TSHAMBILA
ENV CONSULTANT

# HEALTH AND SAFETY SPECIFICATONS FOR THE REPAIR AND MAINTENANCE PROGRAMME AT MOGOROSHI SECONDARY SCHOOL

## Health and Safety Specifications

### INTRODUCTION

Independent Development Trust's responsibility and commitment is to ensure a safe working environment is in line with its Safety, Health and Environmental along with legislative obligations.This SHE specification is Independent Development Trusts minimum requirements which are required to be met for this specific project and for the duration of the project period by the principal contractor.The principal contractor is expected to develop a Safety, Health and Environmental plan which means these requirements as well as all the relevant applicable legislation they conform to.The Principal Contractor is and remains accountable for the quality and the execution of his/her health and safety programme and management on site.

This SHE specification reflects the minimum requirements and should not be construed as all encompassing.

### 1. PURPOSE.

The Health and Safety Specifications have been prepared for maintenance at Mogoroshi Secondary School.

The objective of the Health and Safety Specifications is to provide a guideline for the principal contractor in complying with the requirements of the Occupational Health and Safety Act 85 of 1993 (OHS Act) and the relevant regulations, with particular reference to the Construction Regulations 2014.

The Health and Safety Specifications do not replace the OHS Act and relevant regulations, but is a supplementary document to the requirements of relevant legislation and the conditions of the contract agreement between Employer and the Principal Contractor.

It does not imply that sections of legislation not referred to in full in this document are of less importance and/ or not relevant. The Contractor remains responsible to comply with the Act, regulations and their health and safety plan.

### 2. SCOPE.

Maintenance at Mogoroshi Secondary School will include:

- Floor repairs
- Ceiling Repair
- Door Repairs
- Window Repairs
- Notice board repairs

The Health and Safety Specification covers maintenance and associated activities that have the potential to affect, positively or negatively, the health and safety of all persons involved with the above mentioned project.

As an employer in their own right, it remains the responsibility of the contractor to do what is reasonable and practicable to ensure that they themselves, and other persons who may be affected by their operations health and safety, are not endangered.

## 3. RELATED DOCUMENTS.

The following statutory regulations are amplified, *inter alia*, for easy reference purposes; the list shall by no means place any limitation on the responsibilities of the Contractor who must ensure conversance with ALL the statutory requirements applicable

- Occupational Health and Safety Act (Act 85 of 1993).
- Construction Regulations 2014.
- Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- South African Bureau of Standards.
- Driven Machinery Regulations (GNR 295)
- General Administrative Regulations (GNR.929).
- Reporting of incidents and occupational diseases (GAR.8).

## 4. TERMS AND DEFINITIONS

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| Agent | Any person who acts as a representative for a client |
| Approved inspection authority | An inspection authority approved by the chief inspector: Provided that an inspection authority approved by the chief inspector with respect to any particular service shall be an approved inspection authority with respect to that service |
| Chief executive officer | In relation to a body corporate or an enterprise conducted by the State, a CEO is the person who is responsible for the overall management and control of the business of |

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| | such body corporate or enterprise. |
| Client | Any person for whom construction work is performed. |
| Competent person | Any person having the knowledge, training, experience and qualifications specific to the work or task being performed: Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training. |
| Construction work | Any work in connection with:<br>(a) the erection, maintenance, alteration, maintenance, repair, of or addition to building Maintenance<br>(b) the installation, erection, or Repairs<br>and fixed plant where such work includes the risk of a person falling;<br>(c) the construction, maintenance, demolition or dismantling of any structure<br>, sewer or water reticulation system or any similar civil engineering structure; or<br>(d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work. |
| Construction vehicle | A vehicle used for means of conveyance for transporting persons or material or both such persons and material, as the case may be, both on and off the construction site for the purposes of performing construction work. |
| Contractor | Employer, as defined in Section 1 of the Act, who performs construction work and includes principal contractors. |
| Danger | Anything which may cause injury or damage to persons or property. |
| Design | In relation to any structure includes drawings, calculations, design details and specifications. |
| Employee | Subject to the provisions of subsection (2), any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person. |
| Employer | Subject to the provisions of subsection (2), any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in Section 1 (1) of the Labour Relations Act, 1956 (Act 28 of 1956). |
| Ergonomics | The application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimize human well-being and overall system performance. |

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| Excavation work | The making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping. |
| Explosives | Any substance or article as listed in Class I: Explosives in the South African Bureau of Standards Code of Practice for the Identification and Classification of Dangerous Substances and Goods, SABS 0228. |

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| Explosive powered tool | A tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing. |

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| Hazard | A source of or exposure to danger. |
| Hazard identification | The identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed. |
| Health and safety equipment | Article or part thereof which is manufactured provided or installed in the interest of the health or safety of any person. |
| Health and Safety file | A file or other record in permanent form, containing the information required as contemplated in these regulations. |
| Health and safety plan | Means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified. |
| Health and safety specification | Means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons. |
| Incident | means an incident as contemplated in Section 24 (1) |
| Machinery | Any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy to performing work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, confining, transforming, transmitting, transferring or controlling any form of energy. |
| Major incident | An occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace. |
| Medical certificate of fitness | A certificate valid for one year issued by an occupational health practitioner, issued in terms of these regulations, whom shall be registered with the Health Professions Council of South Africa. |
| Medical surveillance | A planned programme of periodic examination<br>(Which may include clinical examinations, biological monitoring or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner. |

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| Method statement | Means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment. |
| Mobile plant | Means machinery, appliances or other similar devices that is able to move independently, for the purpose of performing construction work on the construction site. |
| National Building Regulations | Means the National Building Regulations made under Section 17(1) of the National Building Regulations and Building Standards Act, 1977 (Act No.103 of 1977), and published under Government Notice No.R.1081 of 10 |

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| | June 1988, as amended. |
| Occupational health | Includes occupational hygiene, occupational medicine and biological monitoring. |
| Occupational health practitioner | An occupational medicine practitioner or a person who holds a qualification in occupational health recognized as such by the South African Medical and Dental Council as referred to in the Medical, Dental and Supplementary Health Service Professions Act, 1974 (Act 56 of 1974), or the South African Nursing Council as referred to in the Nursing Act, 1978 (Act 50 of 1978). |
| Person day | One day for carrying out construction work by a person on a construction site for one normal working shift. |
| Reasonably practicable | *(a)* the severity and scope of the hazard or risk concerned<br>*(b)* the state of knowledge reasonably available concerning that hazard or risk and of any means of removing or mitigating that hazard or risk<br>*(c)* the availability and suitability of means to remove or mitigate that hazard or risk; and<br>*(d)* The cost of removing or mitigating that hazard or risk in relation to the benefits deriving there from. |
| Risk assessment | A programme to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. |
| Regulation | A regulation made under Section 43. |
| Risk | The probability that injury or damage will occur. |
| Safe | Free from any hazard. |
| SABS 085 | The South African Bureau of Standards' Code of Practice entitled "The Design, Erection, Use and Inspection of Access Scaffolding". |
| SABS 0400 | The South African Bureau of Standards, Code of Practice for the application of the National Building Regulations. |

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| SABS EN 1808 | The South African Bureau of Standards' Standard Specification entitled: "Safety requirements on suspended access equipment — Design calculations, stability criteria, construction-tests" |
| SABS 1903 | The South African Bureau of Standards' Standard Frontend Specification entitled: "Safety requirements on suspended access equipment — Design calculations, stability criteria, and construction-tests". |

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| Shoring | A structure such as a hydraulic, mechanical or timber/steel shoring system that supports the sides of an excavation and which is intended, to prevent the cave-in or the collapse of the sides of an excavation, and "shoring |
| Standard | (a) In a specification, compulsory specification, code of practice or standard method as defined in Section 1 of the Standards Act, 1993 (Act 29 of 1993); or<br>(b) in any specification, code or any other directive having standardization as its aim and issued by an institution or organization inside or outside the Republic which, whether generally or with respect to any particular article or matter and whether internationally or in any particular country or territory, seeks to promote standardization; |
| Structure | (a) Any building, steel or reinforced concrete structure (not |
| | being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, batching plants, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;<br>(b) any form-work, false work, scaffold or other structure designed or used to provide support or means of access during construction work; or<br>(c) any fixed plant in respect of work which includes The installation, commissioning, decommissioning or dismantling and where any such work involves a risk of a person falling two meters or more. |
| Substance | Includes any solid, liquid, vapour, gas or aerosol, or combination thereof. |
| the Act | Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and any regulation. |
| Tunnelling | Means the construction of any tunnel beneath the natural surface of the earth for<br>a purpose other than the searching for or winning of a Mineral. |

# 5. PROCEDURES

## 5.1.1 HEALTH AND SAFETY FILE

The Health and Safety file of the Contractor will contain the records and documentation as required by OHS Act, relevant legislation as well as the health and safety specifications and will be kept as a hard copy on site at all times.

The Health and Safety file will be handed over to the project manager at the end of the contract.

The Contractor needs to implement procedures to ensure that all records and documentation is protected from damage.

**Content of Safety File**

1. **Appointment as principal contractor**
2. **Scope of work**
3. **Organogram**
4. **Notification**
5. **Construction Regulations**
6. **OHS ACT**
7. **COIDA ACT**
8. **Letter of good standing**
9. **OHS Policy**
10. **SHE Plan**
11. **Environmental Management Plan**
12. **Traffic Management Plan**
13. **Legal Appointments**
14. **Induction Training Method**
15. **Safe Working Procedure**
16. **Mandatory Agreement**
17. **Risk Assessment**
18. **Housekeeping policy**
19. **Checklists & SHE Procedure**
20. **Toolbox Talk**
21. **PPE Issued register**
22. **Emergency Preparedness**
23. **Accident/Incident**
24. **Hazardous Substances Register and MSDS**
25. **List of Employees**
26. **Project Minutes and Reports**
27. **Audits/Inspection records**

## 5.2 HEALTH AND SAFETY PLANS

The Contractor shall, from the stated Health and Safety Specifications, draft a health and safety plan based on the specific scope of works and his proposed construction methods. The Contractor shall detail all potential risk and mitigating measures to be implemented by him. The Contractor shall, based on his risk assessments, develop, and outline in his health and safety plan work procedures which shall at all times be stringently employed on the site of works. This plan must establish and define implementation strategies to meet the requirements of the Health and Safety Specifications and relevant legislation. The principles on which these specifications will be executed are:

- Identifying relevant legislation and working towards complying fully with the requirements regarding health and safety issues.
- Implementing systems to continuously identify and assess occupational and environmental hazards with the view to implementing measures to mitigate or control these elements.
- Encouraging employees to actively participate in achieving safety and healthy control measures.
- Establishing on-going communication and training programmes to increase individual awareness levels towards safety and health responsibilities and accountabilities.
- Promoting responsible actions to exercise care in conserving a safe and healthy work environment.
- Implementing regular audits to monitor implementation, performance, and compliance.

## 5.3 RISK ASSESSMENT PROCEDURE

The Health and Safety Plan must include provision for risk assessments of the entire construction process; beginning with the raw materials and initial inputs to the construction process through to the final completed project which is to include all supporting functions like maintenance, purchasing, cleaning etc.

The Contractor must appoint a competent person to conduct risk assessments. Persons with the necessary experience and abilities to recognize hazards and risks associated with the project works are to be included in the process of undertaking risk assessments. The risk assessment will, as a minimum:

- Identify the risks and hazards to which persons may be exposed to;
- Analyse and evaluate the identified risks and hazards;
- Matrix and risk rating;
- Document a plan of safe work procedures including the use of any personal protective equipment or clothing and the undertaking of periodic training before undertaking hazardous work, to mitigate, reduce or control the risks and hazards that have been identified; Provide a monitoring plan; and
- Provide a review plan.

A training register indicating the dates training shall be provided. The names, type of training and signatures of the trainees will be recorded on the register kept in the safety file.

| | Regulation | Appointment | Responsible Person |
|---|---|---|---|
| | 5(1)(k) | Principal contractor for each phase or project | Client |
| | 7(1)© | Contractor | Principal Contractor |
| | 8 (1) | Construction Manager | Contractor |
| | 8(2) | Assistance Construction Manager | Contractor |
| | 8(5) | Health and Safety Officer | Contractor |
| | 8(7) | Construction supervisor | Contractor |
| | 9(1) | Person to carry out risk assessment | Contractor |
| | 10(1)(a) | Fall protection planner | Contractor |
| | 11(2)(a) | Structure Inspector | |
| | 12(1) | Temporary Work Designer | Contractor |
| | 13(1) | Excavation Supervisor | Contractor |
| | 14(1) | Supervisor Demolition Work | Contractor |
| | 16(1) | Scaffold Supervisor | Contractor |
| | 17(1) | Suspended Platform Supervisor | Contractor |
| | 18(1)(a) | Rope Access Supervisor | Contractor |
| | 19(8)(a) | Material Hoist Inspector | Contractor |
| | 20(1) | Batch Plant Supervisor | Contractor |

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| | 21(1) | Person to control and do the issuing and collection of cartridges and nails/studs | Contractor |
| | 23(1)(k) | Construction Vehicle and mobile plants inspector | Contractor |
| | 24 (c) | Temporary electrical installations controller | Contractor |
| | 28 (a) | Stacking and storage supervisor | Contractor |
| | 29 (h) | Fire equipment inspector | Contractor |

## 5.4 LEGAL APPOINTMENTS

Define clear lines of responsibility to ensure that both the OHS Act and requirements of the regulations are applied. Every contractor's chief executive officer or the person with the highest authority and most control over decisions affecting the day to day running of the business is the person ultimately responsible to ensure compliance with the Act.

Appointments or designations of responsible and /or competent people in specific areas of construction work are required by the Act and regulations. The following competent appointments are applicable to ensure compliance to the OHS Act and Regulations.

**Table 1 Required appointments as per OHS Act and Construction Regulations**

***Required appointments as per the Construction Regulations: -***

NOTE: This list may be used as a guide to determine which components of the Act and Regulations would be applicable the site.
Every appointment must be completed in writing and clearly state the duties and responsibilities of the assigned or appointed persons. It should clearly define reporting structures and shall fulfil the following requirements:

- All appointments will be done on the contractor's letterhead.
- Assigned or appointed persons who have the authority to delegate the specified responsibilities must approve the appointments in writing.

- Appointments must be current, signed by persons holding the stated posts. When there is changes in management structures, revise appointments as soon as reasonably practicable.
- Appointments will include the duties to be performed.
- The company appointing persons will ensure the appointed persons have the necessary experience and/or qualifications related to their appointed areas of responsibility and as required by health and safety legislation.

## 5.5 CONTRACTORS - WRITTEN AGREEMENTS

All **subcontractors and service providers** are employers in their own right and must therefore comply with all relevant legislation. Written agreements shall be in place which shall ensure both parties comply with terms and conditions of all relevant legislation.

- The written agreement will include the requirements of Section 37(2) and Construction Regulations contained within the Occupational Health and Safety Act; ensuring that both parties fully understand their obligations under the terms of the legislation.
- The agreements will be in writing and signed by both the chief executive officers of the organizations or their appointed representatives.
- The agreements will be kept on record at the location where the work is to be carried out.
- No work may commence until a written agreement and associated documentation is in place.
- On completion of the project, copies of all agreements will be included in a consolidated Health and Safety File that will be submitted to Vhembe for a period as stipulated by contractual conditions.

## 5.6 INSPECTIONS

Every contractor on the project will assess all significant equipment, material, and plant to identify inspection requirements against existing legislation, safety codes, and standards.

Identify every item of equipment which requires control inspections by a unique number specific to that piece of equipment. This number must be clearly visible and be as permanent as is reasonably practicable.

Establish inspection schedules to conform to legal requirements and risk associated priorities. Appointed persons will be responsible to ensure that all inspections are recorded in registers or similar documents when required.

Responsible persons will be required to report progress on a monthly basis to the Project Health and Safety Committee.

## 5.7 COPY OF THE ACT

The Contractor shall ensure that a copy of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and relevant regulations is readily available on site to any person engaged in any activity on the site.

## 5.8 COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES

The Contractor must produce a Letter of Good Standing from the Compensation Commissioner or Federated Employers Mutual. The letter must be valid for the current financial year and where a

contractor has month to month payment arrangements with the commissioner, a monthly confirmation of good standing is required. The Contractor must present a Letter of Good Standing before they commence work on the project. The Contractor may not undertake any activities without a valid Letter of Good Standing.

## 5.9 NOTIFICATION OF INTENTION TO COMMENCE CONSTRUCTION WORK

(1) A contractor who intends to carry out any construction work other than work contemplated in regulation 4 (1), must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will

a) Include excavation work;
b) Include working at a height where there is risk of falling;
c) Include the demolition of a structure; or d) include the use of explosives to perform construction work.

(2) A contractor who intends to carry out construction work that involves construction of a single storey dwelling for a client who is going to reside in such dwelling upon completion, must at least 7 days before that work

## 5.10 OHS COMMITTEE MEETING

All appointed OHS representatives shall be members of OHS committee and the meeting must be held in accordance with the Act.

## 5.11 TRAINING

### 5.11.1 SITE INDUCTION

Every worker on the project and every visitor to the project must first attend induction training. The contractor will provide the induction training with respect to, but not limited to the following:

- The health and safety plan and safety rules of the project;
- Risk assessments and safe working procedures; Incident reporting procedures; and Emergency preparedness.

Every person attending the induction training must acknowledge training by signing an attendance register and then be provided with proof of attendance.

### 5.11.2 ACTIVITY SPECIFIC TRAINING

The contractor shall arrange for training to be given on site before any hazardous activities are to commence. An attendance register must be kept and signed by all attendees. The register of attendees and the content of the topic shall be kept on the site Health and Safety File as proof of on-going training.

### 5.11.3 AWARENESS

Regular toolbox talks will take place at least once per week, as a minimum requirement. A signed record of employee attendance shall be kept on site.

### 5.11.4 INCIDENTS AND OCCUPATIONAL DISEASES

Incidents and occupational diseases shall be reported, recorded and investigated as required by the following sections of the Act:

- OHS Act Section 24
- Compensation for Occupational Injuries and Diseases Act 130 of 1993 Section 39

General Administrative Regulations Section 8

- General Administrative Regulations Section 9

The contractor shall record all incidents and occupational diseases and notify Tshambila Env Consultant of any incident,

### 5.12 INTOXICATION

No intoxicating substances shall be allowed on the site. No person may be under the influence of any intoxicating substance while on the construction site. Any person on prescription drugs must inform their supervisor, who shall in turn, report this to the contractor forthwith. Any person under the influence of alcohol or other drugs will be immediately dismissed. A full disciplinary procedure must be followed by the contractor concerned.

### 5.13 EMERGENCY PROCEDURES

The contractor shall submit an emergency procedure which shall include but is not limited to fire, spills, accidents to employees, exposure to hazardous substances. The emergency procedure need to contain information regarding the following:

- Identifies the key personnel who are to be notified of any emergency.
- Sets out details including contact particulars of available emergency services.
- Necessitates plant and processes to be shut down.
- States the actions or steps which are to be taken during an emergency to evacuate persons speedily.
- Identifies how roll call will be undertaken.
- Includes a review plan of the procedure.

Any changes in the emergency procedures will be commutated to all employees.

### 5.14 FIRE PRECAUTIONS ON CONSTRUCTION SITES.

The contractor will ensure that all appropriate measures are taken to avoid the risk of fire. A sufficient and suitable storage will be provided for flammable liquids, solids and gases. Smoking in all places containing readily combustible or flammable materials must be prohibited and notices in this regard will be prominently displayed.

In confined spaces and other places in which flammable gases, vapours or dust can cause danger the following will apply:

- Only suitably protected electrical installations and equipment, including portable lights, are used.
- There are no flames or similar means of ignition.
- There are conspicuous notices prohibiting smoking.
- Oily rags, waste and other substances liable to ignite are without delay removed to a safe place.
- Adequate ventilation is provided.

The contractor will implement measures to ensure that combustible materials do not accumulate on the construction site. Welding, flame cutting and other hot work shall be done only after the appropriate precautions have been taken to reduce the risk of fire. Suitable visual signs will be provided to clearly indicate the escape routes in the case of a fire as well as meeting points. All means of escape will be kept clear at all times.

A siren will be installed and sounded in the event of a fire.

## 5.15 FIRST AID FACILITIES

The contractor shall, where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment as required by the General Safety Regulations.

The contractor shall ensure that where there are more than 10 employees employed on the site, that for every group of up to 50 employees at that workplace, at least one person is qualified and appointed as a first aider. All first aiders will be clearly identified.

## 5.16 FIRE EXTINGUISHERS AND FIRE FIGHTING EQUIPMENT

The contractor shall provide firefighting equipment at strategic positions on site as required by the Fire Chief or local authority concerned. The fire extinguishers shall be serviced regularly in accordance with the manufacturer's recommendations. Safety signage shall be displayed in all areas where fire extinguishers are located. The contractor shall arrange for the training of a sufficient amount of personnel in the use of fire extinguishers. Wherever fire extinguishers have been provided, a copy of the monthly fire extinguisher inspection register must be kept.

## 5.17 SAFETY SIGNS AND NOTICES

The contractor shall erect and maintain on site symbolic safety signage and notices that conform to the SABS requirements. The signage shall include, but not be limited to the following:

- Mandatory signage
- Warning signs

Information

- Fire safety signs.

## 5.18 PERSONAL PROTECTIVE EQUIPMENT

The contractor must, through a process of risk assessments, identify what personal protective equipment is required for construction activities. All personal protective equipment must comply with recognized safety specifications. Equipment of a poor quality may not be supplied to persons working on the project. The users of the equipment will undergo training to use the equipment and acknowledge this training. Records of personal protective equipment issuing will be kept. The proper usage of personal protective equipment shall be enforced. A formal monthly inspection, to determine proper usage and condition of equipment is required and findings recorded. Health and safety representatives will include personal protective equipment into their monthly inspections.

## 5.19 WELFARE FACILITIES

The contractor must provide facilities as per Construction Regulation 30. The fixtures stated are a minimum requirement. The responsible persons should decide what provisions they wish to make above the minimum requirement to satisfy their employees.

### 5.19.1 BASIC GUIDELINES

A designated responsible person will ensure the facilities are maintained in a neat and tidy state to ensure there is no risk to the health of the employees or public using the facilities:

- Provide facilities for both sexes
- At least one sanitary facility for every 30 workers
- Changing facilities
- Provide sheltered eating areas
- Smoking must be prohibited in all sanitary and eating facilities

### 5.20 STRUCTURES

The contractor will ensure that all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work. No structure or part of a structure shall be loaded in a manner which would render it unsafe. Any work involving structures must be executed within the requirements of the Construction Regulation 11.

### 5.21 DEMOLITION

Should any demolition work be required, the principal contractor should submit a safe working procedure and a detailed engineering survey for approval by the client. Approval will then be issued to the principal contractor to proceed with the demolition work. The principal contractor shall ensure that demolition work complies with the Construction Regulations.

### 5.22 FORMWORK AND SUPPORT WORK

All formwork and support work that will take place on the site will be executed within the requirements of the Construction Regulations 11. A competent person will be appointed to supervise the erection, maintenance, use and dismantling of support and formwork. The design drawings will be available on site. All support and formwork inspected and inspection registers will be kept:

- Before use/inspection
- Before pouring of concrete weekly whilst in place
- Before stripping/dismantling.

## 5.23 EXCAVATIONS

All manmade cavities, trenches, pits or depressions formed by cutting, digging or scooping from the ground and which may present a danger to any person must be executed within the requirements of the Construction Regulation 13 and General Safety Regulation 5.

A competent appointed person must inspect all work classified as excavation work. All suitable steps to prevent collapse, where there is a danger that embankments or earth walls may collapse will be taken. Where the competent person does not consider shoring and/or bracing necessary, written permission for employees to work in that excavation must be recorded.

Excavations including all bracing and shoring must be inspected:

- Daily, prior to each shift;
- After every blasting operation;
- After every unexpected fall of ground; after substantial damage to supports; and
- After rain.

### 5.23.1 GENERAL REQUIREMENTS

Before work commences, a competent person must verify the stability of the ground where the work is to take place.

Every excavation wherein people are required to work or where there is an apparent risk of collapse, must be adequately braced or shored, or the top corners sufficiently cut back to prevent the sides from collapsing. The spoil must be placed at least 1 meter from the edge of the excavation.

### 5.23.2 TYPICAL BATTERS OF EXCAVATED SLOPES

| | Slope batters * (vertical : horizontal) | | | | | |
|---|---|---|---|---|---|---|
| **Material** | **Permanent** | | | **Temporary** | | |
| Massive rock | 1 ½: 1 | to | Vertical | 1 ½: 1 | to | Vertical |
| Well jointed / bedded rock | 1: 2 | to | 2: 1 | 1: 2 | to | 2: 1 |
| Gravel | 1: 2 | to | 1: 1 | 1: 2 | to | 1: 1 |
| Sand | 1: 2 ½ | to | 1: 1 ½ | 1: 2 ½ | to | 1: 1 |
| Clay | 1: 6 | to | 1: 2 | 1: 2 | to | 1: 2 |

*NOTE: These batters are a guide only and not for final design purposes.

No excavation may be made where the stability of any building, structure, will be adversely affected unless adequate precautions can be taken to prevent collapse.

The location of any services, i.e. water, electricity or similar must be noted and suitable precautionary measures taken prior to work being started on any excavation. Should any underground service be located in the vicinity of the proposed excavation, then exposure of that service must be effected by hand excavation only, and under direct supervision by a competent person.

At least one safe and convenient access point within 6 meters from the point where any employee may be working shall be provided.

Every excavation which is a danger to persons must be adequately protected by a barrier or fence at least one-meter-high and provided with warning lights or other clearly visible boundary indicators at night or when visibility conditions are poor.

No material or vehicle, particularly heavy equipment must be allowed within 1, 5 meters of the edge of any excavation; provided a suitably qualified registered professional engineer grants permission.

Where the excavation involves the use of explosives, a person competent in the use of explosives develops a method statement.

Warning signs next to excavations within which persons are working will be installed.

## 5.24 TUNNELLING

If tunnelling activities will be carried out, the work will comply with the tunnelling Regulations as published under the Mine Health and Safety Act, 1996 (Act No. 29 of 1996), as amended. No person shall enter a tunnel, which has a height dimension of less than 800 mm.

## 5.25 EDGE PROTECTION AND PENETRATIONS

The principal contractor should ensure that all exposed edges and openings have been properly guarded and demarcated at all times until permanent protection has been erected. The principal contractor's risk assessment must include all other openings and areas where a person may fall.

### 5.25.1 CONSTRUCTION VEHICLES

For the purposes of these specifications a Construction Vehicle means any vehicle used to transport persons, materials, or both on or off of the construction site for the purposes of performing construction work.

The vehicle must be of a suitable design and construction for the type of work anticipated. Operators must receive appropriate training and be in possession of a medical certificate of fitness before making a written appointment to operate the construction vehicle. The construction vehicle must obey all speed limits.

There must be a safe means of access provided for the operator into and out of the operating cab. Provide the cab with suitable protection for the operator against falling materials and the dangers of being crushed should the vehicle overturn. Fit and maintain in an operational state an electrically operated acoustic signalling device and a reversing alarm.

Construction vehicles exposed to normal public traffic must be fully roadworthy. Vehicles which may be left unattended at night adjacent to a public road must be fitted with appropriate lights or reflectors

### 5.25.2 TRANSPORT

Vehicles used to transport employees must have seats firmly secured and adequate for the number of employees that may be carried.

Persons other than the operator may only be transported on a construction vehicle in a place provided for that purpose.

When transporting tools and materials in the same compartment as employees the material must be secured to prevent movement within the compartment.

Secure tools and materials to prevent accidental discharge during transportation from the construction vehicle.

## 5.26 PRESSURE EQUIPMENT

All mobile compressors must have a valid test certificate verifying that the pressure equipment has been tested and inspected within the last 36 months.

Certificates verifying the code to which the equipment was manufactured and the supervision exercised by the inspection authority during construction must be made available.

A manufacturer's plate must be securely fixed in a conspicuous place to the shell of every such equipment and must contain the information specified in the table below.

## 5.27 PNEUMATIC POWERED TOOLS

Hoses should be secured above walkways and access ways wherever practical, to avoid tripping hazards and damage to the hoses. All connections must be of an approved type and be fitted with devices to prevent accidental disengagement. The quick releases of a pressure connector type are preferred; connect the male fitting to the tool rather than the hose. Air supply hoses should be rated at 1035kpa (150psi) or 150% of the maximum pressure used in the supply system.

The use of air supply for cleaning of work areas will be avoided. Do not use air supply to clean clothing or skin. Personal protective equipment must be used when pneumatic tools are operated. Safety devices and mechanisms are fitted by the supplier and these must not be tampered with or made inoperable; e.g. for grinders - machine guard for staples – contact area guard and mechanical linkage.

The efficiency and safety of the machine deteriorates through usage, a planned Repairs and Renovations programme will improve efficiency of the tools and maintain safety devices.

## 5.35 FLAMMABLE SUBSTANCES STORES

Any usage and subsequent storage of flammable substances must be done to ensure that fire and explosion risks are removed and all requirements are met in accordance with local authorities bylaw's, General Safety Regulation 4, Construction Regulation 25 and the relevant SABS Codes of Practice; SABS 0400, SABS 0177: Part II, SABS 03-1995, SABS Code of Practice 0199-1985 Air Pollution Prevention Act, 1965 (Act 45 of 1965).

The Principal Contractor must ensure that:

- No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions is taken
- No flammables is used or applied e.g. in spray painting, unless in a room or cabinet or other enclosure specially designed and constructed for the purpose unless there is no danger of fire or explosion due to the application

of adequate ventilation The workplace is effectively ventilated. Where this cannot be achieved:

- Employees must wear suitable respiratory equipment
- No smoking or other sources of ignition is allowed in the area
- The area is conspicuously demarcated as “flammable”

- Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with access control measures in place and sufficient firefighting equipment installed and fire prevention methods practiced for example proper housekeeping
- Flammables stored in a permanent flammable store are stored so that no fire or explosion is caused i.e.:

- Stored in a locked and well-ventilated reasonably fire resistant container, cage or room conspicuously demarcated as “Flammable Store – No Smoking or Naked Lights”
- The flammables store to be constructed of two-hour fire retardant walls, door and roof and separated from adjoining rooms or workplaces by means of a two-hour fire retardant fire wall
- Adequate and suitable firefighting equipment installed around the flammables store and marked with the prescribed signs
- All electrical switches and fittings to be of a flameproof design
- Any work done with tools in a flammable store or work areas to be of a non-sparking nature
- No Class A combustibles such as paper, cardboard, wood, plastic, straw etcetera to be stored together with flammables
- The flammable store to be designed and constructed to, in the event of spillage of liquids in the store, to contain the full quantity + 10% of the liquids stored
- A sign indicating the capacity of the store to be displayed on the door
- Only one day’s quantity of flammable is to be kept in the workplace
- Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas
- Metal containers to be bonded to earth whilst decanting to prevent build-up of static forces; and
- Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.

## 5.36 HAZARDOUS CHEMICAL SUBSTANCES

The contractor needs to refer to the Hazardous Chemical Substance Regulations if any hazardous chemical substances will be used during the project.

## 5.37 NOISE

Where noise has been identified as a hazard the requirements of the Noise Induced Hearing Loss Regulations (NIHL) should be complied with. The following should be included in the Health and Safety Plan:

- Training records required by the regulations.
- Risk assessment as required by regulations as well as the engineering, admin and personal protective equipment control methods that should be implemented.
- How monitoring will be carried out by an Approved Inspector. Authority according to SABS 083.
- All areas that have been identified as noise areas should be marked with the correct signage.
  The programme for medical surveillance for employees exposed to noise.
- Statement of how records will be kept safe for the stipulated period of 40 years.

## 5.38 WATER ENVIRONMENTS

If work will be done over or in close proximity to water, provision needs to be made for preventing workers from falling into water and the rescuing of workers in danger of drowning. If a worker is exposed to the risk of drowning by falling into the water, a lifejacket will be provided and worn by the worker.

## 5.39 HOUSEKEEPING

Suitable housekeeping will be continuously implemented on each construction site. Provision will be made for the proper storage of materials and equipment, and the removal of scrap, waste and debris at appropriate intervals.

Storage areas for materials and equipment shall be established and upheld. Precaution needs to be made for vehicle traffic.

Loose materials required will not be placed in such a manner or be allowed to accumulate on the site to obstruct means of access to and egress from workplaces and passageways. Waste and debris are not disposed of from a high place with a chute, unless the chute complies with the following requirements:

- Is adequately constructed and rigidly fastened;
- If inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;
- if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;
  Where necessary, is fitted with a gate at the bottom end to control the flow of material; and
- Is discharged into a container or an enclosed area surrounded by barriers.

The sites will be fenced off since this maintenance will be done inside the school yard. Access will be controlled to prevent the entry of unauthorized persons including learners. Physical barriers shall be erected to prevent entry to unauthorized or unsafe areas and also to avoid destruction of learners. If this is not practical, signs shall be displayed at strategic locations, warning the employees, learners , school staff ,visitors and the public of the potential dangers of construction activities.

A catch platform or net will be erected above an entrance or passageway or above a place where persons work or pass under. A danger area will be fenced if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.

The Principal Contractor must ensure that:

- Housekeeping is continuously implemented and maintained
- Materials and equipment is properly stored

- Scrap, waste and debris is removed regularly
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic
- Waste and debris not to be removed by throwing from heights but by chute or crane
- Where practicable, construction sites are fenced off to prevent entry of unauthorized persons
- Catch platforms or -nets are erected over entry and exit ways or over places where persons are working to prevent them being struck by falling objects
- An unimpeded work space is maintained for every employee
- Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid- free and free of obstruction, waste and materials
- The walls and roof of every indoor workplace be sound and leak-free; and
- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fences, boarded over or provided with protection to prevent persons from falling.

## 5.40 FALL PROTECTION PLAN (WORKING IN A FALL RISK POSITION)

A pre-emptive risk assessment will be required for any work to be carried out above (2) two metres from the ground or any floor level and will be classified as “work in elevated positions”.
As far as is practicable, any person working in an elevated position will work from a stable platform, ladder or other device that is at least as safe as if he or she is working at ground level and whilst working in this position be wearing a single belt with lanyard to prevent the person falling from the platform, ladder or other device utilized. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge.

Alternatively any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with suitable guard rails at two different heights as prescribed in SANS 10085 code of practice for the design, erection, use and inspection of access scaffolding.
Where the requirement is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer’s head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system that is approved by the Client.
Where the requirements are not practicable, a suitable catch net must be erected.

Employees working in elevated positions must be trained to do this safely and without risk to their Health and Safety. Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material, i.e. skylights and openings in the roof as well as the possibility of working in unsafe weather conditions. Updated medical certificate confirming the fitness of employees working at a fall risk position should be kept on the Health and Safety file at all times.

ACCESS SCAFFOLDING

Access scaffolding must be erected, used and maintained safely in accordance with Construction Regulation 16 and SA National of Standards Code of Practice, SANS 10085 entitled, “The Design, Erection, Use and Inspection of Access Scaffolding”. Detailed consideration must be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be ensured that there is sufficient material available to erect the scaffolding properly.

Scaffolding must be erected, altered or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous supervision of such a person.

## 5.41 ELECTRICAL INSTALLATIONS

The installation of temporary electricity for construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations.
The Principal Contractor must ensure that:

- Existing services are located and marked before construction commences and during the progress thereof
- Where the abovementioned is not possible, employees with jackhammers etc. are protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etc.
- Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site
- Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the Occupational Health and Safety file
- Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the Occupational Health and Safety file; and A competent person appointed in writing must control all temporary electrical installations.

ELECTRICAL AND MECHANICAL LOCKOUT

An electrical and mechanical lockout procedure must be developed by the Principal Contractor and submitted to the Client for approval before construction commences. All Contractors on site must adhere to this lockout procedure.

## 5.42 STACKING AND STORAGE

The Principle Contractor must ensure that:

- A competent person is appointed in writing to supervise all stacking and storage on a construction site
- Adequate storage areas are provided and demarcated The storage areas are kept neat and under control
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack The items in the lower layers can support the weight exerted by the top layers
- Cartons and other containers that may become unstable due to wet conditions are kept dry
- Pallets and containers are in good condition and no material is allowed to spill out

installations.

- The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang)
- The articles that make up a single tier are consistently of the same size, shape and mass
- Structures for supporting stacks are structural or brick wall sound and able to support the mass of the stack
- No articles are removed from the bottom of the stack first but from the top tier first
- Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her
- Stacks that are in danger of collapsing are broken down and restacked
- Stability of stacks are not threatened by vehicles or other moving plant and machinery Stacks are built in a header and stretcher fashion and that corners are securely bonded
- Persons climbing onto stacks do not approach unguarded moving machinery or electrical

### 5.43 AUDITS

Contractor shall appoint a representative to perform regular audits (at least once a month) as per agreement with the client on the project. The representative will report compliance levels to Tshambila Env Consultant. The Safety Consultant reserves the right to stop any construction work which does not comply with the requirements of the agreed Health and Safety Plan.

The principal contractor needs to perform the same function on their sub- contractors.

## 6. GENERAL NOTE

PLEASE NOTE: that this specification might not contain all the relevant documents and requirements and it is therefore the responsibility of the contractor to do a proper risk assessment to understand all the risk associated to their scope of work after the first site meeting and then update their health and safety plans accordingly.

A health and safety system or programme must include the following elements:

| Element | Important aspects |
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| SHE policy statement | ○ Written policy document<br>○ Displayed and signed by the CEO<br>○ Review date |
| Individual responsibilities (Appointment letters - set scope of work) | ○ Responsibilities of employees<br>○ Responsibilities of supervisors and first-line supervisors (Section 8(2)(i) appointees)<br>○ Responsibilities of senior management (Section 16(1) and 16(2) appointees)<br>○ GMR 2(1) – Supervision of machinery<br>○ Assistant to GMR 2(1)<br>○ GMR 4(3) – Shifts man appointment<br>○ Responsibilities of safety coordinators<br>○ Emergency Controller<br>○ Fire Fighting Co-ordinator<br>○ Fire Fighter<br>○ Fire Team Member<br>○ Fire Fighting Equipment Inspector<br>○ First Aid Co-ordinator<br>○ First Aider<br>○ Incident Investigator<br>○ Stacking Supervisor<br>○ Ladder Inspector<br>○ HCS Co-ordinator<br>○ Ergonomical Survey Officer<br>○ Health and Hygiene Co-ordinator<br>○ Pollution Surveys<br>○ Work Permit Survey Officer<br>○ Air Power Tools Inspector<br>○ Explosive Power Tool Controller<br>○ Explosive Power Tool Operator<br>○ Etc. |
| Health and safety representatives and committees | ○ Appointment of representatives (GAR 6 & Section 17 & 18 of OHSA)<br>○ Establishment of health and safety committees (Section 19 & 20 of OHSA)<br>○ Appointment of Health & Safety Committee Members<br>○ Appointment of Chairman Health & Safety Committee<br>○ Monthly meetings |
| | ○ Baseline Risk Assessments |

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| Risk assessment | ○ Issue based risk assessment<br>○ Continuous risk assessment |
| Safe work procedures | ○ After the critical area activities have been identified, standards must be determined to establish safe work procedures.<br>○ Written procedures or standards needs to be set (SWP's or SOP's) |
| Employee orientation | Safety awareness should include:<br>○ emergency procedures<br>○ first aider and location of first aid stations<br>○ health and safety responsibilities, including those specified by legislation<br>○ reporting of injuries, unsafe conditions and acts<br>○ use of personal protective equipment<br>○ right to refuse hazardous work<br>○ hazards, including those outside own work area<br>○ reasons for each health and safety rule<br>○ each individual's specific role and responsibilities<br>○ scope of authority (Job descriptions) |
| Training | Training programmes should be established and maintained to address:<br>○ Knowledge and understanding of the organisations safety programmes, rules and procedures as well as each individual's specific role and responsibilities.<br>○ Systematic programme of induction and ongoing training for employees and those how may be transferred between divisions, jobs or tasks<br>○ Training in the handling of risks, hazards and dangers, precautions to be taken and procedures to be followed<br>○ Training in hazard identification, risk assessment and control<br>○ Training for all persons who may manage others like employees, contractors and other<br>○ Training of top management in their role and responsibilities<br>○ Training and awareness programmes for contractors, temporally workers and visitors according to the level of risk which they will be exposed to,<br>○ Training in the correct report procedures<br>○ Training in proper incident/ accident investigation<br>○ Training in the effective monitoring of the quality |

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| | of the health and safety programme |
| Workplace inspections | Regular inspections by:<br>○ Health and Safety Representative<br>○ Supervisors<br>○ Where prescribed by regulations<br><br>Inspect the workplace to identify hazards related to:<br>○ Regular, planned workplace inspections<br>○ Equipment inspections<br>○ Special inspections<br><br>Inspection lists – useful tools |
| Certifications | By Approved Inspection Authority:<br>○ Ventilation surveys<br>○ Light surveys<br>○ Dust surveys<br>○ Noise surveys<br>○ Lifting equipment<br>○ Pressure vessels<br>○ etc. |
| Medicals (pre-medicals, baseline, periodic and exit medicals) | Where prescribed by a regulation:<br>Noise; heat; dust; chemical exposure; asbestos; lead etc. |
| Reporting, recording and investigating accidents | Reporting to PD:<br>○ Section 24 - Reportable incidents (WC. I 2)<br>○ Section 25 – Occupational deceases (WC. I1)<br><br>Recording and investigations:<br>○ GAR 8 & 9<br>○ Annexure 1 |

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| Emergency procedures | Fire precautions and procedures are adequate:<br>○ Building construction<br>○ Access and egress<br>○ Emergency exits<br>○ Emergency lighting<br>○ Firefighting appliances (sufficient, appropriate and maintained)<br>○ Fire drills and alarm checks<br>○ Storage of flammable/combustible materials (gas cylinders, fuel oils, wood and paper waste)<br>○ Identification of fire / explosion risk areas and instructions for isolating power, fuel, gas etc.<br>○ Evacuation procedures and responsibility for roll calls<br>○ Employee training in procedures and general fire safety practices.<br>Other emergencies, similar procedures to those for accidents and fire are required for emergencies, to cover such events as:<br>○ Gas leaks<br>○ Explosions<br>○ Pressure vessel rupture<br>○ Building collapse<br>○ Chemical leaks and spillage<br>○ Bomb threats |
| First aid | ○ Training of first aiders<br>○ Provision of first aid boxes<br>○ Inspection & control of first aid boxes |
| Safety culture | Situational aspects:<br>○ Observed through the organisation's management systems, policies, working procedures, communication flow, etc. and should be measured by audits of safety management systems.<br>Behavioural aspects:<br>○ How people act in the workplace and can be measured through self-reported measures, outcome measures and peer observations<br>The psychological component: |

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| | ○ Relates to people's norms, values, attitudes and perceptions of safety in the workplace<br>○ The psychological components are commonly measured in the form of a safety climate survey |
| Contractor management | ○ 37(2) Contractors agreements<br>○ COID registration (letter of good standing)<br>○ Medical certificates<br>○ Employee certifications and qualifications (competence)<br>○ Machinery and equipment checks and certifications<br>○ Risk assessments for activities |
| Other elements | ○ Handling of Hazardous Chemical Substances (Material Safety Data Sheets)<br>○ Handling of Hazardous Biological Agents<br>○ Lock out procedures<br>○ Hot work permits<br>○ Material handling rules<br>○ Maintenance programs<br>○ Vehicle safety rules<br>○ Personal protective equipment requirements<br>○ Engineering standards<br>○ Purchasing standards<br>○ Preventive maintenance |
| Health and safety audits | ○ Internal audits<br>○ External audits |