating Procedures

SN	Department	Document Number	Description
47	QHSE	MUL-SOP-QHSE-001-R0	Personal Protective Equipment
48	QHSE	MUL-SOP-QHSE-002-R0	Substances Hazardous to Health
49	QHSE	MUL-SOP-QHSE-003-R0	First Aid

50	QHSE	MUL-SOP-QHSE-004-R0	Office Safety
51	QHSE	MUL-SOP-QHSE-005-R0	Safe Use of Machinery
52	QHSE	MUL-SOP-QHSE-006-R0	Working On, Over or Adjacent to Water
53	QHSE	MUL-SOP-QHSE-007-R0	Hydrogen Sulphide (H ₂ S)
54	QHSE	MUL-SOP-QHSE-008-R0	Grinding Operations
55	QHSE	MUL-SOP-QHSE-009-R0	Movement of Vehicles and Materials
56	QHSE	MUL-SOP-QHSE-010-R0	Diesel Generator Set
57	QHSE	MUL-SOP-QHSE-011-R0	Sludge Handling
58	QHSE	MUL-SOP-QHSE-012-R0	Compressed Air Safety
59	QHSE	MUL-SOP-QHSE-013-R0	Excavation
60	QHSE	MUL-SOP-QHSE-014-R0	Manual Handling
61	QHSE	MUL-SOP-QHSE-015-R0	Safe Use of Ladders
62	QHSE	MUL-SOP-QHSE-016-R0	Working at Height
63	QHSE	MUL-SOP-QHSE-017-R0	Working in Hot Weather
64	QHSE	MUL-SOP-QHSE-018-R0	Lab Safety
65	QHSE	MUL-SOP-QHSE-019-R0	Safe Sampling
66	QHSE	MUL-SOP-QHSE-020-R0	Night Shift operations
67	QHSE	MUL-SOP-QHSE-021-R0	Safe handling of Polymers
68	QHSE	MUL-SOP-QHSE-022-R0	Fire Safety
69	QHSE	MUL-SOP-QHSE-023-R0	Efficient use of Power and Water
70	QHSE	MUL-SOP-QHSE-024-R0	Safe Lifting Operation
71	QHSE	MUL-SOP-QHSE-025-R0	Safe use of Portable and Pneumatic tools and equipments.
72	QHSE	MUL-SOP-QHSE-026-R0	Electrical Safety
73	QHSE	MUL-SOP-QHSE-027-R0	General Onsite Housekeeping
74	QHSE	MUL-SOP-QHSE-028-R0	Driving Safety
75	QHSE	MUL-SOP-QHSE-029-R0	Use of Powered vehicles
76	QHSE	MUL-SOP-QHSE-030-R0	Dust control and protection
77	QHSE	MUL-SOP-QHSE-031-R0	Noise control and protection
78	QHSE	MUL-SOP-QHSE-032-R0	Ergonomics
79	QHSE	MUL-SOP-QHSE-033-R0	Permit to Work
80	QHSE	MUL-SOP-QHSE-034-R0	Visitors Safety
81	QHSE	MUL-SOP-QHSE-035-R0	Safe welding operations
82	QHSE	MUL-SOP-QHSE-036-R0	Storage of Gas cylinders
83	QHSE	MUL-SOP-QHSE-037-R0	Transportation of HAZMAT
84	QHSE	MUL-SOP-QHSE-038-R0	Confined Space

12.3 MUL Level 4 – Forms

SN	Department	Document Number	Description
85	QHSE	MUL-P-QHSE-004-F1	Risks and Opportunities Register
86	QHSE	MUL-P-QHSE-005-F1	Hazard Identification and Risk Assessment
87	QHSE	MUL-P-QHSE-006-F1	Environmental Aspect/Impact Assessment
88	QHSE	MUL-P-QHSE-007-F1	Master List of LAOR
89	QHSE	MUL-P-QHSE-008-F1	QHSE Objectives
90	QHSE	MUL-P-QHSE-010-F1	Master List of Equipment
91	QHSE	MUL-P-QHSE-011-F1	Training Program
92	QHSE	MUL-P-QHSE-011-F2	Training Feedback Form
93	QHSE	MUL-P-QHSE-011-F3	Training Attendance Sheet
94	QHSE	MUL-P-QHSE-013-F1	Master List of Documentation
95	QHSE	MUL-P-QHSE-013-F2	Amendment History of Documentation
96	QHSE	MUL-P-QHSE-013-F3	Change Request Form
97	QHSE	MUL-P-QHSE-014-F1	Retention Matrix
98	QHSE	MUL-P-QHSE-017-F1	Management of Change
99	QHSE	MUL-P-QHSE-019-F1	EPR Plan Template
100	QHSE	MUL-P-QHSE-019-F2	Emergency Recovery Plan Template
101	QHSE	MUL-P-QHSE-019-F3	Emergency Evacuation Record
102	QHSE	MUL-P-QHSE-019-F4	Mock Drill Matrix
103	QHSE	MUL-P-QHSE-020-F1	Supplier Evalu. not on the ASL Item Classification A
104	QHSE	MUL-P-QHSE-020-F2	Supplier Evalu. not on the ASL Item Classification B
105	QHSE	MUL-P-QHSE-020-F3	Supplier Performance evaluation
106	QHSE	MUL-P-QHSE-022-F1	Inspection Schedule
107	QHSE	MUL-P-QHSE-022-F2	Inspection Form
108	QHSE	MUL-P-QHSE-024-F1	Customer Feedback Form
109	QHSE	MUL-P-QHSE-025-F1	Internal Audit Plan
110	QHSE	MUL-P-QHSE-025-F2	Audit Schedule
111	QHSE	MUL-P-QHSE-025-F3	Audit Report
112	QHSE	MUL-P-QHSE-025-F4	Audit Findings Register
113	QHSE	MUL-P-QHSE-026-F1	MRM - Agenda and MOM
114	QHSE	MUL-P-QHSE-027-F1	Non-Conformance Report
115	QHSE	MUL-P-QHSE-027-F2	Non-Conformance Register

116	QHSE	MUL-P-QHSE-028-F1	Incident Report Card
117	QHSE	MUL-P-QHSE-028-F2	Accident/Incident Notification Form
118	QHSE	MUL-P-QHSE-028-F3	Accident/Incident Investigation Report Form
119	QHSE	MUL-P-QHSE-028-F4	Weekly HSE Statistics Report
120	QHSE	MUL-SOP-QHSE-001-F1	PPE Issue Register
121	QHSE	MUL-SOP-QHSE-001-F2	Training Attendance Logs
122	QHSE	MUL-SOP-QHSE-002-F1	Hazardous Substance Register
123	QHSE	MUL-SOP-QHSE-003-F1	First Aid Checklist
124	QHSE	MUL-SOP-QHSE-015-F1	Ladder Maintenance register
125	QHSE	MUL-SOP-QHSE-015-F2	Ladder Inspection Checklist
126	QHSE	MUL-SOP-QHSE-016-F1	Full Body Safety Harness Register
127	QHSE	MUL-SOP-QHSE-016-F2	Full Body Harness Inspection Record
128	QHSE	MUL-SOP-QHSE-022-F1	Fire Extinguisher Inspection and Register
129	QHSE	MUL-SOP-QHSE-024-F1	Lifting Equipment-Accessories Inspection Register
130	QHSE	MUL-SOP-QHSE-025-F1	Stationary Power Tools Inspection Register
131	QHSE	MUL-SOP-QHSE-026-F1	Power Tools Inspection Register
132	QHSE	MUL-SOP-QHSE-027-F1	Hygiene Inspection
133	QHSE	MUL-SOP-QHSE-027-F2	Dining Hall Housekeeping
134	QHSE	MUL-SOP-QHSE-027-F3	Restroom Housekeeping
135	QHSE	MUL-SOP-QHSE-027-F4	Inspection template
136	QHSE	MUL-SOP-QHSE-029-F1	Weekly Forklift Truck Pre-Use Check
137	QHSE	MUL-SOP-QHSE-032-F1	Display Screen Self-Assessment
138	QHSE	MUL-SOP-QHSE-033-F1	Work Permits
139	QHSE	MUL-SOP-QHSE-034-F1	Site Visitor HSE Register
140	QHSE	MUL-SOP-QHSE-038-F1	Confined Space - Register and Checklist