



KWAZULU-NATAL PROVINCE

PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 6

REFERENCE NR	WIMS064164
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KWAZULU-NATAL PROVINCE

PUBLIC WORKS & INFRASTRUCTURE
REPUBLIC OF SOUTH AFRICA

Occupational Health and Safety Specification (OHSE SPEC)

PROJECT NAME	SIHLE HIGH SCHOOL: WATER AND SANITATION PHASE 03
WIMS NR:	064164
CLIENT:	DEPARTMENT OF EDUCATION
PREPARED BY:	Ms. H.S MASIKANE

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1.	Abbreviations
ALARP	As low As Reasonably Practicable
BRA	Baseline Risk Assessment
BOQ	Bill of Quantities
COIDA	Compensation for Occupational Injuries and Diseases Act.
CHSM	Construction Health and Safety Manager
CHSR	Client Health and Safety Representative
CR	Construction Regulations
DMR	Driven Machinery Regulations
DEL	Department of Employment and Labour
FEMA	Federated Employers Mutual Association
FPP	Fall Protection Plan
GAR	General Administration Regulations
GSR	General Safety Regulations
HCSR	Hazardous Chemical Substances Regulations
HIRA	Hazard Identification and Risk Assessment
H&S	Health and Safety
JSA	Job Safety Analysis
MSDS	Material Safety Data Sheet
OHSA	Occupational Health and Safety Act, Act 85 of 1993
PC	Principal Contractor
PPE	Personal Protective Equipment
RAMS	Risk Assessment and Method Statement
SABS	South African Bureau of Standards
SACPCMP	South African Council for Project and Construction Management Professions
SARTSM	South African Road Traffic Safety Manual, Chapter 2. Volume 13
SANS	South African National Standards
SSHSS	Site Specific Health and Safety Specification
SSHSP	Site Specific Health and Safety Plan
SWP	Safe Work Procedure

2. Definitions

"Act" Means, unless the context indicates otherwise, the Occupational Health and Safety Act, 85 of 1993.

"Agent (Pr. CHSA)" means a competent person who acts as a representative for a client in terms of Regulation (5)5 of the Construction Regulations of 2014.

"Approved Plan of Work" means a written site-specific methodology as contemplated in regulation 15 that is at least co-signed by the asbestos client, registered asbestos contractor and approved inspection authority;

"Audit" Means a systematic examination of documents, equipment, physical on-site conditions etc. to evaluate the levels of compliance with clients OHS requirements, applicable legislative requirements, and the achievement of a safe working environment for Employees, as well as not posing a risk to other persons and the environment.

"Baseline Risk Assessment" (BRA) A wide encompassing risk assessment performed by the client of anticipated construction activities to execute the anticipated scope of work pertaining to the project.

"CR" refers to the Construction Regulations 2014.

"Client" in terms of this document means Department of Public Works, Kwazulu-Natal.

"CHSR" Means Client Health and Safety Representative, an in-house employee appointed by the Client to oversee the Health and Safety Management of a project.

"CHSM" means Construction Health and Safety Manager.

"Competent person" means a person who-

- a) Has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific for that work or task provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the OHS Act, Act 85 of 1993 and with the applicable regulations made under the Act.

"Construction Health and Safety Officer" Means a person deemed competent by SACPCMP under the relevant category of registration appointed by the Principal Contractor to oversee the Safety, Health and Environmental Management on-site.

"Construction Manager (Site Agent)" means a competent person responsible for the management of the physical construction processes and the coordination, administration, and management of resources on a construction site.

"Construction Plant" Encompasses all types of plant including but not limiting to, cranes, piling equipment, boring machines, excavators, dewatering equipment, and road vehicles with or without lifting equipment.

"Construction Site" means a workplace where construction work is being performed.

"Construction Work Supervisor" means a competent person responsible for supervising construction activities on a construction site.

"Construction Vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work.

"Construction work" means any work in connection with –

- a) The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- b) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer, or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work.

"Contractor" means an employer who performs construction work.

"Demolition Work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives.

"Designer" Means a competent person as defined by the Construction Regulations of 2014 appointed by the Client or the Principal Contractor as Agent to design and/or supervise and/or monitor construction work on their behalf.

"Fall Protection Plan" (FPP) means a documented plan, which includes:

- (a) Identification of hazards and risks pertaining to the risk of falling taking the nature of the work and its environment in consideration;
- (b) The procedures and methods to be applied to eliminate the risk or to reduce it to a level which is as low as reasonably practicable; and
- (c) A rescue plan and procedures.

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- c) A rescue plan and procedures.

"Fall Prevention Equipment" Means equipment used to prevent persons, tools, equipment, machinery materials etc from falling from a "fall risk" position, including personal protective equipment, body harness, body belts, lanyards, lifelines or physical equipment, guardrails, screens, barricades, signage anchorages or similar equipment.

"Fall Risk" means any potential exposure to falling either from, off, over or into.

"Hazard" Means a source, situation, feature, activity, or anything else which has got the potential to cause harm, injury, death, environmental damage, business interruption etc.

"Hazard Identification and Risk Assessment (HIRA)" Means a document, which identifies hazards, assesses the risks and identifies the control measures, which are to be used to mitigate or reduce to a level which is as low as reasonably practicable the occurrence of hazards and risks during construction, use, operation and eventual demolition phases of a project.

"Hazardous Chemical Substance (HCS)" Means any toxic, harmful, corrosive, irritant or asphyxiating substance, or a mixture of substances, for which an occupational exposure limit is prescribed, or an occupational exposure limit is not prescribed, but which creates a hazard to health and the environment.

Induction Training: Means once off introductory training on general health and safety issues given to all employees and visitors to the site before commencement of work on site.

"Issue based Risk Assessment" Means a Risk Assessment based upon a specific issue/activity/item which could be instituted in response to the high priority risks identified in the Baseline Risk Assessment, Programme Risk Assessment or even after a near miss or actual loss event.

"Job Safety Analysis (JSA)" Means an analysis of a specific job or task according to a pre-determined procedure which helps to integrate accepted SHE principles and practises into a particular task or activity. Each step of the JSA is to identify potential hazards and to recommend the safest way to do the job.

"Medical Certificate of Fitness" means a certificate contemplated in regulation 7(8) of Construction Regulations of 2014.

"Medical Surveillance" Planned program of periodic examination/medicals of employees by an occupational health practitioner.

"Method Statement (MS)" also known as a **Safe Work Method Statement (SWMS), or Safe Work Procedure (SWP)** is a document developed because of the outcome of a risk assessment by the contractor, which contains details of how each task should be performed safely.

"Principal Contractor (PC)" means an employer appointed by the client to perform construction work, but may also include the responsibility of designing or overseeing the design process.

"RAMS" Means Risk Assessments and Method Statement.

"Occupational Health Practitioner" Doctor or Nurse registered and in Good Standing with the Health Professions Council of South Africa and has a tertiary qualification in Occupational Health Nursing.

"Principal Contractor (PC)" means an Employer appointed by the Client to perform construction work, but may also include the responsibility of designing or overseeing the design process.

"RAMS" Means Risk Assessments and Method Statement.

"Risk" Means the probability or likelihood that the possible harm, injury, death etc potential of a hazard could be realized with a consequence attached.

"SHE" Means Safety, Health and Environmental.

"Site": Means the area handed over to the Principal Contractor for the purposes of construction work. Where there is no demarcated boundary it will include all adjacent areas, which are reasonably required for the activities for the Principal Contractor and approved for such use by the Designer and/or the Client.

"Site Specific Health and Safety File (SSHSF)" Means a file specifically pertaining to a site containing all health and safety documentation relating to the project as per the requirements of the Construction Regulations of 2014 and/or the SSHSS.

"Site Specific Health and Safety Plan (SSHSP)" means a detailed site, activity, or project specific documented plan in accordance with the client's OHSE specification indicating how health and safety will be managed during the project.

"Site Specific Health and Safety Specification (SSHSS)" means a site, project specific document prepared by the client pertaining to all health and safety requirements related to construction work.

3. KEY REFERENCES

- Occupational Health and Safety Act No. 85 of 1993 and Regulations (as amended)
- Compensation for Injury and Occupational Diseases Act No. 100 of 1993 (as amended)
- Building Code SANS 10400
- Wiring Code SANS 10142
- Scaffolding Code SANS 10085-1
- Green Building Guidelines

4. INTRODUCTION AND PURPOSE

The KwaZulu-Natal Department of Public Works and Infrastructure is deemed as the "Client" in terms of the definitions of the Construction Regulations of 2014 as published in *Government Gazette No. 37305*. The Construction Regulations of 2014 in terms of CR(5)(1) stipulates that the Client must prepare a suitable, sufficiently documented and coherent SSHSS, for the intended construction work based on the Baseline Risk Assessment, (BRA) which in turn is based on the Scope of Work and several other related factors such as hazards and risks identified by the designer. It must be noted that for ease of reading the term "He/His" will be descriptive of both male and female gender throughout this document.

Purpose

The purpose of this SSHSS identifies the health and safety requirements the contractor needs to comply with. It will be periodically reviewed and updated (if necessary) to address and / or include:

- Changes in legislation;
- Client requirements;
- Leading practices;
- Lessons learnt from incidents; and
- Unforeseen issues.

This SSHSS also forms an integral part of the contract between the Client and the PC. It identifies and encompasses the working environment, practises and behaviours expected of all parties who have roles to play in the successful completion of this project. The SSHSS provides guidelines to comply with the Occupational Health and Safety Act, Act 85 of 1993 (OHS Act) as amended, The Construction Regulations of 2014, other applicable legislative requirements, and applicable best practises. It aims to firstly ensure compliance with applicable legislative requirements as indicated above and secondly to form the basis for the PC to develop his/her SSHSP.

As with any other plan for it to be implemented and managed effectively it requires the allocation of sufficient funds and resources, human and others, to achieve the objectives set out in the plan. In line with this requirement, Construction Regulation 5(1) (g) also requires the Client to ensure that the Principal Contractor has made adequate provisions for the cost of Health and Safety Measures in their

tenders. The PC will be required to submit a Bills of Quantities (BOQ) with his SSHSP, which can be found under the Annexures section of this document which will be evaluated at the time of the evaluation of the SSHSP to satisfy the requirements of CR 5(1)(g).

This specification covers the requirements for eliminating and/or mitigating health and safety risks, injuries, accidents, and incidents on site to a level which is as low as reasonably practicable (ALARP). It addresses legal compliance, hazard identification, risk management and the promotion of a positive health and safety culture within the project. This specification also makes provision for the protection of persons other than those employed by the PC as stipulated by Sec 9 of the OHS Act, Act 85 of 1993.

It will also be noted that this document specifies certain recommendations, which should be followed so that the health and safety of all persons who may be potentially at risk and the potential risk to the environment may receive the same priority as other facets of the project such as Time, Cost and Quality.

It must be noted that this SSHSS as much as it is detailed it is not exhaustive and the onus is on the PC to ensure that he complies with Section 8 of the OHS Act, Act 85 of 1993 which reads as follows:

Sec 8(2)(d) "Establishing as far as reasonably practicable what hazards to the Health and Safety of persons are attached to any work which is performed, and he shall as far as is reasonably practicable, further establish what precautionary measures should be taken with respect to such work in order to protect the health and safety of persons, he shall provide the necessary means to apply such precautionary measures..", this means that Principal Contractors as an employer in his/her own right must at all times ensure continuous Hazard Identification and Risk Analysis (HIRA) and the implementation of appropriate risk reduction and/or elimination measures so as to strive towards the implementation and continued provision and maintenance of a healthy and safe working environment. The SSHSS is a performance specification aimed at ensuring that the Client and any persons it enters into an agreement with achieves an acceptable level of SHE performance.

5. SCOPE OF APPLICATION

This Client Specification is exclusively applicable to the following project:

SIHLE HIGH SCHOOL : WATER AND SANITATION PHASE 03

The scope of work involves construction of two (2) new ablution facilities comprising of six (6) seats and five (5) wash hand basins and renovation of six (6) existing ablution facilities comprising of twenty seven (27) seats, three (3) urinals and three (3) wash hand basins.

5.1. SITE LOCATION

SIHLE HIGH SCHOOL is located 21 kilometres from Scottburgh in the Ugu District of Kwa Zulu Natal . -30.372102836276202, 30.63719683100566

5.2. SUMMARY SCOPE OF WORK

The project will consist of the following major components:

- Cut and fill operations to form new building platforms with a total volume of 28 m³.
- Cut to spoil fill operations to form new building platforms with a total volume of 8 m³.
- Imported fill to form new building platforms with a total volume of 88 m³.
- Preparation of new building platforms with a total footprint of 344 m².
- Excavations for pits.
- Construction of two (2) pits.
- Shallow foundations
- Construction of two (2) new ablution facilities with a total footprint of 94 m².
 - 4 Girls facility comprising of four (4) seats and three (3) wash hand basins.
 - 1 Female and 1 Disabled facility comprising two (2) seats and two (2) wash hand basins.
- Renovation of six (6) existing ablution facilities with a total footprint of approximately 216m².
 - Existing Girls facility comprising of twelve (12) seats.
 - Existing Boys facility comprising of eight (8) seats and two (2) urinals.
 - Existing Male Staff facility comprising of three (3) seats, one (1) urinals and one (1) wash hand basin.
 - Existing Female Staff facility comprising of three (3) seats and one (1) wash hand basin.
 - Existing Disabled facility comprising of one (1) seats and one (1) wash hand basin.
 - Renovations to include:
 - Replace two (2) urinals and eleven (11) wash hand basin.
 - Screed and epoxy coat the floor.
 - Replace doors and latches.
 - Plaster and paint all damaged internal walls.
 - Install fascia boards, barge boards, gutter and down pipes.
 - Connect JoJo tanks to gutters for rainwater harvesting.
 - Install all plumbing fixtures.
 - Install toilet paper roll holders.
- Construction of stormwater control measures such as berms and open drains.
- Construction of 13 metres of walkways and ramps.

The works will also include:

- Individual service connections to the new ablution facilities
- Installation of all fixtures including toilets, urinals, hand basins and fittings associated with the works for the new and existing ablution facilities as highlighted above
- Reinstatement of paved areas removed or damaged during construction
- Demolition of old ablution facilities
- Filling old pits/septic tanks after demolition of buildings
- Disposal of excavated material
- Rehabilitation of construction area
- Provision of temporary ablution facilities for the exclusive use of learners and staff at the school

5.3. THE PROJECT TEAM

The DPWI Project Team is as follows:

Initials and Surname	Organisation	Discipline	E-mail
Mr T Gwaze	DPWI	Construction Project Manager	Tapera.Gwaze@kznworks.gov.za
Ms. H.S Masikane	DPWI	Client Health and Safety Representative	gelly.masikane@kznworks.gov.za
Mr. C. Mangele	DPWI	Civil Engineer	Celumusa.mangele@kznworks.gov.za
Mr. J. Hassan	DPWI	Structural Engineer	Junaid.Hassan@kznworks.gov.za
Ms T Gcumisa	DPWI	QS	Thembeke.Gcumisa@kznworks.gov.za
Ms J Nandolo	DPWI	PA/ Architect	Jacinta.Nandolo@kznworks.gov.za

6. REQUIREMENTS PERTAINING TO SITE SPECIFIC HEALTH AND SAFETY PLAN SUBMISSION

The PC shall prepare a documented SSHSP as per CR 7(1) (a) based on the information / requirements contained in this specification, applicable legislative requirements and demonstrate how he is going to implement health and safety requirements during the construction process. It must cover all activities that will be carried out on the project site, from mobilisation and set-up through to Close-out. The SSHSP must include all documentation required in terms of The Act, Regulations, and this specification for the purpose of evaluation and approval.

The PC must refer to Annexure C of the SSHSS to familiarise himself with the requirements pertaining to the contents of his SSHSP to be submitted to the CHSR for approval. Failure to comply with the requirements of Annexure C may result in unnecessary delays in the SSHSP approval process. The PC must keep the original SSHSP and submit a copy for evaluation and approval purposes, which will be kept by the CHSR for filing and referencing purposes.

Upon approval of the PC's SSHSP, the CHSR will issue the final letter of SSHSP approval as required by CR 7(1)(a) and confirm his appointment as required by CR 5 1(k). The PC must file the letter on his SSHSF. It must be noted that Construction work may not commence until an official letter issued by the CHSR has been issued. The PC shall be responsible for ensuring that adequate information is submitted as supporting documentation with his completed documentation.

The approved SSHSP included in the SSHSF as well as this SSHSS must always be kept on site and include all documentation required in terms of The Act and this specification. It must be kept in mind that All Sub Contractors must open their own SSHSP's and files. These health and safety files shall be approved in writing by the PC's CHSO, as required by CR 7. 1 (c)(x), a copy of which must be filed on the Sub Contractors as well as the PC's Health and Safety File. The Sub-Contractor must also be appointed in terms of CR 7. (c)(v). The Sub Contractor's Health and Safety Files will also be subjected to evaluation by the CHSR when conducting an Audit in addition to the evaluation by the CHSO.

It is of the utmost importance that the PC takes note of the following when submitting his SSHSP for approval **in addition the requirements of Annexure C:**

- Completion and submission of Annexure A "Health and Safety Declaration" to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Occupational Health and Safety Act and its Regulations
- A valid Letter of Good Standing
- Two detailed Risk Assessments and Method Statements (RAMS) of two priority hazards as identified by the Risk Profile of anticipated construction activities for review by the CHSR, with evidence of the CHSO input to enable the CHSR to evaluate the Risk Assessors competency in terms of being able to conduct sufficient Risks Assessments and subsequent Method Statements
- Valid Proof of Competencies, including CV's of Key Appointments.

7. PRINCIPAL CONTRACTORS RISK ASSESSMENTS

A detailed hazard identification and risk assessment processes must be followed for all work to be performed as well as for all associated equipment and facilities. The contractor must ensure that effective procedures and assessment systems are in place to control hazards and to mitigate risks to levels that are ALARP.

The risk assessment processes must be applied to:

- Routine and non-routine activities.
- Planned or unplanned changes.
- All employees, sub-contractors, suppliers, and visitors; and
- All infrastructure, equipment, and materials.

The risk assessment processes and methodologies must be appropriate for the nature and scale of the risks and must be implemented by competent persons.

The process of analysing and managing risk must include the following:

- Establishing the context of the risk assessment.
- Identifying hazards and determining possible risk scenarios (unwanted events).
- Evaluating risks and assigning ratings (classification).
- Recording the risk analysis in a risk register.
- Managing risks according to their classification (prioritising for action).
- Identifying and implementing control measures through the application of the Hierarchy of Risk Controls to ensure that risks are managed to levels that is as low as is reasonably practicable (ALARP).
- Developing action plans for reducing risk levels (where possible).
- Verifying the completion of actions.
- Re-evaluating the risks and classifications as appropriate; and
- Reviewing and updating the risk register.

The PC must refer to the BRA and summary of hazards and risks identified by designers when conducting his risk assessments.

Once the SSHSP of the PC has been approved where two detailed Issue Based Risk Assessments and Method Statements (SWP's) of two priority hazards as identified by the BRA Risk Profile has been approved, such approval will only be granted in terms of approved RAMS up to and including site establishment.

During the site establishment period the PC will be required to submit his construction program. Health and safety management matters must be included in the program which will form the basis for the CHSR calling for RAMS for approval purposes. RAMS for future work must be supplied via e-mail to the CHSR at least 72 hours before the anticipated activity commencement date, unless otherwise agreed, followed by a WhatsApp informing the CHSR of such e-mail.

Work may not commence pertaining to RAMS submitted for approval until such RAMS have been approved. Should the CHSO continuously submit RAMS late, it will be for the PC's account. Should the PC's CHSO persistently submit poor quality RAMS, the situation will be brought to the Project Leaders attention for intervention and engagement with the PC.

The PC must ensure that the CHSO is included in production, planning, sessions/meetings to ensure that the appropriate RAMS as required are available and completed timeously. Under no circumstances may a CHSO perform a risk assessment in isolation. The active participation of all relevant role-players is mandatory.

A Risk Assessment must be followed by a Method Statement (SWMS/SWP) which describes in detail how the job or task is to be performed in a logical, sequential manner. RAMS must be a "Team" effort, Site Management Representatives, Supervisory Personnel, Technical Experts, and workers must be part of the RAMS process.

RAMS must be reviewed as a minimum on an annual basis, when changes are made to work methods statements and following an incident.

8. Notification of Construction Work

The PC must submit in terms of Construction Regulation 4 in the format of Annexure 2, a Notification of Intention to Commence Construction Work to the closest Department of Employment and Labour. A stamped copy must be provided to the CHSR after submission. The SSHSP will not be approved until such Notification has been received by the CHSR. A copy of the approved notification to Commence Construction Work must be kept on the SSHSF.

9.	SITE SPECIFIC OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT (IN ALPHABETICAL ORDER)
9.1.	Accident, Incident Investigation
9.2.	Alcohol and Drugs
9.3.	Appointments
9.4.	Consultation, Communication and Liaison
9.5.	Close-out requirements
9.6.	COIDA
9.7.	Competency and Training
9.8.	Construction Supervision
9.9.	Defects Reporting and Correction
9.10.	Demolition
9.11.	Delivery and Placement of Containers, Park Homes etc.
9.12.	DSTI's
9.13.	Electrical Connections
9.14.	Emergency Drills and Evacuation Procedures
9.15.	Environmental Management Plan
9.16.	Edge Protection
9.17.	Excavations
9.18.	Extreme Weather Condition
9.19.	Fall Prevention Plan and Planning
9.20.	First Aid Boxes and Equipment
9.21.	Fire Extinguishers, Precautions and Fighting
9.22.	Fuel and Flammable Liquids
9.23.	General Record Keeping
9.24.	Hand Tools
9.25.	Hazardous Chemical Substances
9.26.	Hazard Identification and Risk Analysis (HIRA)
9.27.	Hazards and Potentially Hazardous Situations
9.28.	Health and Safety Audits, Monitoring, Reporting and Statistics
9.29.	Health and Safety Disciplinary Procedure

9.30.	Health and Safety Management Notice Board
9.31.	Health and Safety Organogram
9.32.	Health and Safety Plan Submission
9.33.	Health and Safety Policy
9.34.	Health and Safety Training
9.35.	Heat Stress and Sun Protection
9.36.	Housekeeping
9.37.	Incident and Injury Management
9.38.	Induction Training
9.39.	Ladders
9.40.	Lighting
9.41.	Manual Handling of Materials
9.42.	Maintenance
9.43.	Medical Fitness / Fitness to work
9.44.	Method Statements, Safety (SMS)(SWP'S)
9.45.	Noise
9.46.	Notices
9.47.	Notification of Construction Work
9.48.	Occupational Hygiene (Personal Hygiene and Infectious Diseases)
9.49.	Personal Protective Equipment (PPE)
9.50.	Plant and Machinery
9.51.	Planned Task Observations
9.52.	Portable Electrical Tools
9.53.	Public Safety and Security
9.54.	Risk Assessment of Plant and Equipment
9.55.	Roof Work
9.56.	Safety Meetings: Pre- Start, Review etc.
9.57.	Safety, Health and Environmental Representatives and Committee's
9.58.	Safety Officer (CHSO), Roles and Responsibilities
9.59.	Signage
9.60.	Site Clearance
9.61.	Site Establishment

9.62.	Site Layout Plan
9.63.	Site Specific Safety Rules
9.64.	Smoking on Site
9.65.	Speed restrictions and Protection
9.66.	Stacking and Storage of materials
9.67.	Structures and Temporary Works
9.68.	Sub-Contractor
9.69.	Transportation of Workers
9.70.	Trespassing
9.71.	Toolbox Talks
9.72.	Vehicles and Traffic Management
9.73.	Ventilation
9.74.	Vibration
9.75.	Visitors to Site
9.76.	Waste Management
9.77.	Water Management
9.78.	Welding, Grinding, Cutting etc.
9.79.	Welfare Facilities
9.80.	Working at Heights
9.81.	Pit Toilet Desludging

LISTED BELOW PLEASE FIND SITE SPECIFIC OCCUPATIONAL HEALTH AND SAFETY STIPULATIONS IN ALPHABETICAL ORDER. IT MUST BE NOTED THAT SOME ITEMS MAY BE OF MORE DETAIL THAN OTHERS, THE REASON BEING THAT DUE TO THE LEVEL OF RISK ASSOCIATED WITH THESE ITEMS THAT MORE DETAILED INFORMATION IS NEEDED TO BE BROUGHT TO THE PC'S ATTENTION, BUT THIS MUST NOT BE SEEN AS AN INDICATOR THAT OTHER ITEMS ARE OF LESS IMPORTANCE.

8.1.	Accident, Incident Investigations
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All Injuries sustained on the site are to be categorized into the following categories:

- first aid.
- medical attendance (Doctor).
- disabling; and
- fatal injuries

The PC must manage Accident/ Incidents. A procedure for the management of all health and safety accidents/Incidents must be drawn up and implemented. This procedure must define the responsibilities, methodologies and processes that must be followed for:

- Reporting an incident/accident.
- Investigating an incident/accident.
- Analysing an incident/accident to determine the root cause.
- Identifying and implementing corrective actions to prevent a recurrence; and
- Communicating information concerning an incident to relevant persons and / or groups.

A documented, detailed investigation report must be submitted with 7 days to the Project Team which and as a minimum include the following:

- The date, time, and location of the accident.
- Witness statements, including residential and contact details.
- A detailed description of the accident, including photographs.
- The Initials, Surnames, residential and contact details of any injured person/s.
- Injury details (if applicable).
- A summary of the first aid and / or medical treatment provided (if applicable).
- The status of any injured persons (if applicable).
- The root causes of the incident ; and
- Detailed corrective actions, including responsible persons and target dates for implementation.

A Near Hit/Mis is an incident which may have the potential to cause harm, injury or damage and need therefore to be reported and investigated to prevent the potential negative effect it may have been realised.

The contractor/ Supervisor/Employee must report each incident that occurs (including Near Hits/Mis) to the CHSO without delay. Preliminary details must be recorded on the same workday or shift on which an incident occurs. In the event of a significant incident, with the potential to cause serious injury, harm or damage taking place, work must cease and may only resume once the necessary actions, including the re-evaluation of any relevant risk assessments have been taken to reduce the risk of recurrence. Work may only be permitted to recommence once formal authorisation has been granted by the CHSO after consultation with the CR 8(1).

In the event of a person requiring First aid such cases must also be recorded in the First Aid Dressing Register. All accidents /Incident investigation reports and related documentation must be recorded on the safety file. All disabling and fatal accidents must immediately be reported to the CHSR telephonically after they occur followed by and e-mail notifying the CHSR of accident.

All incidents as described in Section 24 of the OHS Act must be reported in the prescribed period and manner to the Department of Employment and Labour. Copies of Section 24 reports, including WCL 2 forms must be forwarded to the CHSR.

The PC must on a monthly basis include in his Self-Audit Report all injuries sustained on site with the required remedial measures taken. Accident/ Incidents and the identified Root Causes with the recommended corrective measures must be included on the agenda of Safety Committee Meetings for discussion and reported back on at the next progress meeting.

8.2.	Alcohol and Drugs
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A fit-for-work policy must be in place, incorporating zero tolerance for any drugs (including prescribed medication with an intoxicating effect) or alcohol in the system of a driver or operator. Drug and alcohol testing must be part of all medical fitness assessments for the issue of medical fitness certificates.

No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on the construction site who is on prescription medication must inform the CHSO officer or the safety representative accordingly. A register must be kept of all persons on prescription medication with the contact details of the medical practitioner prescribing such medication.

Any person on the construction site who is suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to the CHSO or Safety Representative.

Any person on the construction site who is suspected of being under the influence of alcohol or other intoxicating drugs must be removed from site. He must be instructed at the time of being removed from site to report the next day for a preliminary inquiry. A full disciplinary process must be followed by the Contractor concerned and a copy of the disciplinary action must be forwarded to the PC for his records.

8.3.	Appointments
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The PC shall make appointments as per the Act and its Regulations; structured and guided by the scope of works and its associated risks. The PC must refer to Annexure C for a list of appointments which may be applicable to his Safety Management Structure.

All health and safety appointments must be done in writing and kept on the SSHSF. Where appointments have lapsed or new appointments have been made, such previous appointments and the new appointments must be kept in the SSHSF. Expired appointment may not be discarded or destroyed.

All SHE Appointments must be reflected on the Site SHE Organogram, which must be kept up to date, filed in the SSHSF and displayed in the Site Office.

It is acknowledged that the PC may need to allocate more than one appointment to certain staff members. This practice may only take place if health and safety standards would not be negatively affected, with the CHSR reserving the right to specify otherwise if deemed that it may affect health and safety standards.

8.4.	Consultation, Communication and Liaison
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The PC must establish and maintain effective communication and consultative processes, allowing for a two-way dialogue for the duration of the project to ensure that:

- All personnel are kept up to date regarding health and safety matters e.g., Hazards and risks, incidents and lessons learnt, leading practices, performance against objectives, etc.
- General health and safety awareness levels are kept high.
- Prompt feedback is given to personnel about health and safety issues or concerns that they raise; and
- Relevant, and often critical, health and safety related information e.g., design changes, instructions, reporting of hazardous conditions or situations, etc. is effectively disseminated.

This can be achieved by means of Toolbox Talks, Project Safety Meetings, Health, and Safety Awareness Programs etc.

8.5.	Close-out
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In terms of CR7(1)(e) and CR7(2)(b) the PC must hand over a consolidated SHE File to the Client when Construction work ceases, and the PC hands the site back to the Client. The Sub-Contractors appointed by the PC are required to do the same for the PC when exiting the site after completion of their work. The onus is on the PC to allow adequate time to ensure the correctness and approval by the CHSR of the files prior to exiting the Site.

The following list is an example of what should be included in the Close –out files but is not exhaustive. The CHSR may require further information at the time of completion of the project and the PC will have to ensure that all instructions are met. All records from the start of the project must be included. Daily or monthly inspection records are not required unless they are related to an accident. All records must be in electronic format and submitted to the CHSR for approval in adequately formatted lists and folders. The Layout should be logical and in the same order as in the site files. Upon final approval of the files by the CHSR, two hard copies of the electronic files must be handed over to the CHSR unless otherwise indicated by the CHSR.

Health and Safety close out file requirements.

PC File to include the following:

- Copy of Notification of Construction Work stamped by DOL
- Client SHE Specification
- Principal Contractor's SHE Plan
- Client Letter of SHE Plan Approval
- Organograms (Original and amended.)
- List of SHE Legal Appointments (Originals and amended)
- List of all employees employed on a permanent or contractual basis over the duration of the contract, PPE receipt records
- Medical Fitness Certificates for all employees
- Letters of Good Standing for the Project
- Incident/ Accident Records
- NCR's
- CHSR Health and Safety Audits
- Risk Assessments
- Method Statements
- Safe Work Procedures etc.
- List of all Sub Contractors

Sub-Contractor Files to include the following:

- SHE Plan
- SHE Plan Approval letter issued by the P
- Organogram/s (Original and amended).
- List of SHE Appointments (Original and Amended)
- All employees employed on a permanent or contractual basis over the duration of the contract receipt records
- Medical Certificates of Fitness for all employees
- PC and own audits
- Mandatory Agreements (if applicable)
- Risk Assessments

- Method Statements
- Safe Work Procedures
- Letters of Good Standing
- Incident Records
- Non-Conformance record

PC to include in its SHE File the following documentation if not being attended to by other discipline of PSP Team:

- All drawings for temporary structures (suspended beams etc.)
- All operating manuals for any systems that require on-going maintenance, and
- Copies of test results, policies, and procedures for environmental monitoring (silica, noise, dusts etc.)

Defect and Liability Period

The H&S files must be kept 'live' for the defect and liability period by the Principal Contractor, including those of their Subcontractors. Any work required during the defect and liability period will require an assessment of the H&S file by the PC's CHSO prior to any work commencing.

8.6.	COIDA
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The PC must ensure that all employees are fully covered in terms of the COIDA Act, either through the Workmen's Compensation Commissioner or another registered approved institution and that such cover will remain valid for the duration of the project. Failure to keep his/her cover valid will result in instructions to cease construction work being issued.

The PC must ensure that all Sub-Contractors appointed by him are fully covered in terms of the COIDA Act, or another institution as indicated above, and that such cover must remain valid for the duration of their contractual relationship with the PC.

The PC must have Public Liability Cover, which must adequately make provisions for any losses because of his and/or his employee's acts and/or omissions, which must remain valid for the duration of the project.

8.7.	Competence and Training
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The CEO (OHSA S16.1) of the PC will be overall responsible for the appointment of competent Construction Managers and site staff for the duration of the project unless it has been delegated to the Section 16.2 Appointee. All legal appointments are to be made with relevance to the type of work to be performed and kept current with the project programme. The PC, all contract employees, and their supervision must be in possession of the required qualifications or licences where the activities they must perform require such qualifications or licences.

The following Health and Safety competencies are applicable to certain appointments:

Sec 16.2 and Construction Work Manager [CR 8.1]: Supervisors Safety Course (IRCON) or equivalent and Legal Liability Course.

Construction Work Supervisor [CR 8.7]: Provide CV reflecting site supervision & work experience related to construction work activities executed in this project.

Safety Officer: SAMTRAC/ Lex Nexis 3 week SHE Management Course / NEBOSH, or equivalent.
SACPCMP CHSO Registration and Relevant Experience.

Safety Representatives: SAQA Accredited SHE Representative Training Course.

Risk Assessor: SAMTRAC / Lex Nexis 3 week SHE Management Course / NEBOSH or SAQA accredited Risk Assessors Course.

Fall Protection Planner: SAMTRAC / Lex Nexis 3 week SHE Management Course / NEBOSH or SAQA accredited Fall Protection Course (Accredited to SAQA Unit Standard 229994).

Incident Investigator: SAMTRAC / Lex Nexis 3 week SHE Management Course / NEBOSH or SAQA accredited Incident Investigation Course.

First Aider: SAQA accredited Level 2 First Aid Course

Where operations are being performed such as Crane Operations, Riggers, Scaffold Erectors, and Inspectors all such operators must be in possession of proof of qualifications, which is in compliance with Legislation, National qualifications Framework, Act 2000: Act No 67 of 2000, or similar industry standard where legislation does not prescribe such training. It must be noted that course providers used for training purposes must be accredited course providers.

Training must be given to each employee, including sub-contractor employees, to equip them with the knowledge and skills, understanding of the hazards and the risks as well as mitigating measures to enable such employee as far as is reasonably practicable to perform his duties in a safe manner.

Specific competency profiles and selection criteria (fitness for work) must be developed for all roles where significant health or safety risk exists.

A formal training needs analysis must be carried out based on the competency profiles and a training matrix must be developed for the project. Competency-based training must be provided and include operational controls (procedures and work instructions), management of change, and emergency response. All employees must hold and maintain the required competencies (including appropriate qualifications, certificates, and licences) and are under competent supervision.

A site-specific induction and orientation programme that highlights health and safety requirements, procedures, and significant hazards, risks and associated control measures must be in place for all new employees and visitors. Personnel must be trained on new or amended standards, rules, SWMS/SWP's, Risk Assessments etc. Refresher training must be conducted where required e.g., where employees are found disregarding rules etc. Records must be kept of training, qualifications, experience etc. Whenever training is given follow ups must be conducted to evaluate the efficiency of the training.

8.8.	Construction Supervision
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As indicated in the previous paragraphs the CEO (OHSA S16.1) of the PC will be overall responsible for the appointment of competent Construction Managers and site staff for the duration of the project. These appointments will be tasked with different supervisory responsibilities to ensure the provision of a safe working environment. The PC is again reminded to refer to Annexure C to determine what Supervisory Appointments need to be made taking into consideration the scope of work, Legislative requirements etc. Note must also be taken of at which stage certain appointments need to be made. The construction team is to ensure the appointed CHSO is kept up to date with all planned activities, to ensure all H&S requirements are met.

8.9.	Defects reporting and correction
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The purpose of any inspection is to determine deviations in need of remedial action. Where defects are identified during any routine inspection, pre-start check or during operation or use of any tools, equipment, motor vehicle, tools, or equipment, etc. it needs to be reported immediately.

Steps need to be taken to remedy such defects reported for the purpose of repairing such tools, equipment, etc. Where such remedial action cannot be actioned, immediate measures such as the fitting of Tags, taking out of service etc. needs to be applied to limit further use until repairs/ replacements have been completed and re-inspection carried out. Such defect reports must be done in writing.

8.10.	Demolition
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The PC needs to ensure compliance with OHS Act, Sec 8 and CR 14.

A detailed Structural Engineering Survey needs to be carried out before demolition work takes place and a Demolition Method Statement must be developed based on the structural engineering survey and include:

- Scope of Work.
- Termination of services requirements.
- Construction vehicles and plant and equipment to be used.
- Personnel Involved.
- Procedural steps to be followed.
- PPE Requirements.
- Signage requirements.
- SHE measures to be applied.
- Waste Management and housekeeping measures to be applied.
- Emergency Procedures applicable.
- Training to be rendered.

The Proposed Demolition Plan must be signed off by the Structural Engineer and the CHSR **PRIOR** to Demolition Work being conducted.

8.11.	Delivery and Placing of Containers. Park homes etc.
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The PC must ensure compliance with OHS Act, Sec 8 and Cr 22. The items must be placed according to the predetermined positions indicated on the Site layout Diagram. Soil conditions, overhead hazards etc need to be taken into consideration when doing Risk Assessments and developing the required method statements. Only trained competent workers and supervisors may be used to execute and supervise the work operations.

8.12.	DSTI's
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The Daily Safe Task Instruction, DSTI, forms a critical part of the Risk Management process No work may be conducted on site without a valid DSTI signed off by the relevant signatories. Supervisors must have

the competency to be able to complete DSTI's correctly and the work area must be inspected at the end of the shift.

A DSTI is a pre-start discussion amongst the members of a work team, led by the appointed supervisor, aimed at anticipating hazards and potential risks associated with the activities planned for the day or shift, and ensuring that the necessary control measures are in place to prevent incidents.

At the start of each day or shift, prior to the start of any work, each appointed supervisor must inspect the work area which he is responsible for and ensure that it is safe. He must then conduct a DSTI with his work team specifically concerning the tasks that they will be performing during the day or shift. The relevant SWMS/SWP for the activity must be used as the basis for the discussion. The correct work method must be reiterated, and the identified hazards, risks and control measures must be discussed with the team allowing team members to contribute to the discussion.

Any team member arriving late must first be taken through the information that was discussed prior to his arrival before being permitted to start working. If the work method changes or scope changes after activities have already begun, the DSTI must be revisited and updated with the team, and the changes must be signed off by the relevant CHSO.

Every member of the work team must sign the DSTI attendance register. The attendance records must be kept and maintained in the contractor's SSHSF.

8.13.	Electrical connections
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The PC must implement and comply with OH&S Act, Electrical Installation Regulations and Construction Reg 24. All electrical installations must be carried out by an appointed and qualified certified Electrical Installation Electrician. A Certificate of Compliance (COC) must be issued and kept on the SSHSF. Temporary Electrical Installations must be inspected on a weekly basis and recorded in an appropriate register, which must be kept in the SSHSF.

8.14.	Emergency drills and evacuations and Procedures
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The PC must develop, implement, test, and maintain an Emergency Response Plan, incorporating emergency evacuation procedures that focuses specifically on the contractor's team and work activities. The plan must be risk-based and must detail the procedures that must be followed when responding to all potential emergency scenarios such as a medical emergency including first aid response, a fire, an explosion, a hazardous substance spill, rescue from height, rescue from a confined space, etc.

Consideration must be given to the procedures of other occupants on the premises and their emergency procedures to ensure that in the event of an emergency that the PC's Emergency procedure does not hinder or clash with their procedures. Details of any arrangements with external emergency response service providers must be included.

The plan must be adequately resourced to ensure effective implementation. These resources must include appropriate personnel, external emergency response service providers, emergency response equipment, and warning devices. All equipment and warning devices must be identified, maintained, and tested to always ensure availability.

An Emergency Response Team (ERT) responsible for the implementation, management and execution of the Emergency Response Plan must be established. The roles and responsibilities of each team member

must be clearly defined in the plan. Each team member must receive appropriate training to ensure that each role is performed competently.

The process for managing incident communication, notification, and reporting must be incorporated into the Emergency Response Plan. The responsible person(s) must be clearly identified, and the protocols for communicating with internal and external stakeholders must be defined.

At project work site:

- A suitable evacuation alarm (siren) must be provided. All persons working in an area where an evacuation alarm is sounded must respond to it immediately.
- Suitable fire-fighting equipment must be provided and maintained, and personnel must be trained in fire-fighting procedures and the use of fire-fighting equipment.
- Suitable first aid equipment and supplies must be provided and maintained, and an adequate number of appropriately trained First Aiders with kits must be in place.
- Emergency assembly points positioned in safe locations away from containers, plant and equipment must be designated and conspicuously signposted. In the event of an evacuation, all persons, personnel, and Visitors, must assemble and be accounted for at these emergency assembly points.
- All personnel must receive awareness training on the applicable emergency response procedures, and all Visitors entering the site must be properly instructed in these procedures as part of their induction training.
- The emergency response procedures must be displayed on notice boards.
- A Site Layout Plan indicating evacuation routes, emergency assembly point locations, and the positioning of emergency equipment (fire extinguishers, first aid boxes, etc.) must be prominently displayed in all offices, boardrooms, notice boards, and in other locations on the site as may be required.
- An up-to-date list of emergency telephone numbers must be compiled and maintained. A copy of this list must be posted at each site entrance, in each office, and notice board.
- Emergency response drills must be conducted to test the effectiveness of the emergency procedures and equipment, as well as the knowledge and proficiency of the response personnel. Where appropriate, drills must include liaison with and the involvement of external emergency response service providers. A variety of emergency scenarios must be tested including, but not limited to, medical emergencies, fires, rescues, and hazardous substance spills. A drill must be carried out one month after site establishment and six-monthly thereafter. Each drill must be monitored, and the outcomes (highlights and shortcomings) must be documented. Corrective actions must be identified and implemented to address the shortcomings, and the Emergency Response Plan and associated procedures must be amended as required.

8.15.	Environmental Management
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The PC must take all precautionary steps to prevent any pollution because of his activities. Matters such as waste disposal, cement run-off, not permitting vehicles leaking oil and fuel on site, not permitting disposal of water used for cleaning paintbrushes into normal wastewater disposal lines, not permitting the burning of materials etc must be addressed in his Environmental Management Plan.

Workers must be familiarised with the contents of the Environmental Management Plan as part of the Induction. The PC's Environmental Management Plan must be submitted with his SSHSP for approval.

8.16.	Edge Protection
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Persons falling over open edges can result in severe injuries. The PC's responsible person must ensure that edge protection forms part of the Fall Protection Plan. Edge protection must be able to withstand the load imposed of an average worker's weight should the worker lean against such edge protection. All edges which pose a fall risk to persons must be protected. Barricading tape or snow netting is not deemed as suitable edge protection and may only be used to highlight such edges.

Activities, which may create temporary open edges such as the removal of drain covers must be always supervised whilst open or be cordoned off with temporary suitable barricading.

8.17.	Excavations
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The PC must implement and comply with Construction Regulation 13 OH&S Act - General Safety Regulation 13. All excavation work must be conducted under the Supervision of an appointed competent person. Excavations must be fitted with barricading which will be able to withstand the load of the weight of an average worker should he lean or accidentally fall against such barricading. Barricading must be constructed to provide access points for workers to enter and exit and the removal of excavated material without leaving other sections of the excavation exposed.

When excavations are necessary across roadways or pathways where necessary, "Detour" notices and detour routes must be provided. Should such Detours have a negative impact on other occupants of the premises the execution of the excavations plus the implementation of detour routes must be communicated to the responsible person for the other occupants of the premises at least 7 working days prior to such excavation work taking place.

Warning signs and flashing warning lights at night must be provided in suitable positions to warn any persons approaching the area of the location and extent of any excavation should such excavations be accessible by other occupants or members of the public. Where the possibility exists of unknown hidden services where excavations are conducted, such risks must be communicated and the required risk reduction measures implemented such as the digging of pilot holes, use of detection equipment and insulated tools.

All excavations must be on register, inspected daily before commencement of work, after inclement weather, certified safe, and recorded accordingly in the appropriate register. No loose material may be stored within 1 meter from the edge of the excavation and more than 45 degrees to the angle of repose.

8.18.	Extreme weather conditions
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Adverse weather conditions can lead to loss of life and damage to structures and plant. The PC must develop an emergency plan which stipulates measures how to mitigate the impact such weather conditions can have. The Contractors' Emergency Plan must include procedures to be followed for adverse weather conditions such as high winds, Lightning, Flooding etc. Response measures must be communicated to the appropriate Supervisory Staff including materials required such as ropes, shutter board etc.

In the event of impending adverse weather or other conditions, Emergency response Staff and Supervisory Staff must be made aware of the impending weather conditions and the possible need to implement the required response measures.

8.19.	Fall Protection Plan and Planner
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PC to comply with OHS Act, Sec 8 and CR10. When there is a risk of falling off, into or over a risk assessment must be carried out regardless of the potential fall distance. The PC shall appoint a competent Fall Protection Planner. The Fall Protection Planner shall have the following minimum qualifications:

- Fall Arrest Course (Accredited to SAQA Unit Standard 229998)
- Fall Protection Planner (Accredited to SAQA Unit Standard 229994)

An appropriate, project specific FPP, developed by the appointed competent appointed Fall Prevention Planner must be developed, and submitted as an annexure to the SSHSP when submitting the SSHSP for approval by the CHSR. The following aspects as a minimum must be included in the FPP:

- Risk Assessment identifying areas where a Fall Risk may exist as well as the required mitigating measures e.g., Signage, Edge Protection, Hard Barricading etc.
- Permit system for working at heights.
- Prevention measures for falling tools or equipment, and persons, and link to emergency plan regarding rescue.

8.20.	First Aid Boxes and Equipment
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The PC to comply with GSR 3. The contractor shall ensure that enough competent First Aiders is appointed and present on site. All First aiders must have a level 2 First Aid certificate. Where Sub-Contractors are appointed, they need to comply with GSR 3 and have trained, competent First Aiders on site. If they do not have trained competent First aiders, they may enter into a First Aid Agreement with the PC to provide such services, subject to the PC having enough First Aiders on site as well as First Aid Equipment. The written agreement entered with Sub-Contractors must be kept on the PC as well as the Sub-Contractors SSHSF.

Adequately maintained First Aid equipment compliant with Statutory Safety Regulations must be available on site. The contents of First Aider kit must always comply with minimum amount as per Annexure to GSR. Records of First Aid Treatment administered must be kept in an appropriate register.

The Location of the First Aid facilities must be indicated with the required SABS approved Symbolic Safety Signage posted at the entrances to such facilities. The name of the First Aider must be displayed in addition to Symbolic Safety Signage.

8.21.	Fire Extinguishers, Precautions and Fighting
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The PC must ensure that the location of fixed Fire Extinguishing Equipment is indicated on his Site Layout plan and in his Emergency Plan. The procedure to be followed in the event of a fire must be translated into the languages of all workers on site, posted on notice boards, communicated to workers and records kept of such communication.

All work involving the generation of a Fire Risk may only be executed upon the issue of a Hot Work permit, which include the presence of Fire Extinguishing equipment and checking for smouldering materials.

Fire precautions on construction sites in addition to the requirements of CR 29 must include Good Housekeeping, the keeping of minimum amounts of Flammable liquids etc. SABS compliant signage such as "No Smoking" "No Naked Flames" etc. posted where appropriate.

Sufficiently trained persons such as Supervisors need to be available on site to be able to perform fire-extinguishing exercises and use equipment correctly. Persons involved with activities such as welding, grinding etc. must be able to perform fire-extinguishing exercises when required.

All Fire extinguishing Equipment must be serviced annually, numbered, on register and inspected by a trained competent person at least every six months. All fire extinguishing equipment which has been discharged or damaged in any way must be sent off site and be attended to by a SABS accredited Service Agent.

8.22.	Fuel and Flammable liquids
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The PC must ensure compliance with OH&S Act - General Safety Regulation 9 and Temporary Storage of Flammable liquids on Construction Sites, Construction Regulation Reg.25.

Storage areas must be provided with a bund wall to contain 110% of the maximum volume of the container/s stored in the area. Drip trays of sufficient size must be provided at tap off points.

Storage Containers must be clearly marked with a "Flammable Liquid, No Smoking & No naked Flame" signs, be clearly marked to indicate contents of the tank and bonded to prevent static electricity sparks being generated. An adequate numbers of dry chemical fire extinguishers, each with a minimum capacity of 4.5kg, must be provided,

Before any fuel driven plant or equipment is refuelled, it must be switched off, and no refuelling may take place where machinery is kept running. Refuelling must take place at designated safe areas and appropriate warning signs installed.

The Contractor must ensure that storage areas must be designated at a safe distance from other buildings. It must be kept free from all combustible materials and must be constructed from brick/ mortar/steel, no timber or similar combustible materials may be used.

The following SABS compliant Symbolic Safety Signage need to be displayed: "No Smoking" and "No Naked Flames", Fire extinguisher and Location signs.

8.23.	General Record Keeping
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The PC and Sub contractors must keep and maintain Health and Safety records to demonstrate compliance with the Clients SSHS, OHS Act, Act 85 of 1993 and the Construction Regulations of 2014. The PC must ensure that records of all incidents/accidents, training, inspections, audits etc. are kept in the SSHSF held in the Site Office.

THE SSHSF must always be present on site. The PC must ensure that every sub-contractor opens and maintains his own SSHSF under the control of the PC's responsible person.

8.24.	Hand Tools
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Hand Tools and its use can contribute to accidents and incidents. The PC must ensure that all Hand Tools brought onto and used on site are safe for use. Hand tools must be inspected by an appointed competent person at least once a month and the results of such inspections to be recorded on an appropriate register. If hand tools are found to be unsafe, it needs to be removed, tagged unsafe for use and removed from site.

No Makeshift hand tools may be brought onto and used on site. If found such hand tools must be removed from site with immediate effect and/or disposed of.

8.25.	Hazardous Chemical Substances (HCS)
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The PC must comply with the Hazardous Chemical Substances Regulations as published in Government Notice No. R. 1179 dated 25 August 1995 and amendments thereto. No HCS may be permitted to be brought on site without a MSDS. The PC must ensure that all the necessary use and storage precautions are taken and that the required safety equipment, first aid measures etc is available.

All employees required to use HCS, or products containing Hazardous Chemical Substances must be adequately and comprehensively trained with regards to the requirements of the Hazardous Chemical Substances Regulations including the potential sources of exposure and the potential risks to their health caused by exposure.

MSDS's for all Hazardous Chemical Substances must be kept on site in the SSHSF and recorded in a HCS Register.

8.26.	Hazard Identification and Risk Assessment (HIRA)
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The PC must comply with Sec 8 of the Act and CR 9 by allowing for and ensuring that Site-Specific HIRA's are conducted by an Appointed Competent Person. Supervisory staff must be equipped with the required skills to do HIRA's.

The purpose of a RA is to firstly identify main activities which form part of the construction process, then its sub activities, then the hazards associated with the sub-activities, the risks associated with the sub-activity hazards, then determining the Pure Risk level by using a risk matrix, propose risk reduction/control measures and then re-evaluating the effect such risk reduction/control measures have had on the risk level once again using a risk matrix to calculate the Residual Risk Rating, which must be as low as reasonably practicable (ALARP) and finally communicating the hazards, residual risks, risk reduction/control measures etc to the workforce. In the form of a SWMS/ SWP.

Please refer to item 9 at the beginning of this document for details regarding the submission of Risk Assessments and the approval process.

The PC and its appointed competent person will be responsible for the evaluation and approval of HIRA's developed by their appointed Sub-Contractors. If at the time of an Audit or any other time being present on site, it is found that HIRA's and/or SWMS/SWP used by Sub-Contractors are of a sub-standard level the CHSR will issue instructions to cease work which is applicable to such sub- standard RA's and/or SWMS until amended to a satisfactory level.

The PC must ensure that all persons who could be negatively affected by hazards and risks associated with construction operations are informed and trained according to the hazards and risks and are conversant with the Safe Work Procedures, control measures and other related rules.

If the CHSR identifies alternative hazardous activities or risks for which a Risk Assessment was not performed or was not identified as part of a Risk Assessment Process, the PC will be required to implement corrective measures before being permitted to continue with work. **It must be noted that although the CHSR may approve RAMS, the responsibility rest with the PC as the employer in terms of Sec 8 of the Act to ensure the correctness of such RAMS and the required mitigation measures etc.**

8.27.	Hazards and Potentially Hazardous Situations
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The PC must immediately notify other Sub-Contractors and/or occupants of the site where work is being conducted of any hazardous or potentially hazardous situations that may arise during performance of construction activities.

Should a hazardous situation require work stoppages, the work must be stopped, and corrective steps taken such as the conducting of new RA's, amending RA's the development of new SWMS, amendment of existing SWMS's, barricading, signage etc.

8.28.	Health and Safety Audits, Monitoring, Reporting and Statistics
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The CHSR shall strive to at least once a month or at closer intervals as determined necessary for the duration of the contract conduct Health and Safety Audits of the work operations. The audit shall be consisting of a detailed audit of physical site activities and administration of Health and Safety. Copies of the audit reports will be forwarded to the Project Leader and the PC within seven working days. Copies of the Audit report must be kept in the SSHSF. The CHSR may at any time visit the site for an Audit without prior notification to the contractor.

The CHSO must conduct monthly Self-Audits including all the sub-contractors on site at the time of the audit as approved at the time of the SSHSP approval. The results of the Self Audits must be made available to all members of the project team at least 7 days before the following progress meeting. At the progress meeting the CHSO must report on his finding and closing out of deviations.

Issues such as injury and incident records e.g., Near misses, First Aid, Medical Cases, and the Disabling Injury Frequency Rates must be included in the audit report. Copies of self-audit reports must be kept in the SSHSF.

8.29.	Health and Safety Disciplinary Procedure
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The PC is responsible for maintaining discipline on site in terms of his employees, sub-contractor employees and visitors. In line with this requirement, the PC will be required to have a documented Disciplinary Procedure, which must be communicated to all persons working on site. Where a breach of a Site Health & Safety Rule or The PC's Safety Procedure is identified, the Contractor must ensure that disciplinary action is initiated against such contravening Persons/s in accordance with the documented procedure. Dependent on the nature of the breach and the nature of such presence on site, the process as outlined below could be used:

- First breach – verbal warning/counselling
- Second breach – written warning/counselling

- Third breach - appropriate disciplinary action taken such as Suspension Without Pay/ Termination of Service, penalties etc.

All disciplinary steps taken in terms of OHS such as NCR's issued must be included in the PC's monthly SHE Audit report submitted to the CHSR and other team members.

8.30.	Health and Safety Management Information Notice Board
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The PC must provide a Safety Management Information Notice Boards (SMI boards) as a minimum near the site office and if possible, in other areas e.g., eating and changing areas, with the following information posted:

- Supervisors Photos and Contact details.
- First Aider Photo and Contact detail.
- Valid, completed DSTI/S for the day's activities.
- Emergency Procedure.
- Any other information as required by the CHSR.

8.31.	Health and Safety Organogram
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An organogram outlining the Health and Safety Management Structure as per appointments under the OHS Act and the Regulations must be included in the SSHSP and kept in the SSHSF. The Organogram must also be displayed in the Site Office.

Any changes to the appointments as per the approved Organogram must result in the Organogram being revised. All previous organograms must be kept in the SSHSF and not be discarded. The initials and Surname of appointees. Including the description of their appointment must be reflected on the Organogram.

8.32.	Health and Safety Plan and Submission
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The PC must submit a detailed SSHSP based on this document known as the SSHSS. The contents of the SSHSP can be found under Annexure C of this document. Note must be taken of the required documentation which needs to be submitted as part of the SSHSP.

Failure to submit the required documentation as required by Annexure C, may result in a delay of the SSHSP approval process. When submitting the SSHSP to the Client/or its duly appointed representative the PC's CHSO must contact the CHSR appointed to this project, who's contact details can be found under the heading "Item 5.3: The Project Team" to arrange a sit-down meeting to discuss the PC's SSHSP to work towards approving the SSHSP. **It must be noted that no evaluation or approval of the PC's SSHSP will take place without engaging with the CHSO.**

8.33.	Health and Safety Policy
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The Safety, Health and Environment Policy signed by the Chief Executive Officer must form a part of the SSHSP. The policy must outline Health and Safety objectives and set out how they will be achieved and implemented during construction.

The Policy must in addition to being part of the SSHSP and being kept on the SSHSF also be communicated to all employees, copies of such communication must be kept on the SSHSF. A copy of the Health and Safety Policy but must also be displayed in the Site Office.

8.34.	Health and Safety Training
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The PC must ensure that all site personnel and Visitors attend a site-specific health and safety induction training session before starting work or being permitted entrance onto the site.

Employee Induction training must also include training on the risks associated with the works to be executed, method statements (SWP's) and emergency procedures. Visitor Induction training must include items such as site safety and health risks, steps to follow in the event of emergency, restricted areas and on the site and health and safety rules.

A record of attendance reflecting the signature of all training must be kept in the SSHSF. Employees and Visitors must carry proof of induction training whilst being on site, which may be a nametag or sticker, displayed on a hardhat. The PC must ensure that none of his employees, or sub-contractor employees, including transport and delivery Contractors entering the site delivering materials and/or equipment, may proceed to enter the Site or any operations area until they have received all training required under applicable laws and regulations, including, but not limited to, work activity inductions and Site-specific induction etc.

Induction Training is generally valid for 1 year but should the contents of the training previously rendered change then follow up training must be rendered irrespective of the fact that induction training may still be valid.

The PC must prepare and present to all its employees its own Contractors Induction training, explaining the PC's SSHSP, Rules, the obligations imposed by the Occupational Health and Safety Act and Regulations, as well as a Site Specific Induction, which must as a minimum consist of an introductory briefing explaining the nature of the work, the general hazards which may be encountered during the operation, and the particular hazards attached to their own function within the site.

8.35.	Heat Stress and Sun Protection
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The PC must ensure compliance with the OHS Act- Environmental Regulations 2(4). Heat stress can form part of many work activities associated with construction work. Where work is of a physical nature, and/or is conducted in excessive ambient or radiant temperatures the PC must implement measures such as rest breaks, provision of adequate amounts of water, scheduling work to coincide with cooler times during the day such as in the mornings and late in the afternoons.

Workers who are exposed to excessive ambient or radiant temperatures can suffer from a lack of ability to concentrate with resultant injuries becoming a probability.

The PC must ensure that all personnel are protected from excessive sunlight exposure by means of the use of long sleeve shirts, long trousers, brims to safety helmets, UV factored sunscreen and shade structures etc.

8.36.	Housekeeping
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The PC must implement and ensure compliance with the requirements of Construction Reg. 27.

The PC must ensure that all work areas are kept in a neat and tidy state, free of debris and rubbish, at all times. Unless otherwise directed, the PC must dispose of all debris, rubbish, spoil, and hazardous waste off site in a designated and authorised area or facility.

The PC must keep in mind that poor housekeeping does not only contribute to the creation of an unsafe working environment but also a poor image of the project and its management, as well as the department as the client. In the event where housekeeping standards are not maintained or implemented the CHSR may issue instructions to cease work until housekeeping is of an acceptable standard without the Client entertaining any extension of time claims or costs claims by the PC. **Keeping the site in a neat and orderly condition at all times is the sole responsibility of the PC.**

Regular safety/housekeeping inspections on an at least a weekly basis to ensure maintenance of satisfactory housekeeping standards must be conducted by the PC and the results of each inspection documented and recorded. Records of such inspections to be kept on the SSHSF for viewing by the CHSR. The PC must ensure that all supervisory staff are made aware of their responsibility to monitor and manage housekeeping in their respective areas of responsibility.

DSTI's must make provisions for the checking that work areas are left in a neat and tidy fashion at the end of each shift. The CHSO must on a random basis after signing off on DSTI's at the end of shifts inspect such work areas to verify that such work areas are left in a neat and tidy condition. Should it be found that DSTI's are not a true reflection of the condition the work area was left in, the Supervisor must be engaged regarding the matter and if it is found to be a repeated situation, disciplinary measures must be implemented.

Waste disposal and general refuse disposal areas must be made available and barricaded off. The PC **MUST** ensure that refuse removal frequencies are in line with waste /refuse generation frequencies. If waste/refuse generation rates increase the removal frequencies must increase, no overflowing waste/refuse disposal areas will be tolerated.

Employees must, as part of the hazard communication process on DSTI's be made aware of the hazards and risks created due to poor housekeeping practises. Incidents of poor housekeeping practises and poor levels of supervisory enforcement of good housekeeping practises must be considered as part of offenses which may require steps to be followed as part of the PC's disciplinary process.

8.37.	Incident and Injury Management
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The PC must implement and ensure compliance with OH&S Act - General Administrative Regulations 6 and 8. This section must be read in conjunction with item 10.1 Accident, Incident Investigation.

The PC must have in position prior to site establishment and have submitted with his SSHSP for approval by CHSR suitable /sufficiently documented accident/ incident reporting system/procedure that is following all applicable statutory requirements.

Any incident or "near miss" involving the PC or its subcontractor's or any third party's personnel, property, plant or equipment, must with immediate effect be verbally reported to the CHSR by the PC's CHSO whether or not injury to personnel or damage to property or equipment resulted from such incident or "near miss". The verbal reporting must be followed within 48 hours by a brief written report

stating the known facts and conditions including a preliminary assessment of the most likely consequence potential of the incident in the circumstances, as well as the preventative measures to be implemented by the end of the shift. The abovementioned procedure does not exempt the PC from providing accident reports required by Statutory Authorities.

In the event of any serious incident resulting in a fatality, or permanent disability, the incident scene must be left untouched until witnessed by a representative of the SAP. This requirement does not mean that First Aid cannot be administered, or the scene be made safe. In the event where items or equipment have to be moved to assist in removing injured person/s photographs detailing the scene of the accident must be taken if possible before the scene is disturbed preclude immediate first aid being administered and the scene being made safe.

Names and contact details of witnesses to the accident must be taken by the CHSO or a SHE Representative delegated with such responsibility by the CHSO ASAP after arriving at the scene of the accident to assist in the accident investigation procedure.

Failure by the PC's SHE Officer to provide the CHSR with the abovementioned report within the specified timeframe as required will result in the Construction Manager (CR 8.1) being required to submit to the CHSR with a letter indicating the reasons as to the required report not being submitted as well as when the report will be submitted which may not exceed 72 hours from the time of the incident. Failure to comply with the abovementioned requirements at the discretion of the CHSR may result in instructions to cease work being issued until the detailed report as required has been submitted.

In the event where an injury has taken place such injury must be managed by ensuring that appropriate medical treatment is provided to ensure that the injured person has the opportunity as far as is reasonably practicable taking the injuries sustained into consideration to return to a level of good medical fitness and be able to resume his normal day to day activities whatever they may be.

The PC must ensure that suitably qualified medical persons/practitioners must treat all injured persons.

8.38.	Induction Training
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Each employee and person wishing to enter the site must attend all mandatory Health and Safety Induction Training applicable to the project. No employee or visitor will be permitted to enter any project work site until he has attended this training. Each employee and visitor must carry proof that he has completed the induction training and may be removed from site if such proof cannot be produced on request.

All visitors must receive a visitor induction briefing before entering any project work site. However, this induction does not permit a visitor to enter a site unescorted. Visitors must be always accompanied by an appropriately senior employee who has been fully inducted.

NOTE: Both the Construction Work Manager (CR 8.1) and the Construction Work Supervisor (CR 8.7) are required to attend all HSE training sessions communicated on site. They must also sign all training attendance registers as proof of attendance for each HSE training session conducted on site.

8.39.	Ladders, Portable
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The PC must comply with OH&S Act - General Safety Regulation 13A. PC to ensure that:

- All ladders used on the site is constructed and used in compliance with the OH&S Act and Regulations.
- Ladders, which provide access to a working platform, must extend at least one meter above the platform where it provides access, and is secured to prevent slipping.
- Timber ladders must not be painted other than with clear preserving oils, clear varnishes etc.
- Damaged ladders must be removed from the work area, tagged unsafe and removed from site.
- All ladders must be tagged with a clearly visible tag or numbered which is recommended to be positioned below the second rung from the top, logged in a register and inspected by a competent person.
- All portable ladders when in use must be held by an assistant or properly tied down.
- All persons using ladders must be trained in the correct, safe use of ladders.

8.40.	Lighting
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The PC must implement and comply with OH&S Act – Environmental Regulations, Schedule E of the Regulation.

The PC must ensure where natural lighting is inadequate to provide workers with a safe working environment. Lighting issues must be addressed by providing artificial lighting in all work areas and walkways.

Portable lights must be of a robust construction have adequate stability and be fitted with a mechanical guard to protect the lamp. No makeshift lights such as overhead florescent tube type of lighting may be positioned on floors or leaned against walls. Cables and plugs must be in a good condition and properly routed, preferably overhead to prevent tripping hazards.

Where work activities include wet processes cables and lights must be suitable to be used in such in wet environments. All lighting must be electrically safe for use in terms of their construction, cables etc.

It must be kept in mind that where lighting is of the “plug in” and “Plug out” type it is classified as Portable Electrical Equipment and must be accordingly numbered, inspected, and recorded on a Portable Electrical Equipment Register.

In the event where night work will be conducted Illumination checks must be performed to ensure conformance to minimum lighting requirements and the provision of emergency lighting must be addressed in the event of power failures.

8.41.	Manual handling of materials
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The PC must ensure that no employees are required or permitted to lift or move by hand any object that is likely to create a risk of injuries being sustained by such employees. The shape weight etc of the items to be lifted must be considered and where required issues such as training in correct lifting methods, use of PPE use of alternative lifting methodologies must be considered.

Any handling or lifting task that can only be done manually must be planned and rehearsed before the task is done. If more than one person is involved in a task a communication procedure must be agreed in advance. Lowering the load must be done in a controlled manner. Dropping a load is dangerous and must be avoided.

As a guideline 25 kg is the limit of what a person can safely handle. Where there are loads exceeding 25 kg the risk of handling the load must be mitigated to assure minimal potential for any injury.

When mechanical lifting aids are provided, they should be used.

Extra care should be taken when lifting awkwardly shaped objects.

Position the feet correctly. The feet should be placed hip-width apart to provide a large base. One foot should be put forward and to the side of the object, which gives better balance.

Bend or 'unlock' the knees and crouch to the load. The weight will then be safely taken down the spine and the strong leg muscles will do the work.

Get a firm grip. The roots of the fingers and the palm of the hand should grip the load. This keeps the load under control and permits it to be distributed more evenly.

The following should be considered with conducting the Risk Assessment with regards Manual Handling and take into consideration the task factors, physical demands and tools involved in the task:

- Load weight / frequency.
- Hand distance from lower back.
- Asymmetrical trunk / load.
- Postural constraints.
- Grip on the load.
- Floor surface.
- Environmental factors.
- Carry distance.
- Obstacles in route the load must be carried.

Team Manual Handling:

- Load weight.
- Hand distance from lower back.
- Vertical lift region.
- Trunk twisting / sideways bending.
- Postural constraints.
- Grip on the load.
- Floor surface.
- Environmental factors.
- Communication, co-ordination, and control.

8.42.	Maintenance
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All equipment and structures on site, whether it is fixed or temporary must be maintained at intervals no longer than that recommended by the manufacturer, under a planned maintenance system to ensure the safety of personnel who are responsible for operating or using the equipment.

Proof of all current tests and maintenance certificates relating to cranes, lifting beams, pulley blocks, lifting gear and slings must be kept on site in the SSHSF and be available for inspection by any person authorized to do so.

8.43.	Medical Fitness/ Fitness for work
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The PC must ensure compliance with CR 7(1) (g) and that all his personnel as well as those of Sub-Contractors appointed by him are healthy and medically fit for their respective assignments and keep proof of such medical fitness on the SSHSF. The PC must ensure that all persons required to have a certificate of medical fitness must be in possession of such certificates prior to being permitted to assume their duties on site. Should employees be found on site without a valid medical fitness certificate at the time of the CHSR conducting an audit, such employee must be removed from site and the CHSR may at his discretion issue instructions to cease work.

All medicals to include the Annexure 3 form as per the Construction Regulations 2014 signed and stamped by the occupational medical practitioner. The PC must ensure that only suitably qualified occupational health practitioners' issue medical certificates.

Should a worker's scope of work change, or he be required to work outside the scope of work for which his medical certificate has been issued, he may not be permitted to do such work until an updated medical fitness certificate has been issued.

The PC must develop and implement a programme to manage employee fitness for work for all employees working on the project. Working hours must be managed in compliance with applicable legislation. An exit medical from a previous project or site must not be deemed as a valid medical.

The medical examinations carried out for all drivers and operators must include testing and assessment for medical conditions that could affect the safe operation of vehicles or equipment. Specific testing and questioning must be carried out to determine if an individual:

- Suffers from epilepsy or any other medical condition deemed to be a risk by the occupational medical practitioner.
- Makes use of chronic medication that could affect performance
- Is colour-blind.
- Has poor day or night vision.

The medical examinations carried out for employees that are required to work at height must include testing and questioning to determine if an individual suffers from epilepsy, hypertension (high blood pressure) or any other medical condition deemed to be a risk (with regard to working at height) by the occupational medical practitioner.

8.44.	Method Statements, Safety (SMS)/ Safe work procedures (SWP)
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SMS's/SWP must be in line with the associated Risk Assessments. The SMS's/SWP's must detail in a step- by- step and methodical manner on how the task is to be done from beginning to the end and must indicate what tools/equipment will be used at each stage and/or how the work area is to be accessed. The Task Items listed in the SMS's/SWP must tie up exactly with the task items being assessed in the Risk Assessment document.

Acceptance of a SMS by the CHSR does not relieve the PC of his responsibility for ensuring full compliance with SSHSS and any applicable legislation.

8.45.	Noise
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The PC must implement and comply with OH&S Act - Environmental Regulation 7 and the Noise Induced Hearing Loss (NIHL) 2003 Regulations.

The PC must meet statutory requirements on limitation of noise emitted by machines and equipment. When personnel are required to operate such equipment, noise level exposure at the operator position must not exceed an equivalent level of 85-dB (A) or more during normal working conditions without the required mitigating measures being implemented.

Employees working in the vicinity must not be subjected to an equivalent continuous level of 85-dB (A) during normal operating conditions. The PC must comply with time periods and PPE requirements where applicable.

Consideration must be taken of the fact that the sound level at any works/site boundary caused by mobile equipment must not exceed the night-time background level pre-existing the operation of the equipment. **At no time must the noise emission of the equipment or activities cause the sound level at the nearest residence, School classes or adjacent structure to exceed 40-dB (A).**

Sound levels must be measured in accordance with SANS 10083, with due allowance being made for tonal or impulsive components. A plot plan of project or plant must be drawn up to identify the measuring points with date, time, and frequency duration of measurement.

Symbolic safety signs, warning employees and visitors regarding the hazard of noise in the area, shall be erected at all entrances to the area and in a position where it must be clearly visible.

8.46.	Notices
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If the PC receives any notice issued by any relevant Government Authority concerning Health and Safety, he must immediately upon receipt of such notice comply with the requirements of such notice. The PC must provide the CHSR with copies of any such notices, correspondence or directions of whatsoever nature issued by the abovementioned Government Authority concerning Health and Safety within 2 hours of the dispatch and/or receipt of such notice, correspondence, or direction.

8.47.	Notification of Construction Work/ Construction Permit
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Notification of Construction Work

The PC must submit an Annexure 2, "Notification of Intention to Commence Construction Work" to the closest Department of Labour office, have it stamped provide the CHSR with a copy. A copy must be kept on the SSHSF for inspection purposes. Submitting a copy to the CHSR does not constitute permission to proceed with construction work.

Should construction work extend past the completion date reflected on the submitted Annexure A, the PC must inform Department of Labour accordingly and file the amended Annexure A on the SSHSF.

It must be noted that no work of any nature may take place on site until permission to proceed with site Handover has been received from the Project Leader after receipt of letter from CHSR.

8.48.	Occupational Hygiene (Personal Hygiene and infectious Disease Management)
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The PC must ensure that its personnel and subcontractor's personnel is able to maintain and maintains high standards of hygiene, personal and in connection with the performance of the work. All work areas must be kept in a clean and tidy state. Waste disposal must be facilitated by providing sufficient waste collection receptacles and the correct disposal frequencies to prevent waste build up.

Employees must be trained on the contents of the Personal Hygiene and Infectious Disease Management Plan which must identify any anticipated hazardous biological agents which may be present in the work environment, trained in measures to protect themselves in terms of personal hygiene and provided with the necessary means to minimise the risk of contracting the harmful effects associated with such hazardous biological agents.

All Resting and Eating areas must be kept in a clean, tidy condition as well as being positioned away from contaminants and hazards. No eating and drinking may take place outside the designated eating or in office areas. Facilities for hand washing must be made easily accessible for persons to wash hands when leaving the construction area and entering the construction site offices.

8.49.	Personal Protective Equipment (PPE)
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The PC must implement and comply with OH&S Act – General Safety Regulation 2. It must be kept in mind that PPE must only be the last resort in addressing risks. All Contractors' personnel on site and visitors, must always use the following minimum personal safety equipment which must be compliant with relevant SABS codes. Each item of PPE supplied for use on the project site(s) must be designed and manufactured in accordance with the relevant South African National Standard, ISO standard, or other recognised international standard.

Visitors (minimum PPE)

- Hard Hat,
- Reflective vest and
- Safety Boots

If required due to on-site risks,

- Eye Protection,
- Hearing Protection,
- Respiratory Protection

No Visitor, regardless of title or position may be permitted to enter the construction site without the minimum PPE which is a Hardhat, Reflective Vest and Safety Boots. Should the CHSR when present on site find any person without the minimum PPE he may issue instructions to cease construction work.

On site Workers

- Suitable protective clothing (Overalls for all employees working on-site)
- Personnel exposed to noise levels exceeding 85dB (A), SANS 11451 approved hearing protection.
- Gloves, (Type appropriate to risks, or recommended by product manufacturers).
- Eye Protection/Face shields, (Appropriate to risks, or recommended by product/equipment manufacturers).
- Leather spats, (Appropriate to risks, or recommended by product/equipment manufacturers).
- Safety harnesses, (Where work is conducted from a Fall Risk Position).

Additional PPE requirements must be determined through hazard identification and risk assessment. This hazard-specific PPE (such as hand protection, hearing protection and respiratory protection) must

be worn as required (e.g., when in a certain area, when performing a certain task, or when working with a certain substance).

The correct PPE must always be worn:

- In accordance with site requirements (as indicated at the entrances to a project site and at the entrances to buildings and/ or designated areas on the premises).
- In zoned areas (e.g., noise zones and respirator zones).
- As required by a Safe Work Procedure, a risk assessment, or a Material Safety Data Sheet (MSDS).

PPE must be provided to the employees by the PC and Contractor at no cost to the employee. Due to hygiene risks associated with interchanging PPE Site visitors wishing to gain access to the site must have their own personal PPE.

Should a worker not have the required PPE he may not be permitted to work, Employees must be trained in the correct use and how to take care of PPE. Supervisors need to as part of the Pre-Shift inspections when conducting DSTI's check that employees have the required PPE and that it is in a good condition.

If an item of PPE has worn out, has become damaged, or is found to be defective in any way, it must be replaced by the contractor. Employees must be provided with facilities which enable them to store their PPE e.g., lockers.

Employees who wear prescription spectacles (i.e., require corrective lenses) must make use of either:

- Prescription safety glasses (with permanent fixed side shields) that conform to the requirements of a recognised national or international standard (e.g., CSA, ANSI, or equivalent), or
- Over-spec safety glasses or goggles.

Any person who refuses to wear PPE as required must be removed from the site.

Symbolic signs indicating mandatory PPE requirements must be prominently displayed at the entrances to a project site and at the entrances to buildings and / or designated areas on the premises where additional PPE is required. These signs must comply with SANS 1186.

The PC must ensure the:

- Control the issuing and replacement of PPE.
- Maintenance of a register as proof that items of PPE have been issued to Individuals with signatures of receipt of PPE.
- Keeping of adequate quantities of replacement PPE on site.
- Carrying out of regular inspections to ensure that PPE is being used correctly, is being maintained in a good, serviceable, and hygienic state, and is not being shared between employees.

8.50.	Plant and Machinery
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The PC must ensure that he controls **all plant and equipment entering and exiting the site**. Daily monitoring of all plant and equipment is required prior to commencing work, on issue and prior to use. A full list of hired and own plant must be available for inspection at each audit.

All daily inspection records are to be filed in the SSHSF and must not be more than one week behind. Only competent, medically fit plant operators must be permitted to operate plant. Medical certificates of fitness must be filled in the SSHSF. No unauthorized person may be permitted to operate or use plant.

Lifting equipment, plant or material that require annual load testing by an AIA, are to comply with the Driven Machinery Regulations (2015). Operators must be adequately trained and certified to operate mobile cranes or crane trucks. Certificates and registers are to be placed in the SSSSF. Each contractor making use of plant and machinery on the project site must develop, document, and implement SWMS that will ensure the safe use and operation of such equipment.

For all plant and machinery, the following documentation must be kept in the Equipment Profile:

- Test records and certificates.
- Inspection records.
- Maintenance records; and
- Details of any modifications or repairs made.

8.51.	Planned Task Observations
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PLANNED TASK OBSERVATIONS

All contractor and sub-contractor supervisors must perform Planned Task Observations (PTO's) to verify that the control measures that have been identified in SWMS's (and associated Risk Assessments) are being adhered to and are being properly implemented, and to provide guidance where deviations are noted.

Each supervisor must complete at least one PTO per day involving one or more employees in his work team.

When an unsafe act or condition is identified, the Supervisor must coach the work team to correct the act or condition in line with the Safe Work Procedure.

Where valid changes to the work method are identified, the Supervisor must ensure that the SWMS/SWP and Risk Assessment are updated to reflect the current practice.

8.52.	Portable Electrical Tools
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The PC to ensure compliance with EMR 10. PC to ensure safe Portable Electrical Equipment is used on site. The PC is required to inspect/have inspected by an appropriately qualified person all portable electrical equipment as follows:

- Supply cabling distribution boards, fixed lighting, and portable appliances on a monthly basis or more frequently if required by frequency of use.
- Extension leads, welding machines, compressors, pumps, and portable hand- tools on a weekly basis.

All sub-Contractor equipment must be inspected and tested at the same intervals as indicated above. The PC must implement a management system to ensure effective inspection and control over equipment such as a monthly colour coding tagging system. Tagging must be durable and be able to withstand the stressors associated with working in a construction environment.

A record book/register must be kept reflecting the following:

- Item unique number.
- Items inspected.

- Deviations identified.
- Signature Of Inspector.
- Date of inspection.

In addition to the abovementioned, the PC must ensure the following:

- That only trained authorized persons use the Tools.
- That equipment is inspected at the start and end of each shift and included in the DSTI.
- That damaged, unsafe equipment is removed from service, tagged unsafe for use until repaired and returned to service.

8.53.	Public Safety and Security
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Hoarding/Fencing

The PC must hoard/enclose the construction site to prevent unauthorised entry and disruption to the site where required. The hoarding must be as follows:

- The hoarding/ enclosure must be at least **1.8-meter-high** and must enclose the entire parameter of the site.
- It must be constructed of a material, which must be able to prevent unauthorised persons from entering the site such as welded mesh/ diamond mesh and 80% shade cloth.
- A Lockable gate must be at least 1.8 meters in height as well a security staff member to control access.
- Hoarding parameters must be as per project's decanting plan.

Warning / informative signs

The entrance of the site must have easily visible construction safety warning signs posted which must contain as a minimum of the following information:

- Construction activities ahead/ Construction Site.
- No unauthorised entry.
- Different Types of Personal Protective Equipment required for the site as per risk assessments.
- Speed limit (10 km/h), unless otherwise stipulated.
- Visitors to report to the site office.
- Where applicable the Construction Permit Number issued by DEL.

Appropriate warning signs must also be posted in different locations of the site to create awareness of danger e.g., demolition in progress sign, required PPE and deep excavations signs etc.

Informative signs indicating the Emergency Assembly Point/s, location of fire extinguishing equipment and first aid equipment must be displayed where required.

Location of site office

The location of the site office should be in an area that will not require visitors to pass through or enter areas where construction work is active and will not require the re-location of the office as the project progresses. The location of the site office must be included in the Site Layout Plan submitted with the SSHSP.

8.54.	Risk Assessment of Plant and Equipment
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The Pc must ensure that Risk assessments of plant and equipment is undertaken and documented before arrival at site, after major service, after modification, and before use in an unusual operating mode or conditions. The RA's must be undertaken by a suitably qualified and experienced person.

RA's for equipment mobilising to Site must be conducted prior to the equipment arriving on Site, and must consider, where applicable, potential for entanglement in moving parts, crushing or striking by moving or falling objects, cutting or stabbing by sharp objects, high pressure fluids, electrical shock or burns, burns from hot or cold surfaces, slips, trips and falls, ergonomic design of access and egress, seating, vibration, noise, exhaust fumes, etc.

The identification of hazards should consider normal operations, abnormal or unusual operations, breakdowns, and servicing operations. Particular attention must be given to fall protection attachment points when there is a requirement to work where a fall risk exists for activities such as repairs to equipment due to breakdowns. Where repairs to earthmoving equipment must take place on site the risk assessments must include provisions to deal with oil, diesel, and coolant spillages.

The PC must maintain all Plant and Equipment in good order and condition. Where equipment becomes inoperable due to breakdowns or other reasons and is being replaced by other equipment the same RA' requirements will be applicable to such replacement equipment.

The CHSR may inspect items of plant or equipment brought to site by the PC for use on site. Should the CHSR deem that it is inadequate, faulty, unsafe or in any other way unsuitable for the safe and satisfactory execution of the work for which it is intended, he must advise the Contractor in writing and the Contractor must forthwith remove or have repaired the item from the site and replace it with a safe and adequate substitute which does not entitle the PC to any additional claims or extension of time in respect of delays caused by the CHSR's instructions.

8.55.	Roof Work
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The PC must ensure compliance with OH&S Act - General Safety Regulation 10. Safe access for gaining access on to roofs must be provided which can be ladders, scaffolding, man-cages, or elevated work platforms. Man-cages and elevated work platforms may only be used where scaffolding, and ladders is not suitable.

A lifeline, consisting of a steel wire rope, the diameter which has been calculated to suit the span and the number of persons attached to it must be erected on the ridge of the structure including the use of a mechanical device, e.g., turnbuckle, for tensioning the wire rope.

The lifeline to be erected/installed, must be recorded on register, and checked daily by a suitably qualified, competent, appointed person. Employees working on the roof must be clipped onto the lifeline via their safety harnesses. No work may be permitted during rain or windy conditions more than 30 kph.

Roof structures must not be overloaded with bundles of roofing materials. Only bundles for immediate use must be stacked onto the roof structure. Bundles must be sufficiently secured to the structure to prevent it from being blown away or falling off. No materials may be permitted to be stored on the roof structure over weekends or holidays.

8.56.	Safety meetings: Pre-start, Review etc.
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The PC must ensure compliance with OH&S Act, Section 19. Weekly Toolbox meetings must be conducted with employees. Topics for Toolbox Meetings must be pertinent to the site, equipment used, activities performed, SHE committee resolutions. Records of contents of Toolbox Meetings as well as attendance records must be kept on the SSHSF.

The PC must conduct at least one formal Health and Safety Meeting per month or at shorter intervals if required by the CHSR. Safety Representative Inspection reports contents must be discussed in addition to items such as Safety Statistics for the Month, PPE Issues, training requirements, CHSR Audit reports and results etc.

Daily Safe Task Instructions (DSTI) briefings must take place with each work team before the start of each shift. Hazards and risks as well as the required risk reduction measures must be communicated to workers. The Supervisor, CHSO and workers must sign the DSTI before work commences. At the end of the shift after the required close out check and signing, the DSTI's must be signed off and filed.

Weekly Safety Review Meetings of all safety related aspects of the week must be conducted. OHS must be a standing item on Planning and Progress Meeting Agenda's and attended by the CHSO.

8.57.	SHE Representatives and Committees
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The PC and Sub-Contractors to comply with Section 16 and 17 of the Act by allowing for and ensuring that Health and Safety Representative(s) whom, after consultation, have been appointed and trained to carry out their functions.

The appointments must be in writing and the Health and Safety Representative must carry out regular inspections, keep records and report all findings to the CHSO. The CHSO must co-ordinate at least monthly H&S Committee meetings and attend all H&S committee meetings held by the Contractors. The CHSO shall further ensure that H&S is discussed at all internal production or progress meetings. Issues arising from the H&S committee meetings are to be discussed at internal meetings, as well as all H&S related issues, incidents, non-conformances, and penalties issued (if applicable).

Feedback to the CHS committee and close out of findings is imperative. Minutes of meetings must be kept for all H&S interventions and meetings. Minutes of meetings must be filed on the SSHSF.

8.58.	CHSO Roles and Responsibilities
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The PC must ensure that the CHSO performs the following duties:

- Assist and co-ordinate the development of the SSHSP.
- Attend Project Planning Meetings.
- Assessment and approval of Sub-Contractors SSHSP's.
- Facilitation of Site HS Meetings.
- Identification of Hazards and risks relevant to the construction project through regular co-ordinated site inspections.
- Establish and maintain HS communication structures, systems, and distribution of HS specific documents to sub-contractors, compiling of project specific emergency preparedness documentation and supervising testing and evaluation of emergency preparedness plans.
- Conducting of induction training sessions.
- Evaluation of compliance by sub-contractors to project specific HS Plans and Client specification through inspections and audits.
- Overseeing the reporting and investigation of project related incidents.
- Overseeing the maintenance of all HS related records.
- Participation in management reviews of HS Systems.

- Draft and analysis of trend analysis to identify system deficiencies and incident trends, outline relevant improvements and incorporate changes into the HS management system.
- Reviewing and updating the SHE Plan.
- Ensuring that all staff, visitors, sub-contractors etc comply with the site rules and procedures.
- Ensure that no new workers or Contractors commences work without prior approval of their SSHSP or any other documentation as per required applicable legislative documentation.
- Ensuring that no work will be permitted to be performed without a valid RA and where required Method Statement as agreed with CHSR until such documentation has been approved by the CHSR.
- Any other duties as agreed between Construction Manager and/ or CHSR.

The CHSO may not be removed or replaced without the approval of the CHSR, nor may the site be left unattended for more than 1 day without adequate, competent cover.

8.59.	Signage
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The PC must ensure that signage is posted on site as per site risks, legislative requirements e.g., General Safety Regulations or SANS, prohibiting entrance, specifying PPE requirements, location of First Aid Station and Fire Fighting Equipment etc. Signage must be noted on the site layout plan indicating where fixed/temporary signage is required.

Temporary electrical signage is to be included for the temporary electrical supplies. All rules or signage provided by the PC must to be adhered to. Where possible wording on signage must be in English and isiZulu.

8.60.	Site Clearance
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Site Clearance activities will vary depending on the condition of the site in terms of it being overgrown, if trees must be removed if redundant materials must be removed from site etc. All site clearance activities irrespective of what it entails must be conducted under supervision and subjected to the Risk Assessment Process as well as the development of SMS's (SWP's).

Where the site is overgrown with vegetation, RA's must make provisions for the presence of snakes, poisonous vegetation, sharp objects, open trenches and excavations and insects. All tools, equipment vehicles and machinery must be in a safe working condition and operated by trained competent persons. Employees must be provided with the required PPE.

8.61.	Site Establishment
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Site establishment can only be deemed complete when the site is enclosed, signage is posted, welfare facilities have been provided, containers have been placed etc. Upon site establishment being deemed as complete the PC must refer to the "Site Establishment Checklist" under item 12.6.1 which can be found under Annexures at the end of this document. Only once all items have been ticked as being present/completed can the PC proceed with other construction activities.

The checklist as indicated above must be signed by the CHSO and the CR8.1/CR8.7 and submitted to the CHSR. Should the CHSR upon conducting a site visit/audit and find that site establishment was not completed before commencing with other construction activities the CHSR may issue instructions to cease construction work until all outstanding items have been attended to.

8.62.	Site Layout Plan
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The PC must ensure that a Site Layout Plan is developed and submitted with the SSHSP as indicated in Annexure C of this document. This document must indicate items such as Location of the Site Office, Laydown areas, Location of welfare facilities, Traffic routes, location of first aid and emergency equipment etc. After Site establishment and as the project progresses the plan must be updated if required and a copy provided to the CHSR. The Location Plan must be displayed at the entrance to the site as well as at the site office.

8.63.	Site Specific Health and Safety Rules
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The PC must provide and ensure implementation and compliance with the following Site-Specific Health and Safety Rules and requirements:

- Safe Access and Egress to be provided to and from work areas.
- Good Housekeeping and Stacking Practices to be implemented and always maintained.
- Continuous cleaning to take place especially at the end of the shift and be recorded in DSTI "close out" Section.
- Safe and orderly routing of electrical cables and air hoses to prevent tripping of persons must be always enforced.
- Rigging Studies must be conducted for all heavy and/or difficult lifts.
- No lifting of loads in windy conditions exceeding 30 km/h depending on RA, Rigging Study, dimensions and weight of the load and lifting capability of the crane.
- Prohibition of certain activities in wet conditions e.g. un-shored excavations, use of portable electrical equipment, elevated work, roof work etc.
- Employees may not be transported on the back of a bakkie and or truck, unless fitted with a canopy and separated by means of a barrier from tools and equipment.
- All elevated work must include compulsory use of Lifelines (unless secured to an approved fixing point), Safety Harnesses & Fall Arrestors including a height rescue system and training of rescuers. To comply with SABS-EN –353-355,358,360-365,795,813&SABS033, 1833, 341,564-567,892,1891,12277 and 4878 -Fall Right SA standards or equivalent - always attached in elevated positions and use of double lanyards.
- Scaffolding must comply with SANS 10085 standards. Scaffold inspectors and Erectors may not be the same person. Access ladders must be erected on the inside of frames, staggered every 2 meters with a safe landing platform. Trapdoors must be provided on working platform. Scaffold must remain tagged "Unsafe for use" until certified "Safe for use". If modified to be re-tagged "Unsafe for use: until certified 'Safe for use'".
- Where required workbenches must be provided for onsite work.
- Barricading must be able to sustain loads imposed on it, should a fully grown person fall against it or lean against it, solid frame covered with orange netting to highlight presence.
- Tools and equipment used in working at heights to be secured by use of lanyards/Tool belts.
- Minimum PPE required to permit entry onto site: Safety boots, Hard Hat and Reflective Vest.
- When grinding, welding and gas cutting operations take place Shields and extinguishers must be used to contain sparks and control fire spread. Fire watchers to be posted whenever Hot Work is conducted.
- Guide ropes must be used whenever lifting operations are conducted.
- Flagmen must wear reflective vests.
- Heavy mobile plant and earth moving equipment must be fitted with rotating lights and operated with lights on and functional reverse hooters and/back up alarms.
- Concrete buckets to be fitted with safety Chains and opening wheels.

- All portable generators and welding machines with electrical outlet sockets must be fitted with earth leakage switches.
- All electrical items used in wet conditions must be fitted with waterproof caravan type plug fittings.
- No machinery e.g. grinder designed with guards may be operated without guards unless approved by CHSR.
- All Self- Propelled mobile machines must be fitted with Fire Extinguishers, Revolving Lights and Back-up and Reverse Hooters.
- All oxygen –acetylene cylinders must be fitted with Flashback Arrestors and proper, good condition hoses and clamps in a trolley equipped with a fire extinguisher.
- Supervision ratios between Foreman and workers not to exceed 1:15 ratio.
- Staff to always wear appropriate PPE with sufficient replacements to being available.
- All employees on site to carry identification e.g. ID card reflecting the following information:
 - Initials and surname.
 - Designation.
 - Company number.
 - Name of Employer, and
 - Proof of induction, sticker on hardhat unless otherwise agreed with CHSR.

Welfare Facilities to:

- Be protected from environmental conditions such as rain, sun, and wind.
- Tables and Chairs to be provided in eating areas.
- Refuse bins for disposal of food containers and food scraps.
- Hand washing facilities.
- Portable toilets 1:10 ratio.
- Separate male and female toilets with doors that can be locked from the inside.
- Running water, soap, and toilet paper to be always available at toilets.
- All facilities to be always kept in neat hygienic condition.

8.64.	Smoking on site
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The PC may not permit any person to smoke on site unless in designated area, which has clearly been identified by means of signage being posted indicating it as the designated smoking area which has been selected in accordance with applicable legislative requirements. Applicable receptacles must be provided for the disposal of cigarettes butts to ensure good housekeeping standards are maintained and prevent accidental fires being started.

8.65.	Speed Restrictions and Protections
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The maximum speed limit on site shall be limited to 10 km/h unless otherwise agreed upon with the CHSR. Vehicle movement routes on site must be clearly indicated where applicable and indicated on the Site Layout Plan.

Signage to ensure the safe movement of vehicles on site, as well as to ensure the health and safety of all employees and visitors on site, must be displayed in strategic locations.

8.66.	Stacking and Storage of Materials
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The PC must ensure compliance with CR 28 and General Safety Regulations 8. Stacking and Storage must take place under the supervision of an appointed competent person.

Storage areas must be designated, kept neat and under control. Inspections of stacking and storage areas must be done and recorded on a register which must be kept on the SSHSF. Adequate stacking, storage and lay down areas must be provided on site. If unauthorized persons can enter an area where materials are stacked, such area must be barricaded off to prevent access to such area. Stacks should not exceed the height to width ratio of 3:1.

Hazardous chemical substances must be stored in dry storeroom as per the specifications of their material safety data sheets.

No materials may be stored outside the site perimeter, unless agreed to in writing with the CHSR and Project Leader.

8.67.	Structures and Temporary Works
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The Principal Contractor must ensure that the provisions of CR 11 & 12 are adhered to.

A Competent Temporary Works Designer must be appointed as per CR 12(1). All temporary works must be erected under the supervision of the appointed Temporary Works Supervisor who will be responsible to certify that the structure is suitable to withstand the loads imposed on it when concrete is poured. No concrete may be poured until authorised to do so by the Temporary Works Supervisor in writing.

All temporary works structures must be inspected by the Temporary Works Supervisor/s after concrete pouring and thereafter daily until the concrete has cured. Temporary works materials or sections may only be removed or dismantled upon receiving authorisation from the appointed Temporary Works Supervisor in conjunction with the Structural Engineer. Records of all inspections and authorisation to dismantle temporary works materials must be kept in the SSHSF.

8.68.	Sub-Contractors
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All Sub – Contractors shall be responsible for their own Health and Safety on site. The PC shall sign Section 37(2) mandatory agreements with the Sub – Contractors for the works, which stipulate the arrangements and procedures to ensure compliance by the Sub-Contractor and his/ her employees with the requirements of the OHS Act, Act 85 of 1993, CR and the SSHS.

All subcontractors must have their own SSHSP applicable to the scope of work they will be performing on site, which has been approved in writing by the PC's CHSO. Records of such approval letters must be kept on the PC's as well as the Sub-Contractors SSHSF.

The PC **may not** permit any Sub-Contractor to start working on site without his SSHSP being approved. The PC's failure to ensure compliance with any of the abovementioned and to monitor Sub – Contractor's compliance on site may be seen as failure by the PC to enforce good SHE Practises, Compliance with the Act, CR and this SSHS and may result in the CHSR issuing instructions to cease work.

8.69.	Transportation of Workers
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The PC and Sub-Contractors shall not:

- Transport persons together with goods or tools unless there is an appropriate area or section of the vehicle separated/ partitioned off from the area where workers are seated in which to store such goods or tools.
- Transport persons on the back of trucks except if a proper canopy (properly covering the sides and top) has been provided with suitable seating areas.
- Permit workers to stand or sit on the edge of the transporting vehicle.
- Transport workers in light duty vehicle (LDV) unless they are closed / covered and have the correct number of seats for the passengers.
- No driver may transport more than six people on the back of a 1-Ton LDV and more than four passengers on the back of a ½-Ton LDV.
- The driver of any LDV may not permit more than two passengers to occupy the cab of any LDV. Drivers of such vehicles must have a valid driver's license for the code of vehicle being driven by them.

8.70.	Trespassing
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The PC and his employees may not trespass on any land/area outside the limits of the site, as indicated at the time of Site Handover, and must communicate such requirement to his sub-contractors. The PC must ensure that all fences are maintained during the Contract.

The PC and his employees are required to work only in the specified construction areas and access to these areas is only by specified routes. Should access routes change due to work related issues on site such routes with applicable restrictions must be communicated to the employees. Changes in routes must go with the required barricading and signage to prevent unauthorised persons from using such routes to access the site where such routes may enable unauthorised persons from entering the site,

Where changes in routes may have a negative impact on the day-to-day functions of persons other than that of the PC such changes in routes must take place in consultation with such affected parties.

8.71.	Toolbox Talks
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The contractor must prepare a Toolbox Talk on a weekly basis and must share it with all personnel for which the contractor is responsible (including all sub-contractors). Toolbox Talks must address health and safety issues that are relevant to the work performed on the project site and must include information and / or knowledge sharing, lessons learnt from incidents that have occurred, information concerning specific hazards and / or risks and control measures to prevent injury, etc.

Attendance records must be kept and maintained in the contractor's SSHSF.

8.72.	Vehicles and Traffic Management
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The PC must ensure compliance with OHS Act- Construction Regulations 23 and that all vehicles entering the site, moving around on the site, parked on site, and exiting the site does so in a safe manner. In addition to the abovementioned, the following must be adhered to:

- Vehicles parked outside the site area must be parked in such a way as to not obstruct the movement of public vehicles nor put the public in danger in any way.
- Contractor's vehicle drivers must comply with all safety direction and speed signs.
- Drivers must ensure that vehicle loads are properly secured before setting the vehicle in motion.

- The Contractor must only permit the authorized, necessary number of vehicles on site.
- Traffic rules and signs such as speed signs; stop signs must be always obeyed.
- No vehicles may be left with the engine running or the keys in the ignition.
- Warning signage must be posted on the outside of site entrances of the site to make road users aware of vehicles entering or exiting the site.

8.73.	Ventilation
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The PC must implement and comply with OH&S Act - Environmental Regulation 5. Any activity/task, which generates excessive dust such floor-sanding, or fumes, such as welding where natural ventilation is not sufficient to ensure the provision of a safe working environment must include the use of an exhaust extraction system. Care must be taken to ensure that outlets of exhaust extraction system do not pose a risk to the health and safety of other persons on or outside the site or contaminate other ventilation system intakes.

8.74.	Vibration
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As far as is reasonably practicable, exposure to vibration must be eliminated. However, if this is not possible, short-term solutions to decrease exposure include:

- Reducing the vibration levels.
- Removing the person from the vibrating equipment / tools.
- Reducing the period that the person works with the vibrating equipment e.g., at least 40 minutes break after 20 minutes working with a machine that vibrates excessively.

To reduce exposure to vibration:

- Consider buying equipment that operates effectively at lower speeds.
- Buy equipment with built-in damping materials.
- Buy lighter tools if they are available - they require less of a grip.
- Maintain the equipment.
- Make sure equipment is balanced and there are no worn parts.
- Use remote controls when they are available.
- Workers must be informed to reduce their grip on the equipment when it is safe. The less time they have their hands on the equipment the better.
- They need to relax their hands during these brief breaks.

8.75.	Visitors to Site
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The PC must ensure that all Visitors to the site are subjected to a site-specific safety induction training session prior to being allowed access to site. Visitors are required to conform to the Site PPE requirements and should arrive at site with the appropriate PPE, with the minimum being safety boots/shoes, hard hat and a vest.

Visitors must not be permitted to roam around on site without being accompanied by a representative of the PC, so as to make them aware of on-site hazards, risks, No-Go areas etc.

8.76.	Waste Management
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The PC must ensure that a Waste Management Plan must be developed which must be submitted with the SSHSP as indicated in Annexure C. It must be kept in mind that a site with areas overflowing with waste creates health hazards, attracts rodents and a poor image of the company.

Sufficient receptacles and designated stored areas must be provided which must be cleared frequently. Consideration must be taken of the types of waste generated and where required waste separation must form part of the Waste Management Plan. Environmentally hazardous waste such as asbestos, empty paint tins, fluorescent light fittings etc must be disposed of in line with applicable legislative requirements.

8.77.	Water Management
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The PC must keep in mind that South Africa is a country with limited water resources. Water may only be obtained on site, as per contract stipulations. The PC may not make unauthorised water connections. Where water is brought onto site by means of water tankers the PC must ensure that the water is suitable for its intended use.

The PC must communicate to all workers the importance of water conservation and management. Run-off water from washing and cleaning activities must be managed in a controlled manner to not create areas where water becomes stagnant contributing to the creation of areas for mosquitos to breed. Run-off water must also not contribute to the creation of slippery surfaces. It is recommended that taps are of the press-button type to reduce water wastage.

No hazardous substances such as paints, oils etc may be disposed of into drains, and sewers.

8.78.	Welding, Grinding, Cutting etc.
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The PC must comply with the requirements of the OHS Act-Construction Regulation 29. The Pc must also ensure the following:

- That all equipment used is in a safe working condition.
- That Hot Work Permits have been issued by the appointed Competent Person.
- That where required the necessary screens have been erected to protect against harmful rays and sparks.
- The presence of close proximity fire extinguishing equipment.
- Dampening down takes place where required.

8.79.	Welfare Facilities
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The PC must implement and comply with Construction Regulation 30. PC to ensure:

- Sufficient chemical ablution facilities on site where connection to existing sewer system is not possible.
- Separate facilities must be provided for males and females with gender signs posted at entrance or on door.
- Ablutions must be serviced weekly as a minimum.
- Safe drinking water must be provided to employees.
- Safe, clean storage areas for workers personal belongings and clothing to be provided.

8.80.	Working at Heights
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The PC must implement and comply with OH&S Act - General Safety Regulation 6 & Construction Regulation 10. Note: The following must be implemented in conjunction with the requirements for Elevated Work and the Fall Protection Plan as covered earlier in this document:

- If personnel are required to work in any area, which is not guarded, which has a fall risk, either above or below ground, fall protection equipment must be provided and utilised by the personnel. Fall protection includes Safety harnesses and double lanyards with the correct hooks, approved lifelines, or other approved means.
- All harnesses must comply with SABS/EN/EC Standards and must be in a "good state", inspected using a comprehensive inspection checklist, and "in-date" as per manufacturing guideline.
- All persons working in a fall risk position, e.g., scaffolding, formwork/false work, support work, roof work, etc. must be trained for working at heights with a minimum of an Accredited Fall Arrest Course compliant to applicable SAQA Unit Standards.
- The supervisor of the work relating to the fall risk area must be trained at a minimum level of a SAQA Accredited Fall Arrest and Basic Rescue Course.
- A Rescue Kit (Contents of the Rescue Kit as per the Fall Protection Plan, and as determined by the type of working from a fall risk position that is being conducted on site) must be always available on site.
- The site must have at least one Accredited Fall Arrest Rescue Co-Coordinator on site who will co-ordinate the rescue operation.

8.81.	Desludging
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The Contractor must conduct all pit toilet desludging activities in a manner that protects the health and safety of Employees, the Public and the environment, and must comply with all applicable health, safety and environmental legislations (*i.e. OHS Act 85 of 1993, HBA Regulations 2022, etc.*) and Client requirements.

The Contractor shall:

- Conduct a site-specific Hazard Identification and Risk Assessment (HIRA) before work commences.
- Ensure all Employees are trained, competent and medically fit for the work performed.
- Provide and enforce the use of appropriate Personal Protective Equipment (PPE), including gloves, waterproof boots, protective clothing, eye protection and respiratory protection where required.
- Implement measures to prevent exposure to biological hazards and maintain high standards of personal hygiene.
- Inspect and maintain all desludging equipment and ensure vacuum tankers are safe and roadworthy.
- Prevent spills, leaks and environmental contamination, and dispose of faecal sludge only at authorised disposal facilities.
- Establish safe work zones using appropriate signage, barriers and traffic control measures.
- Provide emergency response procedures for spills, injuries, equipment failure and other emergencies, and report all incidents to the Client.
- Ensure that no person enters a pit or confined space unless an approved confined space entry procedure has been implemented.
- Maintain good housekeeping, decontaminate equipment after use and manage all waste in accordance with applicable environmental requirements.

The Client reserves the right to inspect the Contractor's operations, stop unsafe work and require corrective actions where non-compliance with these requirements is identified.

8.

ANNEXURE B: Baseline Health and Safety Risk assessment

Please note that this is a Baseline Risk Assessment, Contractor to perform detailed Issue Based and Continuous Risk Assessments in the sequence of the activities anticipated of being performed

PROJECT:		DEPARTMENT OF EDUCATION: SIHLE HIGH SHOOL: WATER AND SANITATION PHASE											
REF No		WIMS: 064164		RISK ASSESSOR		H.S MASIKANE		REVISION		DATE			
Likelihood		Consequence		RISK = LIKELIHOOD X CONSEQUENCE		Score		RISK RANKING		RANKING			
	Rare	1	Negligible	1			0-5				1		
	Unlikely	2	Minor	2			6-10				2		
	Possible	3	Moderate	3			11-16				3		
	Likely	4	Major	4			17-20				4		
	Almost certain	5	Severe	5			21-25				5		
MAIN ACTIVITY: Site Establishment													
Ref Nr	Activity		Potential Hazard		Potential Risk		S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
1	- Collect & Deliver materials and equipment incl. scaffolding. - Loading & Offloading by Hand. - Supply and Maintenance of one (1) Storeroom on site. - Casting concrete blinding layers for placement of containers. - Supply and Maintenance of flushable portable toilet. - Provide water works for project: water tanks, containers, drums, water carts, etc. - Temporary electrical connections for Site Office. - Cleaning all accumulated rubble, building material, etc. - Safe site barricading		• Manual Handling of equipment and materials. • Strains, slips, trips, falling objects. • Dust inhalation. • Moving vehicles. • Uneven surfaces between vehicle and lay down area. • Excessive speeds/ driving recklessly. • Fatigue. • Chemical exposure. • Hygiene issues. • Noise. • Cement exposure. • Working at heights/ From a Fall Risk Position. • Temporary electricity. • Sun. • Vibration (vibrating concrete). • Exposure to sharp objects		• Manual handling injuries. Respiratory diseases. • Eye injuries. • Vehicle Collision & damage. • Material Damage/Equipment Damage. • Slips, trips and falls from uneven surfaces. • Chemical burns/ contact dermatitis from cement. • Worker falling from heights/ fall risk positions causing death or serious injury. • Shock, burns, electrocution or electrical fire from installing temporary electrical connection. • Cuts, respiratory issues, slips.		x	x	x	3 x 3=9	- Responsible 16.2 to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling, portable Electric Tools etc. - Contractor to conduct DSTI's and toolbox talks with relevant topics. - Fall Protection Plan must be communicated and implemented by an appointed, competent and qualified Fall Protection Planner (CR10.1a). - All ladders are to be labelled, inspected and recorded. - Hand tools to be inspected prior to use.	2x1=2	1

	- Vehicle and waste-removal equipment movements. - Heat stress and fatigue during prolonged demolition work.	- Fatality or serious injury from collapse of structures during demolition work. - Respiratory illness due to dust and airborne contaminants. - Hearing loss from prolonged noise exposure. - Musculoskeletal disorders from lifting, carrying, and repetitive tasks. - Slips, trips, and falls resulting in sprains, fractures, or head injuries. - Cuts, punctures, and lacerations from sharp materials and tools. - Damage to adjacent structures, services, or property. - Environmental pollution from dust, debris, and waste materials.						- temporary supports where required. - Use proper access equipment and fall protection when working at height. - Apply safe manual handling practices and use lifting aids. - Maintain good housekeeping and remove debris regularly. - Ensure emergency procedures, first aid, and rescue arrangements are in place. - Ensure housekeeping to avoid slip trip and falling hazards. - All workers to have valid medicals with annexure 3. - Hand tools to be inspected and recorded. - Awareness trainings to be conducted. - Visible supervision on site		
3.	DESLUDGING OF EXISTING PITS AND SEPTIC TANKS: - Desludge existing pits and fill holes with stock pile materials	- Exposure to toxic gases (e.g., hydrogen sulfide, methane). - Contact with sewage and sludge. - Falls into open pits or excavations. - Working on wet or uneven surfaces. - Unsafe manual handling or lifting and heavy construction equipment, or materials. - Equipment failure during desludging.	- Exposure to toxic gases (e.g., hydrogen sulfide, methane) causing poisoning or suffocation. - Contact with sewage and sludge, leading to infections and disease. - Falls into open pits or excavations. - Slips, trips, and falls on wet or uneven surfaces. - Manual handling injuries from lifting and moving hoses, equipment, or materials.	X	X	X	4x5=20	- Conduct a site-specific risk assessment before work begins. - Create task-based DSTIs & communicate to all Employees. - Communicate SWP & safe lifting techniques to Employees. - All Employees to be in possession of valid medical certificates. - Use appropriate PPE: gloves, coveralls, safety boots, eye	3x2=6	2

	- Dust exposure during filling of pits with stockpile material. - Excavation collapse or ground instability. - Contact with underground services such as electrical cables or water pipes. - Exposure to noise and vibration from pumps and machinery. - Environmental pollution from sludge spills or improper disposal. - Heat stress and dehydration during outdoor work.	- Struck-by incidents involving vehicles, machinery, or moving materials. - Equipment failure causing spills, injuries, or environmental contamination. - Dust exposure during filling of pits with stockpile material. - Excavation collapse or ground instability leading to entrapment or injury. - Contact with underground services such as electrical cables or water pipes. - Noise and vibration from pumps and machinery. - Environmental pollution from sludge spills or improper disposal. - Heat stress and dehydration during outdoor work.							- protection, and respiratory protection where required. - Monitor for hazardous gases before opening and during work around septic tanks. - Establish barriers and warning signs around open pits. - Follow confined-space entry procedures where applicable. - Implement safe manual handling techniques and use mechanical aids. - Maintain good hygiene facilities and handwashing stations. - Ensure trained operators use desludging and excavation equipment. - Control vehicle movements with designated routes and spotters. - Properly transport and dispose of sludge at approved facilities. - Backfill and compact excavations safely to prevent future ground collapse. - Visible supervision.		
	Sub-Totals		Pure Risk			46	Residual Risk			16	5
MAIN ACTIVITY: NEW WORK TO EXISTING BUILDINGS – pits toilet											
Ref Nr	Activity	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking	
	SUPERSTRUCTURE BLOCKWORK: Blockwork of M190 cement blocks in class II mortar	- Unsafe manual handling of heavy material. - Uneven surfaces, debris, and wet mortar spills.	- Back injuries from lifting & carrying heavy cement blocks. - Slips, trips, and falls caused by uneven	x	x	x	3x2=6	Create task-based DSTIs & communicate to all Employees.	2x2=4	1	

	- Exposure to wet cement and mortar, causing skin irritation, burns, eye injuries, and respiratory issues. - Generated dust. - Home-made & unsafe tools. - Working at unprotected height & unsafe ladders and scaffolds.	- surfaces, debris, and mortar spills. - Skin irritation, burns, eye injuries, and respiratory issues caused by exposure to wet cement. - Hand & finger injuries by unsafe tools. - Serious body injuries from falling from height, ladders & scaffolds.					- Communicate SWP & safe lifting techniques to Employees. - All Employees to be in possession of valid medical certificates. - Wear appropriate PPE (<i>hard hats, gloves, safety boots, eye & hearing protection, dust masks/ respirators, etc.</i>). - Practise & maintain good housekeeping on site. - Scaffold to be only erected and inspected by competent persons. - Implement Dust Control on site. - Train Employees to safe handle cement & other HCS. - Visible supervision.	3x2=6	2
ROOF COVERINGS, ETC.: - Installation of 0.58mm Colorbond IFR profile sheeting, colour one side fixed to timber purlins	- Unprotected height, roofs, ladders, scaffolds, or any elevated platforms. - Employee strike by falling objects i.e. roofing sheets, tools, materials, etc. - Manual handling injuries from lifting, carrying, and positioning roofing materials. - Sharp edges on metal sheets edges. - Noisy and vibrating tools. - Structural instability if roof structures are incomplete, damaged, or overloaded.	- Serious body injuries due to falling from heights, roof, ladders, scaffolds, or any elevated platforms. - Death or serious head/body injuries due to being strike by falling objects i.e. roofing sheets, tools, or materials striking. - Serious cuts & lacerations from sharp edges on metal sheets & flashing. - Temporal deafness and Hand-arm vibration syndrome (HAVS) from power tools. - Death or serious body injuries caused by collapsing of instability, incomplete, damaged, or overloaded roof structure	x	x	x	4x5=20	- Create task-based DSTIs & communicate to all Employees. - Communicate SWP & safe lifting techniques to Employees. - All Employees to be in possession of valid medical certificates. - Conduct a task-based risk assessment & communicate to Employees. - Install & use fall protection systems (<i>i.e. guardrails, lifelines, & full-body harnesses</i>). - Ensure scaffolding, ladders, and access equipment are properly erected, inspected, and maintained.		

ROOF AND WALL INSULATION: - "Sisalation FR430" Heavy Industrial Grade Aluminium Foil based insulation	• Unprotected height, roofs, ladders, scaffolds, or any elevated platforms. • Employee strike by falling objects i.e. roofing sheets, tools, materials, etc. • Unsafe manual handling injuries from lifting, carrying, and positioning roofing materials. • Sharp edges on metal sheets edges. • Noisy and vibrating tools. • Structural instability if roof structures are incomplete, damaged, or overloaded.	• Serious body injuries due to falling from heights, roof, ladders, scaffolds, or any elevated platforms. • Death or serious head/body injuries due to being strike by falling objects i.e. roofing sheets, tools, or materials striking. • Serious cuts & lacerations from sharp edges on metal sheets & flashing. • Temporal deafness and Hand-arm vibration syndrome (HAVS) from power tools. • Death or serious body injuries caused by collapsing of instability, incomplete, damaged, or overloaded roof structure & timber trusses on top of Employees below.	x	x	x	4x5=20	▪ Create task-based DSTIs & communicate to all Employees. ▪ Communicate SWP & safe lifting techniques to Employees. ▪ All Employees to be in possession of valid medical certificates. ▪ Install & use fall protection systems (i.e. <i>guardrails, lifelines, & full-body harnesses</i>). ▪ Ensure scaffolding, ladders, and access equipment are properly erected, inspected, and maintained. ▪ Identify and clearly mark fragile roof areas; use crawling boards or working platforms where necessary. ▪ Secure roofing materials to prevent them from being displaced by wind or falling from height. ▪ Wear appropriate PPE (<i>incl. Hard hat, Safety boots, Gloves, Eye protection, Hearing protection & Fall-arrest equipment</i>). ▪ All tools to be inspected before use. ▪ Control dust by using wet-cutting methods. ▪ Monitor weather conditions & stop work during high winds, rain, lightning, or other unsafe conditions. ▪ Ensure workers are trained, supervised, and competent in	2x2=4	1
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	- Noise exposure from drilling activities - Materials left in walkways. - Work activities that demand awkward working positions (i.e. too much body bending down, body squatting, etc.).	- Slips, trips, and falls due to tools or materials left in walkways - Musculoskeletal injuries from awkward working positions	x	x	x			Hearing protection, etc.). Visible supervision.		
METALWORK: - Hot dipped galvanised mild steel door frames. - Screeds and Cement plaster on blockwork on internal & external walls	- Unsafely lifting & manual handling of heavy door frames and doors. - Sharp metal edges of metal door frames. - Exposed to pinching or crushing of fingers during positioning & installation. - Falling door frames during lifting or fixing - Drilling, grinding, or cutting operations without wearing eye protection. - Noisy power tools. - Electrical tools with exposed electrical wires or shock from defective power tools. - Exposed to pinching while fitting lock components. - Noise exposure from drilling activities - Materials left in walkways. - Work activities that demand awkward working positions (i.e. too much body bending down, body squatting, etc.). - Unsafe ladder.	- Manual handling of heavy door frames causing back strains and muscle injuries - Cuts and lacerations from sharp metal edges - Pinched or crushed fingers during positioning and installation - Falling door frames during lifting or fixing - Eye injuries from drilling, grinding, or cutting operations - Exposure to welding fumes (if welding is required) - Burns from welding or cutting activities - Electric shock from electrical tools or welding equipment - Noise exposure from power tools - Slips, trips, and falls due to materials and tools in the work area - Working at height when installing frames in elevated locations	x	x	x	3x2=6	2x2=4	- Create task-based DSTIs & communicate to all Employees. - Communicate SWP to Employees. - All Employees to be in possession of valid medical certificates. - Inspected tools & ladders before use. - Practise safe lifting technique when lifting heavy material. - Avoid work demanding awkward working positions. - Wear appropriate PPE (Incl. Safety boots, Gloves, Eye protection, Hearing protection, etc.). - Visible supervision.	1	
PLUMBING AND DRAINAGE: 0.7mm Baked Enamel on aluminium gutter system. 0.6mm Thick aluminium down pipes with white Finish. - Rainwater downpipes.	- Unprotected height, ladders, or any elevated platforms. - Employee strike by falling objects i.e. Baked Enamel on aluminium gutter, downpipes, tools, etc.	- Serious body injuries due to falling from heights, roof, ladders, or any elevated platforms. - Death or serious head/body injuries due to being strike by falling objects i.e.	x	x	x	3x2=6	2x2=4	- Create task-based DSTIs & communicate to all Employees. - Communicate SWP & safe lifting techniques to Employees.	1	

[illegible]

	• Exposure to sharp edges of scrapers and pointy wire brushes. • Use of unsafe ladders, scaffolds, or elevated work platforms during painting ceilings, fascia, barge boards, and roof timbers. • Falling tools or materials from heights. • Working on wet surface caused by paint spills, equipment, and poor housekeeping. • Unsafely manual handling of heavy paint containers, ladders, and equipment. • Exposure to repetitive movements and awkward postures while working. • Fire hazards from flammable paints, thinners, and solvents. • Exposed to live electrical wires while using electrical tool or equipment. • Improper disposal of paint containers, brushes, and solvent waste. • Paint fumes and dust released to air. • Exposure to noise nuisance during surface preparation equipment.	• Chest congestion due to dust inhalation while brushing, sanding, or scraping surfaces. • Cuts and abrasions from scrapers, wire brushes, and hand tools. • Severe body injuries due to falling from ladders, scaffolds, or elevated work platforms when painting ceilings, fascia, barge boards, and roof timbers. • Death or serious head injuries due to falling tools or materials striking persons below. • Ankle & knee twisting caused by slips, trips, and falls caused by paint spills, equipment, and poor housekeeping. • Repetitive movements and awkward postures causing musculoskeletal strain. • Body burnt caused by fire hazards from flammable paints, thinners, and solvents. • Electric shock from contact with electrical fittings or use of electrical equipment. • Land & water pollution caused by improper disposal of paint containers, brushes, and solvent waste. • Air pollution from paint fumes and dust generated and released to air. • Employees experiencing temporary or permanent hearing loss, Tinnitus (ringing or buzzing in the ears), Headaches and	▪ Communicate handling of HCS to all Employees. ▪ Wear appropriate PPE (i.e. safety glasses, gloves, overalls, safety boots, and respiratory protection) where required. ▪ Ensure adequate ventilation in enclosed areas. ▪ Use ladders and scaffolding that are inspected and properly secured. ▪ Keep work areas clean and immediately clean up paint spills. ▪ Store paints and solvents in designated, well-ventilated areas away from ignition sources. ▪ Dispose of paint waste and containers according to environmental requirements. ▪ Establish exclusion zones beneath elevated work areas. ▪ Visible supervision.						
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MAIN ACTIVITY: EARTHWORK.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	EXCAVATION, FILLING, ETC.: - Excavation in earth not exceeding 2m deep (<i>Trenches & reduced level</i>). - Backfilling to trenches, holes, etc. - Compaction of surfaces. - Soil insecticide to bottoms and sides of trenches etc.	• Unserved construction mobile plant. • Incompetent construction mobile plant Operator. • Noise generated. • Dust generated. • Uneven ground. • Unsafe/ home-made hand tools. • Exposure to sharp objects protruding out from ground. • Extreme weather conditions	✚ Fatal incident & serious body injuries due mobile plant brakes fail and run over people on site. ✚ Tinnitus caused by continuous noise from mobile plant. ✚ Difficult to concentrate leading to risk of accidents. ✚ Chest congestion & respiratory conditions due to inhaling generated dust. ✚ Fingers & hand injuries from using unsafe hand tools. ✚ Heat exhaustion.	X	x	x	3x4=12	▪ Contractor to create task-specific DSTI's + SWPs & communicate it to all Employees, and keep attendance records. ▪ Only competent person to operate mobile plant on site. ▪ Excavation Work Supervisor to inspect (<i>using inspection checklist</i>) ground to be excavated before excavation commences. ▪ Practise good housekeeping to avoid slip trip and falling hazards. ▪ All Workers to have valid medicals with annexure 3. ▪ Mobile plant & Hand tools to be inspected before use and recorded. ▪ Awareness trainings to be conducted. ▪ Provide PPE: Safety Boots/Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, etc.	2x2=4	1
	Totals		Pure Risk				12	Residual Risk	4	1

MAIN ACTIVITY: CONCRETE, FORMWORK AND REINFORCEMENT

Ref Nr.	Sub-Activities	Potential Hazards	Potential Risks	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
3.	- Strip footings, bases, etc., cast against excavated surfaces. - Formwork Class F2 to form (smooth finish) edges, risers, ends, reveals, etc. not exceeding 300mm high or wide - Vibrated reinforced concrete.	• Heavy reinforcement steel. • Pointy & sharp ends of reinforcement steel. • Uneven excavated ground. • Dust. • Unsafe hand tools. • Work demanding body bending/ squatting position.. • Unserved concrete truck. • Mobile plants reversing without reverse alarm. • Concrete truck operator incompetent. • Wet concrete. • Concrete vibrating poker.	• Back injury due to lifting heavy reinforcement steel. • Hand finger injuries due to being poke & cut by sharp & pointy reinforcement steel. • Twisted knee & ankle due to mis-step caused by uneven ground level. • Knee bruises due to trip & fall. • Chest congestion & respiratory conditions due to inhaling generated wood dust. • Fingers & hand abrasion & cuts due to use of home-made/ unsafe tools. • Fatal incidents/ serious body injuries due to reversing truck without reverse alarm. • Ergonomic injuries due to manual handling • Slip & fall due to wet floor/ surface. • Back injuries due to repetitive body bending. • Hand-Arm Vibration Syndrome (HAVS), Vibration White Finger (VWF), reduced grip strength caused by concrete vibrator.	X	x	x	3x4=12	- Contractor to create task-specific DSTI's & communicate it to all employees, and keep attendance records. - Practise good housekeeping to avoid slip trip and falling hazards. - All Workers to have valid medicals with annexure 3. - Hand tools to be inspected before use and recorded. - Safe Work Procedures to be communicated & adhered to. - Select & use low vibration tools to avoid HAVS & VWF syndromes. - Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, safety harness where needed, etc. - Visible supervision.	2x2=4	1
Totals		Pure Risk			12			Residual Risk	4	1

MAIN ACTIVITY: PRECAST CONCRETE

Ref Nr.	Sub-Activities	Potential Hazards	Potential Risks	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
3.	- Strip footings, bases, etc., cast against excavated surfaces - Formwork Class F2 to form (smooth finish) edges, risers, ends, reveals, etc. not exceeding 300mm high or wide - Vibrated reinforced concrete.	• Heavy reinforcement steel. • Pointy & sharp ends of reinforcement steel. • Uneven excavated ground. • Dust. • Unsafe hand tools. • Work demanding body bending/ squatting position.. • Unserviced concrete truck. • Mobile plants reversing without reverse alarm. • Concrete truck operator incompetent. • Wet concrete. • Concrete vibrating poker.	• Back injury due to lifting heavy reinforcement steel. • Hand finger injuries due to being poke & cut by sharp & pointy reinforcement steel. • Twisted knee & ankle due to mis-step caused by uneven ground level. • Knee bruises due to trip & fall. • Chest congestion & respiratory conditions due to inhaling generated wood dust. • Fingers & hand abrasion & cuts due to use of home-made/ unsafe tools. • Fatal incidents/ serious body injuries due to reversing truck without reverse alarm. • Ergonomic injuries due to manual handling • Slip & fall due to wet floor/ surface. • Back injuries due to repetitive body bending. • Hand-Arm Vibration Syndrome (HAVS), Vibration White Finger (VWF), reduced grip strength caused by concrete vibrator.	X	x	x	3x4=12	▪ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ▪ Practise good housekeeping to avoid slip trip and falling hazards. ▪ All Workers to have valid medicals with annexure 3. ▪ Hand tools to be inspected before use and recorded. ▪ Safe Work Procedures to be communicated & adhered to. ▪ Select & use low vibration tools to avoid HAVS & VWF syndromes. ▪ Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, safety harness where needed, etc. ▪ Visible supervision.	2x2=4	1
	Totals						12	Residual Risk	4	1

MAIN ACTIVITY: MASONRY [SUPERSTRUCTURE].

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	- One brick wall in foundations - Brick work in superstructure. - Brick wall reinforcement built in horizontally. - Installation of galvanized hoop iron cramps, ties, etc. - Set of two 400 x 200mm terra-cotta vermin proof air bricks. - 80mm paving to walkway, etc. to falls with precast concrete paving blocks.	• Heavy wheelbarrow fully of bricks. • Falling bricks from heights. • Unsafe hand tools & ladders. • Unsafe & incomplete scaffolding for Bricklayers. • Brick roughness. • Ground soil & cement dusts generated. • Wet concrete mixture. • Material & equipment left unattended in walkways. • Cement mixed on bare ground.	• Back injuries, sprains, strains, & musculoskeletal disorders caused by lifting & pushing heavy wheelbarrow full of bricks. • Severe/ Fatal head injury due to being strike by falling brick(s). • Fingers & hand injuries from using unsafe hand tools. • Body injuries from falling from unsafe ladder. • Chest congestion & respiratory conditions due to inhaling generated cement dust. • Serious body injury falling from incomplete & unsafe scaffolding. • Skin irritation due to skin contact with wet concrete mixture. • Severe eye irritation & chemical burns due to contact with cement dust & wet concrete. • Knee bruises & twisted ankle injuries from tripping & falls. • Ground contamination/ pollution caused by mixing cement mixture direct on the bare ground.	X	x	x	4x3=12	• Create task-specific DSTI's & communicate it to all Employees, and keep attendance records. • Conduct SWP & Safe Lifting Technique and adhere to both. • Only competent persons to erect complete, inspect & declared safe scaffolding for Bricklayers. • Competent Bricklayers to execute brick works. • Conduct safe handling of HCS (<i>i.e. cement, etc.</i>). • Practise good housekeeping to avoid slip trip and falling hazards. • Employees to have valid medicals in the form of annexure 3. • Inspect tools & ladder before use and recorded. • Practise SWP & safe lifting technique when lifting heavy equipment/ material. • Provide all required PPE to Employees. • Visible supervision.	2x2=4	1
	Totals						12		4	1

MAIN ACTIVITY: WATERPROOFING.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	DAMP-PROOFING OF WALLS AND FLOORS: - One layer of 375 micron "Consol Plastics Brikgrip DPC" embossed damp proof course in walls. - One layer of 375 micron "Consol Plastics" or other equally approved waterproof sheeting sealed at laps under surface bed.	• Heavy roll of 375 micron "Consol Plastics Brikgrip DPC". • Unsafe lifting of heavy rolls DPC. • Brick roughness. • Dusts generated. • Material & equipment left unattended in walkways. • Extreme weather conditions.	• Back injuries, sprains, strains, & musculoskeletal disorders caused by lifting & pushing heavy roll DPC. • Back pains due to unsafely lifting heavy material. • Chest congestion & respiratory conditions due to inhaling generated dust. • Knee bruises & twisted ankle injuries from tripping & falls. • Heat exhaustion.	X	x	x	4x5=20	■ Create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ■ Conduct SWP & Safe Lifting Technique and adhere to both. ■ Practise good housekeeping to avoid slip trip and falling hazards. ■ Employees to have valid medicals in the form of annexure 3. ■ Inspect tools before use and recorded. ■ Practise SWP & safe lifting technique when lifting heavy equipment/ material. ■ Provide all required PPE to Employees. ■ Visible supervision.	3x2=6	2
	Totals		Pure Risk				20	Residual Risk	6	2

MAIN ACTIVITY: ROOF COVERINGS.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	- 0.58mm "ZINCAL COLORPLUS" or other acceptable equivalent aluminium roof sheeting corrugated sheet steel for battens up to 1,7m c/c spacing.	• Sharp edges & heavy metal roof sheeting; • Roof/ Heights; • Dust; • Home-made & unsafe hand tools; • Unsafe ladder; • Unstable timber purlins; • Unsafe manual handling; • Struck by tools; • Tripping hazards; • Extreme weather conditions; etc.	• Serious body injury from falling through timber purlins; • Chest congestion due to dust inhalation; • Hand & finger cuts by sharp edges of metal roofing; • Hand & finger injuries due to being strike by hand tools; • Back pains caused by lifting heavy metal roof sheeting; • Arm muscular aching due to work continuous without resting; • Knee bruising due to trip & fall; • Heat exhaustion ; etc.	x	x	x	4x5=20	▪ Conduct task-specific HIRA. ▪ Communicate task-based DSTI & SWP. ▪ Practise SWP & Safe lifting technique. ▪ Employees working on roof to be in possession of working at heights certificates. ▪ Inspect tools before use; Prohibit home-made tools. ▪ Competent Supervision. ▪ Employees to be in possession of Medical certificates of fitness. ▪ Solidly barricade & display relevant awareness signage & symbols where roof works is taking place. ▪ Wear required PPE (Including safety harnesses); Visible supervision; etc.	3x2=6	2
	ROOF & WALL INSULATION: - Sisalation FR430' heavy industrial grade reinforced aluminium foil and polyethylene insulation with fire retardant properties.	• Heavy insulation material; • Unguarded heights; • Dust generated; • Home-made & unsafe hand tools; • Unsafe ladder; • Unstable timber purlins; • Unsafe manual handling; • Struck by tools;	• Serious body injury from falling through timber purlins; • Chest congestion due to dust inhalation; • Hand & finger injuries due to being strike by hand tools;	X	X	X	4x5=20	▪ Conduct task-specific HIRA. ▪ Communicate task-based DSTI & SWP. ▪ Practise SWP & Safe lifting technique. ▪ Employees working on roof to be in	3x2=6	2

	• Tripping hazards; • Extreme weather conditions; etc.	• Back pains caused by lifting heavy insulation material; • Arm muscular aching due to work continuous without resting; • Knee bruising due to trip & fall; • Heat exhaustion ; etc.						- possession of working at heights certificates. - Inspect tools before use; Prohibit home-made tools. - Competent Supervision. - Employees to be in possession of Medical certificates of fitness. - Solidly barricade & display relevant awareness signage & symbols where roof works is taking place. - Wear required PPE (including safety harnesses); Visible supervision; etc.	12	4
	Totals		Pure Risk				40	Residual Risk		

MAIN ACTIVITY: CARPENTRY & JOINERY.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	PLATE NAILED TIMBER ROOF TRUSSES CONSTRUCTION: - Sawn treated softwood grade V4 152 x 38mm Rafter, 38 x 114mm Wall plates and 38 x 76mm Purlins.. - 15 x 225mm Fascias and barge boards including galvanised steel H-profile jointing strips.	• Heavy & long timber purlins & trusses; • Heights; • Dust; • Home-made & unsafe hand tools; • Unsafe ladder; • Unstable timber purlins & trusses; • Unsafe manual handling; • Struck by tools; • Tripping hazards; • Extreme weather conditions; etc.	• Serious body injury from falling through timber purlins; • Chest congestion from inhaling dust; • Hand & finger injuries by being strike by hand tools; • Back pains caused by lifting long & heavy purlins; • Arm muscular aching due to work continuous without resting; • Knee bruising due to trip & fall; • Heat exhaustion ; etc.	X	X	X	4x5=20	■ Use cut-resistant gloves, long sleeves, and team lifting; store timber/steel safely to prevent movement or collapse. ■ Use certified ladders/scaffolds. ■ Wear fall arrest harnesses and lifelines. ■ Ensure competent supervision. ■ Inspect and maintain tools. ■ Keep work area tidy. ■ Maintain housekeeping. ■ Remove off-cuts and packaging immediately. ■ Keep access paths clear and well-lit. ■ Dispose of timber off-cuts and packaging in designated skips; ■ Follow waste segregation procedures. ■ Maintain clean site conditions.	1x2=2	1
	Totals		Pure Risk				20	Residual Risk	2	1

MAIN ACTIVITY: IRONMONGERY

Ref Nr	Activity	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	IRONMONGERY: Four lever lockset. 200 x 250mm Pressed aluminium with male, female or paraplegic symbol fixed to brickwork	• Unsafe home-made/ hand tools (i.e. steel hammer, screwdrivers, mushroom chisels, etc.). • Sharp corner of metal lockers' edges. • Flying particles during drilling. • Electrical tools with exposed electrical wires or shock from defective power tools. • Exposed to pinching while fitting lock components. • Noise exposure from drilling activities. • Materials left in walkways. • Work activities that demand awkward working positions (i.e. too much body bending down, body squatting, etc.).	• Injuries from hand tools (screwdrivers, chisels, hammers) • Cuts and abrasions from sharp metal edges • Eye injuries from flying particles during drilling • Electric shock from defective power tools or hidden electrical wiring • Pinched fingers while fitting lock components • Noise exposure from drilling activities • Slips, trips, and falls due to tools or materials left in walkways • Musculoskeletal injuries from awkward working positions	X	X	X	3x2=6	▪ Create task-based DSTIs & communicate to all Employees. ▪ Communicate SWP to Employees. ▪ All Employees to be in possession of valid medical certificates. ▪ Inspected tools before use. ▪ Wear appropriate PPE (incl. Safety boots, Gloves, Eye protection, Hearing protection, etc.). ▪ Visible supervision.	1x2=2	1
	Totals		Pure Risk				6	Residual Risk	2	1

MAIN ACTIVITY: METAL WORK.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	GALVANISED STEEL GATES, SCREENS, ETC.: - Installation of Hot dipped galvanised steel gates. PRESSED STEEL LOUVERED DOORS AND FRAMES: - Installation of Steel louvred double door Type DVA including door frame, louvred doors, padlatch and hinges and fixed to brickworks, etc.	- Carrying heavy load of steel door frames & steel windows. - Manual handling steel door frames with sharp edges exposed. - Dust exposure. - Unsafe ladders or unsafe work platform used when installing steel door frames & steel windows. - Unsafe ladder & hand tools. - Construction material left unattended in walkways/ Tripping hazards. - Cut pieces of metal material.	- Back injury due to lifting heavy poles & spelter galvanised steel sheeting. - Back injuries due to repetitive body bending. - Fingers & hand abrasion & cuts due to Sharp edges of steel door frames & steel windows. - Dust being inhaled causing respiratory diseases. - Dust getting in eyes causing eye injuries. - Falling due to collapsing of unsafe ladders resulting in serious body injury. - Muscle strain, back injury. - Falling objects (tools, material) causing head injury to persons below. - Heat exhaustion, dehydration, wind-related hazards. - Cut pieces of cut metal all over site.	X	x	x	3x3=9	- Contractor to create task-specific DSTI's + SWP & communicate it to all Employees, and keep attendance records. - Practise SWP & Safe lifting techniques for lifting heavy construction material. - Implement Fall Protection measures. - Only competent Employees (and in possession of Working Height training certificates). - All Workers to have valid medicals with annexure 3. - Inspect hand tools & ladder (using inspection checklist) before use. - Provide required PPE: Safety shoes, Hard Hat, Dust Mask, Eye Protection, Ear protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, etc. - Practise good housekeeping. - Visible supervision.	2x2=4	1
	Totals		Pure Risk				9	Residual Risk	4	1

MAIN ACTIVITY: PLASTERING.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	INTERNAL PLASTER: - Cement plaster on 15mm thick on walls. GRANOLITHIC: - 0mm High covered skirtings. - Average 25mm thick on floors with upper surface to falls and current.	• Heavy cement bags. • Cement dust. • Unsafe hand tools. • Work demanding body bending position.. • Wet cement mixture. • Wet & slippery surface.	• Back injury due to lifting heavy cement bags. • Chest congestion & respiratory conditions due to inhaling generated cement dust. • Twisted knee & ankle due to mis-step caused by uneven ground level. • Knee bruises due to trip & fall. • Fingers & hand abrasion & cuts due to use of home-made/ unsafe tools. • Ergonomic injuries due to manual handling • Slip & fall due to wet floor/surface. • Back injuries due to repetitive body bending.	X	X	X	3x2=6	- Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. - Practise good housekeeping to avoid slip trip and falling hazards. - All Workers to have valid medicals with annexure 3. - Hand tools to be inspected before use and recorded. - Adhere to SWP & practise safe lifting technique. - Training Employees on handling cement as HCS. - Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, etc. - Visible supervision.	2x2=4	1
	Totals		Pure Risk				6	Residual Risk	4	1

MAIN ACTIVITY: EXTERNAL PLUMBING AND DRAINAGE.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	STORMWATER CHANNELS: - 600 x 200mm Unreinforced 20 Mpa Precast concrete stormwater channels with 450 x 150mm deep segmental channel. - 300mm Pipes laid in and including trenches not exceeding 1m deep.. - Catchpit 600 x 600mm and exceeding 750mm and not exceeding 1000mm deep internally.. - 600 x 600mm x 60kg Cast iron dishd grating and frame set int mortar to SABS 558.	- Manual handling & lifting of heavy a precast concrete stormwater channels to positions. - Dust generated. - Precast concrete stormwater channels rough surface. - Unsafe use of hand. - Precast concrete stormwater channels & other equipment left unattended in walkways. - Extreme weather conditions; etc.	- Back injuries, sprains, strains, & musculoskeletal disorders caused by lifting up precast concrete stormwater channels to positions. - Chest congestion & respiratory conditions due to inhaling generated dust. - Hand & finger bruises from handling rough surface precast concrete without wearing hand protection. - Fingers & hand injuries from using unsafe hand tools. - Knee bruises & twisted ankle injuries from tripping & falls. - Heat exhaustion ; etc..	X	X	X	4x3=12	- Create task-specific DSTI's &SWP, and communicate it to all Employees, and keep attendance records. - All Workers to have valid medicals with annexure 3. - Practise SWP, Safe Lifting Technique & adhere to all. - Practise good housekeeping to avoid slip trip and falling hazards. - Inspect/ check hand tools before use & keep recorded. - Display safety signages & awareness symbols closer to where precast concrete is lifted. - Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, etc. - Visible supervision.	2x2=4	1
	Totals		Pure Risk				12	Residual Risk	4	1

MAIN ACTIVITY: TILING

Ref Nr	Activity	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	WALL TILING: Installation ceramic tiles on brick wall & floor tiling.	• Unsafe lifting of heavy tile boxes and bags adhesive and grout. • Working while exposed to sharp tile edges. • Unsafe tile cutting tool/equipment. • Working whiles being exposed to flying tile fragments & dust during cutting. • Exposed to dust inhalation during tile cutting, adhesive, grout, & surface preparation. • Exposure to cement-based adhesives & grout. • Working while exposed to wet adhesives and grout on the floor. • Using incomplete and unsafe scaffolds when tiling walls at height. • Exposure to noise during the use of tile-cutting machines and power tools. • Using electrical tile-cutting equipment with exposed live wires in wet conditions. • Executing work that demand repetitive kneeling, bending, and awkward postures. • Falling of tools or tiles striking from heights. • Exposed to poor housekeeping/ trip hazards.	• Manual handling of tile boxes, adhesive, and grout causing back strains and muscle injuries. • Cuts and lacerations from sharp tile edges and tile-cutting equipment. • Eye injuries from flying tile fragments and dust during cutting. • Dust inhalation from tile cutting, adhesive, grout, and surface preparation. • Exposure to cement-based adhesives and grout causing skin irritation or dermatitis. • Slips, trips, and falls due to wet adhesives, grout, tools, and materials on the floor. • Falls from ladders or scaffolds when tiling walls at height. • Noise exposure from tile-cutting machines and power tools. • Electric shock from electrical tile-cutting equipment used in wet conditions. • Repetitive kneeling, bending, and awkward postures leading to musculoskeletal disorders.	X	X	X	3x3=9	• Conduct a task-specific HIRA and Method Statement. • Create task-based DSTI & communicate it to all Employees. • All Employees to be in possession of valid medical certificates. • Wear required PPE (i.e. <i>safety boots, gloves, safety glasses, dust mask, hard hat, and hearing protection where required</i>). • Use tile cutters with guards and dust suppression methods. • Maintain good housekeeping and keep walkways clear. • Use safe manual handling techniques. • Ensure ladders and scaffolds are properly inspected and secured. • Use electrical equipment fitted with earth leakage protection. • Dispose of waste materials in designated containers. • Inspect tools and equipment before use.	2x2=4	1

	Improper disposal of grout, adhesive, and construction waste.	- Falling tools or tiles striking workers below. - Poor housekeeping creating trip hazards. - Improper disposal of grout, adhesive, and construction waste.	X	X	X	3x3=9	2x2=4	- Use safe lifting techniques and secure ladders. - Supervise work and restrict access to the work area.	
FLOOR TILING: Installation of 300 x 300 x 8.5mm 'salt and pepper' ceramic floor tiles on 10mm bedding on concrete and flush pointed with tinted waterproof jointing compound.	- Unsafe lifting of heavy tile boxes and bags adhesive and grout. - Working while exposed to sharp tile edges. - Unsafe tile cutting tool/equipment. - Working whiles being exposed to flying tile fragments & dust during cutting. - Exposed to dust inhalation during tile cutting, adhesive, grout, & surface preparation. - Exposure to cement-based adhesives & grout. - Working while exposed to wet adhesives and grout on the floor. - Using incomplete and unsafe scaffolds when tiling walls at height. - Exposure to noise during the use of tile-cutting machines and power tools. - Using electrical tile-cutting equipment with exposed live wires in wet conditions. - Executing work that demand repetitive kneeling, bending, and awkward postures. - Falling of tools or tiles striking from heights. - Exposed to poor housekeeping/ trip hazards. - Improper disposal of grout, adhesive, and construction waste.	- Manual handling of tile boxes, adhesive, and grout causing back strains and muscle injuries. - Cuts and lacerations from sharp tile edges and tile-cutting equipment. - Eye injuries from flying tile fragments and dust during cutting. - Dust inhalation from tile cutting, adhesive, grout, and surface preparation. - Exposure to cement-based adhesives and grout causing skin irritation or dermatitis. - Slips, trips, and falls due to wet adhesives, grout, tools, and materials on the floor. - Falls from ladders or scaffolds when tiling walls at height. - Noise exposure from tile-cutting machines and power tools. - Electric shock from electrical tile-cutting equipment used in wet conditions. - Repetitive kneeling, bending, and awkward postures leading to musculoskeletal disorders. - Falling tools or tiles striking workers below.	X	X	X	3x3=9	2x2=4	- Conduct a task-specific HIRA and Method Statement. - Create task-based DSTI & communicate it to all Employees. - All Employees to be in possession of valid medical certificates. - Wear required PPE (i.e. safety boots, gloves, safety glasses, dust mask, hard hat, and hearing protection where required). - Use tile cutters with guards and dust suppression methods. - Maintain good housekeeping and keep walkways clear. - Use safe manual handling techniques. - Ensure ladders and scaffolds are properly inspected and secured. - Use electrical equipment fitted with earth leakage protection. - Dispose of waste materials in designated containers. - Inspect tools and equipment before use. - Use safe lifting techniques and secure ladders.	1

		- Poor housekeeping creating trip hazards. - Improper disposal of grout, adhesive, and construction waste.						Supervise work and restrict access to the work area.		
			Pure Risk					Residual Risk	8	2
		Totals							18	

MAIN ACTIVITY: SANITARY FITTINGS.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	- Wash hand basins fixed complete and connected to services. - WC suites fixed complete in position and connected to services. - Sanitary Fittings: Taps, Valves, etc.; - Electric Water Heaters/ Geyser; and - Rainwater Disposal.	- Wet & slippery floors/ surface. - Home-made & unsafe hand tools. - Heavy WC slipped out of hand & fall. - Dust exposure. - Work that demand repetitive body bending & squatting. - Heavy High pressure electrical water heater. - Unsafe handling technique handling of heavy materials. - Dust exposure. - Work demand body bending. - Exposed live electrical wires on electrical water heater.	- Knee, ankle & joint injuries due to slip & fall due of wet slippery floors. - Fingers & hand injuries from using unsafe hand tools. - Back pain due to incorrectly lifting heavy material. - Ergonomic injuries due to manual handling. - Chest congestion & respiratory conditions due to inhaling generated dust. - Severe hand & finger cuts by sharp & pointy equipment & protruding nails. - Ergonomic injuries due to manual handling. - Chest congestion & respiratory conditions due to inhaling generated dust. - Eye injury due to flying small plaster particles during the removal of plaster from walls. - Skin burn or electrocution due to skin contact with live wires.	X	x	x	3x4=12	- Contractor to create task-specific DSTI's + SWPs & communicate it to all Employees, and keep attendance records. - Practise good housekeeping to avoid slip trip and falling hazards. - All Workers to have valid medicals with annexe 3. - Competent Plumber to execute plumbing works. - Hand tools to be inspected before use and recorded. - Electrical works to be executed by competent Electrician. - Awareness trainings to be conducted. - Practise SWP & safe lifting technique. - Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2	3x2=6	2

MAIN ACTIVITY: GLAZING

Ref Nr	Activity	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	GLAZING: - 6mm Thick obscure safety glass. - 6mm Silvered float glass copper backed mirrors with polished edges holed for and fixed with chromium plated. - Dome capped mirror screws with rubber buffers to plugs in block work or concrete.	- Exposure to sharp edges of glass and mirrors. - Unsafely manual handling and lifting to positioning heavy glass panels. - Exposure to glass fragments, dust, and drilling debris. - Exposure to dust inhalation during drilling into block work or concrete. - Using electrical tools with exposed live wires. - Using ladders or working platforms during installation at height. - Falling glass, tools, or materials from heights. - Exposure to noise during drilling. - Exposed to wet surface and poor housekeeping.	- Cuts and lacerations from handling glass and mirrors. - Glass breakage causing serious injuries. - Manual handling injuries from lifting and positioning glass panels. - Eye injuries from glass fragments, dust, and drilling debris. - Dust inhalation during drilling into block work or concrete. - Electric shock from power tools or hidden electrical services. - Falls from ladders or working platforms during installation at height. - Falling glass, tools, or materials striking workers or occupants below. - Noise exposure from drilling equipment. - Slips, trips, and falls due to poor housekeeping.	X	x	x	3x4=12	- Conduct a task-specific HIRA and Method Statement. - Create task-based DSTI & communicate it to all Employees. - All Employees to be in possession of valid medical certificates. - Wear cut-resistant gloves, safety glasses, hard hat, safety boots, and dust mask. - Use safe lifting techniques and team lifting for large glass panels. - Secure ladders and work platforms before use. - Locate hidden services before drilling. - Collect and dispose of broken glass and waste safely. - Inspect tools and equipment before use. - Maintain good housekeeping and proper waste disposal. - Supervise work and restrict access to the work area.	3x2=6	2
	Totals		Pure Risk				12	Residual Risk	6	2

MAIN ACTIVITY: PAINTWORK.

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	ON PLASTER, ETC.: - Prepare and apply one coat alkali resistant primer, one undercoat and one finishing coat PVA emulsion paint on roof tiles.: - Painting on internal plaster wall. - Painting of timber doors. - Painting on ceilings, cornice & trap door.	• Heavy paint containers. • Exposure to paint fumes and other related hazardous chemicals (e.g. thinners). • Eyes irritation from paint vapour. • Falling from unsafe ladder. • Use of ladders improperly or on unstable surfaces. • Fire risk from flammable solvents. • Wet & slippery surface due to paint leak.	• Back injury due to lifting heavy paint containers. • Chest congestion & respiratory conditions due to inhaling paint vapour. • Eye itching due to paint particle came into contact with eye(s). • Skin dryness due to skin came into contact with paint. • Serious body injury from falling on ladder. • Serious body burns caused & aggravated by flammable liquids. • Knee & hand bruises due to slip & fall. • Soil contamination due to paint leaks on the bare ground.	X	x	x	3x3=9	▪ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ▪ Communicate the handling HCS to Employees & Painters. ▪ Provide PPE: Double Lanyard Harnesses, gloves, long sleeve overalls and respiratory masks. ▪ Fire Extinguishers/ firefighting equipment must be available near work area. ▪ Maintain MSDS registers and train workers in chemical handling. ▪ Use non-flammable paints. ▪ Avoid ignition sources. ▪ Use stable ladders. ▪ Use fall arrest where needed. ▪ Proper disposal of hazardous chemicals. ▪ Shift rotation.	2x2=4	1
	Totals		Pure Risk				9	Residual Risk	4	2

MAIN ACTIVITY: ELECTRICITY

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	- Installation of 24 000 Btu/h V, 50Hz cooling/ heating capacity ± 8kw, R410a refrigerant (SABS approved). - 1800mm Aircurtain 230V, 50Hz ± 9m/s the velocity. - Wired remote control panel (LCD) with appropriate mountings. - Prepare and apply one coat alkali resistant primer, one undercoat and one finishing coat PVA emulsion paint on roof tiles.. - Weather proof isolator. - 100X 40mm white PVC trunking. - Refrigerant piping for air-conditioning unit (per pipe size for liquid line and gas line).	• Unsafely carrying heavy load of aircon units. • Dust generated. • Unsafe ladders used when installing aircon units. • Use of unsafe ladder & hand tools. • Boxes of aircon units left unattended in walkways/ Tripping hazards. • Live electrical wires.	• Back injury due to lifting heavy aircon unit boxes. • Chest congestion & respiratory conditions due to inhaling dust generated. • Knee & hand bruises from falling due to collapsing of unsafe ladders. • Fingers & hand abrasion & cuts due to trip & fall caused by tripping hazards. • Dust getting in eyes causing eye injuries. • Falling objects (tools, material) causing serious head injury to persons below. • Heat exhaustion, dehydration, wind-related hazards. • Electrocuton and skin burn by live electricity.	X	x	x	4x5=20	▪ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ▪ Only competent & registered aircon unit Installer as an Authorised Refrigeration Gas Practitioner with SAQCC Gas to install aircon units, ▪ Practise good housekeeping to avoid slip, trip & falling. ▪ All Workers to have valid medicals with annexure 3. ▪ Inspect/ check ladders & hand tools before use & keep recorded. ▪ Awareness trainings (i.e. Toolbox talks, etc.) to be conducted weekly. ▪ Communicate & practise SWP procedures & adhered to it. ▪ [Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, etc. ▪ Visible supervision.	3x2=6	2
	Totals		Pure Risk				20	Residual Risk	6	2

MAIN ACTIVITY: EXTERNAL WORKS

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
	CONCRETE V-DRAIN CHANNELS - Excavations in earth not exceeding 2m deep - Waterproofing. - Imported selected fill (G5) in layer 150mm thick and compacted to 93% Mod AASHTO density. - Application of Soil insecticide. - Erection of reinforced steel work. - Concrete cast on/ in formwork. - Finishing top surfaces of concrete smooth with a wood Float.	• Excavation collapse and falls into trenches. • Exposed to hidden underground live electricity. • Exposed to dust inhalation during excavation, filling, and compaction activities. • Struck-by incidents involving construction plant, equipment, and materials. • Exposure to waterproofing chemicals and soil insecticides. • Exposed to sharp & pointy reinforcement steel. • Unsafely lifting heavy reinforcement steel materials. • Exposed to wet concrete. • Exposed to uneven ground and wet concrete surfaces. • Exposed to noise and vibrating compaction equipment & machinery. • Chemicals & concrete washout spillage, dust, and waste materials.	• Death or serious body injury caused by excavation collapse, falls into trenches. • Electrocution by hidden underground electricity. • Chest congestion and respiratory conditions due dust inhalation during excavation, filling, and compaction activities. • Exposure to waterproofing chemicals and soil insecticides causing skin, eye, or respiratory irritation. • Cuts & punctures by sharp reinforcement steel. • Manual handling injuries from lifting and placing materials. • Skin burns and eye injuries from contact with wet concrete. • Formwork collapse or failure during concrete placement. • Slips, trips, and falls on uneven ground and wet concrete surfaces. • Noise and vibration exposure from compaction equipment and machinery. • Environmental pollution from chemicals, concrete leakage, dust, and waste materials.	X	x	x	4x5=20	▪ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ▪ Conduct a HIRA. ▪ Barricade excavations. ▪ Locate underground services. ▪ Cap exposed rebar. ▪ Inspect formwork. ▪ Train Employees on safe handling of HCS and encourage them to adhere to safe handling of chemical. ▪ Maintain good housekeeping. ▪ Avoid/ prevent pollution of drains & watercourses. ▪ All Workers to have valid medicals with annexure 3. ▪ Inspect/ check hand tools before use & keep recorded. ▪ Awareness trainings (i.e. Toolbox talks, etc.) to be conducted weekly. ▪ Communicate & practise SWP procedures & adhered to it. ▪ Provide required PPE (i.e. waterproof gum boots/ safety shoes, Hard Hat, Dust Mask, Eye Protection, protective clothing, Gloves, etc.).	3x2=6	2

8.3.	Annexure A: Contractors Health and Safety Declaration
9.	Annexures

CONTRACTORS HEALTH AND SAFETY DECLARATION FOR TENDERS

PROJECT NAME: _____

WIMS NUMBER: _____

CLIENT: _____

INTRODUCTION

In terms of Construction Regulation 5(1) (h) of the Construction Regulations of February 2014 a Contractor may only be appointed to perform construction work if the Client is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act, Act 85 of 1993 and the Construction Regulations of February 2014. In line with this requirement the Contractor is required to read through this document carefully, sign it and submit it with his/her Tender.

DECLARATION

- I, the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act, Act 85 of 1993, the Construction Regulations of February 2014 and the Site Specific Health and Safety Specification attached in the tender document.
2. I hereby declare that my company and its employees has the necessary competency and resources to safely carry out the construction work under this contract in compliance with the Occupational Health and Safety Act, Act 85 of 1993, the Construction Regulations of February 2014 and the Construction Safety, Health and Environmental Specification.
3. I hereby confirm that adequate provisions has been made in my tender to cover the cost of all Safety, Health and Environmental duties and responsibilities imposed on me by the Occupational Health and Safety Act, Act 85 of 1993, the Construction Regulations of February 2014 and the Site Specific Health and Safety Specification
4. I confirm that I may not commence with any part of construction work under the contract until the Client has approved my OH&S Plan in writing.
5. I hereby confirm that copies of the following documentation will be kept on site for viewing and inspection purposes for the duration of the construction work:
 - a) Client's Site-Specific Health and Safety Specification
 - b) Approved Construction Occupational Health and Safety Plan
 - c) Occupational Health and Safety Act, Act 85 of 1993, and
 - d) Construction Regulations of February 2014.
 - e) Any other documentation as specified in the SSHSS or as required by the CHSR.
6. I agree that my failure to complete and execute this declaration to the satisfaction of the Client will mean that I am unable to comply with the requirements of the Occupational Health and Safety Act, Act 85 of 1993 and Construction Regulations 2014, and accept that my tender will be rejected.

Signature: _____
(Person duly authorised to sign on behalf of Tender)

Date: _____

10.	Annexure C: Structure of SSHSP submitted for approval and SSHSF layout requirement.
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<u>Number</u>	<u>Item</u>	<u>To be submitted with SSHSP for approval</u>	<u>Comments</u>
1.	INDEX	Yes	None
2.	SSHSP Approval Letter and Appointment letter.	No	To be filled in SSHSF after issuing by CHSR
3.	Letter of Good Standing	YES	To be kept up to date and filled in SSHSF
4.	Notification of Construction Work	No	To be submitted to DEL for recording, stamped copy forwarded to Client before SHE Plan Approval Letter will be issued. No work will be able to commence until letter has been issued including Site Establishment. work. To be filled in the SSHSF
5.	Signed and dated SHE Management Plan	Yes	To be filled in SSHSF
6.	Organogram	Yes	To be placed on the SSHSF, kept updated
7.	Signed and dated Health and Safety Policies	Yes	To include communication Register and filled in SSHSF
8.	Site Layout Plan	Yes	To be kept updated and filled in SSHSF
9.	Signed and dated Emergency Plan	Yes	To be kept updated and filled in SSHSF
10.	Signed and dated Environmental Management Plan	Yes	To be kept updated and filled in SSHSF
11.	Signed and dated Personal Hygiene and Infectious Disease Management Plan.		To be kept updated and filled in SSHSF.
12.	Signed and dated Fall Prevention Plan	Yes	To be reviewed prior to work being conducted, and filled in SSHSF with communication record.
13.	Demolition Plan	No	To be submitted to CHSR and Structural Engineer for approval before work commences and filled in SSHSF with communication record.
14.	Two signed and dated risk assessments of priority risks as per the risk profile.	Yes	To be submitted with SSHSP for evaluation. To filed in SSHSF and reviewed prior to work being conducted.
15.	Two signed and dated Method Statements/ Safe Work Method Statements for the two priority risk assessments as per item 11.	Yes	To be submitted with SSHSP for evaluation. To filed in SSHSF and reviewed prior to work being conducted.

16.	Risk assessments and Method Statements.	No	To be kept on SSHSF with communication records
17.	Daily Safe Task Instruction (DSTI)	NO	To be signed off at the start and end of shift with communication record, to be kept in SSHSF.
18.	Induction Course	No	To be reviewed, kept updated and include communication record register. Filled in SSHSF.
19.	Toolbox talks	No	To include communication register and filled in SSHSF.
20.	PPE Issue Record	No	To include training in correct use etc and filled in SSHSF.
21.	Sub – Contractor Monthly Audit records	No	To be discussed at SHE Committee meeting, closed out and kept on SSHSF.
22.	External Audit Reports	No	To be discussed at SHE Com Meetings, Internal Meetings etc and filed in SSHSF.
23.	Self-Audit Format	yes	To be completed on a monthly basis, forwarded to team members at least 7 days before progress meeting, to report on close out at the meeting. Filed on the SSHSF.
24.	Sub- Contractor Appointments and scope and list	No	To be kept on SSHSF
25.	Section 37(2) Agreements	No	To be kept on SSHSF
26.	Copy of Construction Regulations	No	To be kept on SSHSF
27.	Construction Manager (CR 8(1))	Yes	Including CV / Proof of Competency. To be kept in the SSHSF
28.	Assistant Construction Manager (CR 8(2))	Yes, if applicable	Including CV / Proof of Competency. To be kept in the SSHSF
29.	SHE Officer (CR 8(5))	Yes	Including CV / Proof of Competency and SACPCMP Registration. To be kept in SSHSF
30.	Construction Supervisor (CR 8(7))	Yes	Including CV / Proof of Competency. To be kept in SSHSF
31.	Assistant Construction Supervisor (CR 8(8))	Yes, if applicable.	Including CV / Proof of Competency. To be kept in SSHSF
32.	Risk Assessor (CR 9 (1))	Yes	Including CV / Proof of Competency. To be kept in SSHSF
33.	Fall Prevention Planner (10 (1)(a))	Yes	Including CV / Proof of Competency. To be kept in SSHS
34.	Temporary Works Designer (CR 12(1))	No	Including CV / Proof of Competency. To be kept in SSHSF
35.	Temporary Works Supervisor (CR 12(2))	No	Including CV / Proof of Competency. To be kept in SSHSF
36.	Excavation Supervisor (CR 13(1)(a))	No	Including CV / Proof of Competency. To be kept in SSHSF

37.	Demolition work Supervisor (14(1))	No	Including CV / Proof of Competency. To be submitted with Demolition Plan. To be kept in SSHSF
38.	Scaffold Supervisor (CR 16(1))	No	Proof of Competency. To be kept in SSHSF
39.	Scaffold Erector (CR 16 (2))	No	Proof of Competency. To be kept in SSHSF
40.	Scaffold Inspector (CR 16(2))	No	Proof of Competency. To be kept in SSHSF
41.	Suspended Platform Supervisor (CR 17(1))	No	Proof of Competency. To be kept in SSHSF
43.	Bulk Mixing Plant Supervisor (CR 20(1))	No	Proof of Competency. To be kept in SSHSF
44.	Construction vehicle and Mobile Plant Operator (CR 23(1)(d))	No	Proof of Competency, medical fitness etc. To be kept in SSHSF
46.	Temporary Electrical Installation Inspector (CR 24(d))	No	Proof of Competency. To be kept in SSHSF
47.	Stacking and storage Inspector (CR 28 (a))	No	Appointment, to be kept in SSHSF
48.	Fire Equipment Inspector (CR 29(h))	No	Including basic Fire Fighting Training proof of competency
50.	Portable Electrical Equipment Inspector (EMR 9)	No	Appointment to be kept in the SSHSF
51.	Accident Incident Investigator (GAR 9(2))	Yes	Including CV / Proof of Competency. To be kept in SSHSF
52.	First Aider GSR (3(4))	No	Including at least Level 2 First Aid Competency. To be kept in the SSHSF
53.	Welding/Flame cutting equipment Inspector (GSR 9)	No	Appointment to be kept in the SSHSF
54.	Ladder Inspector (GSR 13 (a))	No	Appointment to be kept in the SSHSF
55.	Hazardous Chemical Substances Supervisor (HCSR 3(3))	No	Appointment to be kept in the SSHSF
56.	Hand Tool Inspector (Sec 8(2)(a))	No	Appointment to be kept in the SSHSF
57.	SHE Representative (Sec 17)	No	Including proof of Competency. To be filled in SSHSF
58.	Sub-Contractor (CR 7(1)(c))	No	As per applicable legislative requirements
59.	Electrical Contractor (EIR 6)	No	Including proof of Professional Registration
60.	Registered Asbestos Removal Contractor (AR 21(1)(i))	No	Proof of registration with DOL, SHE Plan to be submitted to DEL with Notification. Signed off by AIA and CHSR.
Registers as required by scope of work, equipment, facilities etc.			

11.	Annexure E: Draft OHS Bills of Quantities
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HEALTH AND SAFETY IMPLEMENTATION AND MANAGEMENT COSTING GUIDELINE

ITEM	DESCRIPTION	QUANTITY	AMOUNT
1	MEDICALS		
1.1	Pre-employment medical (expire yearly)		
2	SAFETY PLAN		
2.1	Safety File (submit to Department for approval letter)		
	TOTAL		
3	PERSONAL AND GENERAL PROTECTIVE EQUIPMENT		
3.1	Overalls Blue	Min. X2 pp	
3.2	Hard Hats and 3 point Chin Straps		
3.3	Safety Boots/Shoes. Steel toecap Gumboots		
3.4	Gloves		
3.5	Hearing Protection		
3.6	Eye Protection		
3.7	Reflective vests		
3.8	Dust masks		
3.9	Respirator Masks (mandatory for Paint Work)		
	TOTAL		
4	SITE ESTABLISHMENT/ FENCING OF SITE		
4.1	Orange Star Netting - 1.2m High		
4.2	Green mesh fencing material		
4.3	Signages (Mandatory Safety Signage, regulatory, warning and information)		
4.4	Scaffolding Tags		
	TOTAL		
5	EMERGENCY RESPONSE		
5.1	Fire extinguisher - 4.5Kg	1	
5.2	First Aid Box	1	
5.3	Drip Tray for generator	1	
5.4	Oil Spill Kit	1	
	TOTAL		
6	HEALTH AND SAFETY PERSONNEL		
6.1	Construction Work Supervisor CR8.7 /Site Foreman	1	
6.2	Assistant Construction Work Supervisor / Foreman	1	

6.3	Part Time Safety Officer (SACPCMP Reg)	1	
6.4	Full time Safety Rep (Certificate required)	1	
6.5	Fire Fighter (Certificate required)	1	
6.6	First Aider (Level 2 Certificate required)	1	
6.7	Work at Heights Training Certificates		
6.8	Scaffolding Supervisor/Inspector (Certificate Required)	1	
6.9	Scaffolding Erector (Certificate Required)	1	
	TOTAL		
7	FACILITIES		
7.1	Provision of ablution facilities/toilets (and servicing)	2	
7.2	Provision of eating area		
7.3	Potable Water		
7.4	Toilet Paper and Hand wash soap		
	TOTAL		
8	FALL PREVENTION / PROTECTION		
8.1	Safety harnesses with double lanyards		
8.2	Scaffolding – material, erection and inspection		
	TOTAL		
9	ASBESTOS REMOVAL		
9.1	Registered Asbestos Contractor (with PPE and Safety File)		
9.2	Inspection for approval of equipment (AIA)		
9.3	Disposal Waybill		
	TOTAL		
10	INSURANCES		
10.1	COIDA (Valid letter of Good Standing)		
	TOTAL		
11	EXCAVATIONS		
11.1	Signage		
11.2	Barricading		
11.3	Shoring		
	TOTAL		
12	ELECTRICAL		
12.1	Locks required for lockouts		
12.2	Tags		
12.3	Permit Books		
12.4	Callipers		
12.5	Key Safes		
	TOTAL		
	OVERALL TOTAL		
	(CARRY FORWARD TO MAIN BOQ)		

12.

Compulsory SHE Checklists

PLEASE NOTE THAT THESE CHECKLISTS ARE ONLY APPLICABLE FOR THE CONSTRUCTION PHASE OF THIS PROJECT AND MUST BE INSERTED WHEN THE SHE SPECIFICATION AND BASELINE RISK ASSESSMENT IS FINALISED AND HANDED TO THE PRINCIPAL CONTRACTOR FOR THE DEVELOPMENT OF HIS SITE-SPECIFIC HEALTH AND SAFETY SPECIFICATION.



KWAZULU-NATAL PROVINCE

PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 7

HEALTH AND SAFETY IMPLEMENTATION COSTING

Contractor to give a breakdown of his Health and Safety costs on this sheet.

ITEM	DESCRIPTION	UNIT	QUAN- TITY	MONTHS (Indicative)	RATE	AMOUNT
			(a)		(b)	(a) x (b)
1	MEDICALS					
1.1	Pre-employment medical	Nr.	-			
1.2	Re-medicals - yearly	Nr.	-			
	TOTAL					
2	PERSONAL PROTECTIVE EQUIPMENT					
2.1	Overalls	Nr.				
2.2	Hard Hats	Nr.				
2.3	Safety boots/shoes	Nr.				
2.4	Gloves	Nr.				
2.5	Gumboots steel toe cap	Nr.				
2.6	Safety glasses	Nr.				
2.7	Reflector Bibs	Nr.				
2.8	Barricading Material	M				
2.9	Dust masks	Box	20			
	TOTAL					
3	FIRE FIGHTING					
3.1	Fire extinguishers - 4.5Kg	Nr.				
3.2	Surveys - Annual Service	Nr.				
	TOTAL					
4	HEALTH AND SAFETY PERSONNEL					
4.1	Safety Manager	Nr.				
4.2	Safety Officer	Nr.				
4.3	Construction Phase Safety, Health, Environmental and Waste Management Plan	Nr.				
	TOTAL					
5	FACILITIES					
5.1	Provision of ablution facilities	Nr.				
5.2	Service and maintenance of ablution facilities	Nr.				
5.3	Provision of eating areas	Nr.				
5.4	Cleaning of Lay down and other storage areas	Nr.				
5.5	Wash hand basin	Nr.				
5.6	Hot and Cold running water	Nr.				
5.7	Degreasing & Toilet soap	Nr.				
	TOTAL					
6	FALL PREVENTION / PROTECTION					
6.1	Safety harnesses with double lanyards	Nr.				
6.2	Safety harnesses with Scaffold hooks	Nr.				
6.3	Lifelines and vertical fall arrest systems	Nr.				
6.4	Scaffolding – material, erection and inspection (Estimate for project)	Nr.				
6.5	Temporary hand railing material and kick flats	Nr.				
6.6	Chin Straps	Nr.				
	TOTAL					

7	FIRST AID					
7.1	Replenishment of boxes and other supplies		Nr			
	TOTAL					
8	TRAINING					
8.1	SHE Representative		Nr.			
8.2	First Aid Level 1		Nr.			
8.3	Fire Fighting		Nr.			
	TOTAL					
9	SIGNAGE					
9.1	All Signage as required by Law, regulatory, warning and information		Nr.			
9.2	Posters for awareness		Nr.			
	TOTAL					
10	ELECTRICAL					
10.1	Replacement of Locks required for lockouts		Nr.			
10.2	Replacement of tags		Nr.			
10.3	Replacement for Permit books		Nr.			
10.4	Replacement of Callipers		Nr.			
	TOTAL					
11	OTHERS (Project Specific)					
11.1			Nr.			
	TOTAL					
GRAND TOTAL TO BE CARRIED TO THE PRELIMINARIES AND GENERAL IN BILL OF QUANTITIES						



KWAZULU-NATAL PROVINCE

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**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 8

WAIVER OF CONTRACTOR'S LIEN

DEFINITIONS

Contractor: _____

Employer: Head: Public Works (KZN Department of Public Works: Province of KwaZulu-Natal)

Agreement: GCC FOR CONSTRUCTION WORKS - SECOND EDITION 2010

Works (description): **DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT: SIHLE HIGH SCHOOL (SOUTHERN REGION)**

Site: The project is situated at Sihle High School. The school is located 21 kilometres from Scottburgh in the Ugu District of KwaZulu-Natal. The coordinates of the school are 30°22'17.75"S and 30°38'20.87"E.

AGREEMENT

The Contractor waives, in favour of the Employer, any lien or right of retention that is or may be held in respect of the Works to be executed on the Site

Thus done and signed at _____ on _____
[Date]

Name of signatory

Capacity of signatory

As witness

For and on behalf of the contractor who by
signature hereof warrants authorisation
hereto



KWAZULU-NATAL PROVINCE

PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 9

GEOTECHNICAL INVESTIGATION FOR THE PROPOSED SANITATION UPGRADES AT SIHLE HIGH SCHOOL

December 2017

PREPARED BY:

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Pietermaritzburg
3200

CONTACT PERSON

Malusi Shezi
Tel No: 033 355 5557



public works

Department:
Public Works
PROVINCE OF KWAZULU-NATAL

TITLE : **GEOTECHNICAL INVESTIGATION FOR THE PROPOSED
SANITATION UPGRADES AT SIHLE HIGH SCHOOL**

Project Team : **AECOM SA (Pty) Ltd**

Client : **Department of Public Works**

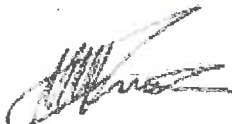
AECOM Project No : **60491906**

Status of Report : **Final**

Key Words : **School, sanitation, foundation, percolation**

Date of this Issue : **December 2017**

For AECOM SA (Pty) Ltd

Compiled by	: SE Muravha		19/12/2017
	Initials & Surname	Signature	Date
Reviewed by	: RS Naidoo, Pr Sci Nat		19/12/2017
	Initials & Surname	Signature	Date
Approved by	: K Le Roux, Pr Sci Nat		19/12/2017
	Initials & Surname	Signature	Date

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- Annexure B: Test Pit Profiles
- Annexure C: Test Pit Photo's
- Annexure D: DCP Results

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1 Introduction

The Department of Public Works (DoPW) has commenced with the implementation of a Schools Water and Sanitation Programme for 367 schools in the Kwa-Zulu Natal province in an effort to provide healthy and hygienic ablution facilities for learners and teachers.

In support of this programme, the DoPW has appointed AECOM (SA) (Pty) Ltd (AECOM) for the planning, assessments, design, costing and implementation stages for this programme. Ablution facilities at all schools were conditionally assessed for adequacy. Where ablution facilities did not meet the minimum norms and standards, new ablution blocks have been recommended.

Geotechnical investigations are underway at various schools to determine the type, consistency, conditions and strength of the subsoils in order to select the most cost effective foundations and to ensure the structural integrity of the proposed ablution structures. This report provides the results of the site investigation conducted at Sihle High School.

2 Site Description

Sihle High School is situated in Mafithini within the Ugu District Municipality. The grass covered site is gently sloping towards the east. No surface water or drainage was identified within the vicinity of the proposed development area. The co-ordinates for the site are 30°22'19.05"S 30°38'22.21"E.

3 General Geology

Based on the 1:250 000 Geological Series Map 3030 *Port Shepstone*, the school is underlain by red brown, coarse to fine grained arkose to subarkose, light grey quartz arenite, micaceous sandstone, conglomerate, subordinate siltstone and mudstone of the Natal Group.

4 Investigation

The site investigation conducted included the excavation of two test pits by hand to depths of 1.55m in TP1 and 1.2m in TP2. As the exact position of the ablution, soak away and evapotranspiration area has not been finalized, the test pits were excavated within proximity to the area selected for the ablution facility.

The test pit positions and coordinates are shown in Figure 1 attached to Annexure A. Table 1 provides a summary of the test pit profiles attached in Annexure B with the test pit photographs included in Annexure C. The test pits were profiled by an Engineering Geologist according to the South African Standards for soil profiling.

In order to assess of the consistency of the subsoils six Dynamic Cone Penetrometer tests (DCPs) were carried out to depths between 1.5 and 1.75m. The locations of the DCP tests are shown in Figure 1 attached to Annexure A with the results included in Annexure D.

A percolation test was carried out within TP1 of the test pits excavated in order to evaluate the suitability of the subsoils for the disposal of effluent from the proposed ablutions by subsoil percolation. The test was undertaken within the test pit at depths of 1.2m within a 300mm x 300mm hole (350mm deep) excavated at the base of the test pit. No percolation test was conducted in TP2 due to refusal being encountered on sandstone boulders encountered at 1.2m during excavation of test pit.

5 Results of the Investigation

5.1 Test Pits and DCP Tests

The observations made from the test pit soil profiles are summarized in Table 1 and briefly described as follows.

In general, the site is underlain by colluvium comprising loose to medium dense clayey sand with scattered weathered sandstone boulders from surface to depths between 0.5m and 0.8m. The colluvium is underlain by residual sandstone which consists of medium dense to dense clayey sand with occasional sandstone boulders which extends to depths of 1.55m. Refusal (by hand excavation) on sandstone boulders was encountered in TP2 at a depth of 1.2m. No groundwater seepage was encountered in any of the test pits excavated.

Table 1: Summary of Test Pit Soil Profiles

TP ID.	Soil Profile		Groundwater Seepage
	Clayey fine SAND (with sandstone boulders), COLLUVIUM	Clayey fine sand (with sandstone boulders), RESIDUAL SANDSTONE	
TP1	0.0-0.5m	0.5-1.55m	-
TP2	0.0-0.8m	0.8-1.2m	-

The results from the DCP tests are used to confirm the consistency of the underlying soils. The results confirm the loose to medium dense, occasionally dense consistency of the upper colluvium layer with the consistency improving to medium dense to dense (occasionally loose) within the residual sandstone.

5.2 Percolation Test Results

The percolation test result from TP1 was evaluated against the criteria based on the 2005 document titled "eThekweni Municipality Guideline for the Design and Approval of On-site Disposal of Domestic Sewage". The result which is tabulated in Table 2 falls within the range of acceptable percolation rates which is between 50mm/hour and 500mm/hour for on-site waste water disposal.

Table 2: Summary of Percolation Results

Test No.	TP1
Depth of test (m)	1.2m
Drop in water level (mm/30min)	30mm/30min

6 Geotechnical Evaluation

6.1 Expansive Soils

The predominantly sandy soils are considered to be inert.

6.2 Collapsible Soils

Based on observations from the test pits, the in-situ soils do not exhibit a collapsible soil fabric.

6.3 Consolidation Settlement

The sandy sub-soils are not expected to undergo consolidation settlement.

6.4 Drainage

An important factor in the promotion of ground stability is the control and removal of both surface and groundwater from the site.

Groundwater was encountered in any of the test pits excavated. However, it is possible for perched water table conditions to occur during or following periods of heavy or extended rainfall. Provision for surface drainage, such as berms should be provided to ensure water does not enter open excavations during construction. Additional battering or shoring may be required depending on the depth of the excavation and the amount of inflow.

Should groundwater seepage be encountered appropriate dewatering measures should be implemented such as sump pumps, depending on the volume of inflow.

It is fundamental that all drainage installations have adequate capacity to deal with potential stormwater and that they be designed to minimize erosion, ponding and infiltration.

6.5 Excavation Conditions

Excavation conditions within the upper 1.5m of the soil profile are classified as "soft excavation" according to SANS 1200D: Earthworks and normal excavation is expected using light earthmoving equipment. It is however highlighted that "boulder excavation" conditions should be expected at depths greater than 1.2m in the vicinity of TP2.

6.6 Stability of Excavations

As indicated above, the groundwater table was not encountered in any of the test pits excavated however seasonal fluctuations are expected.

It is therefore recommended that slopes excavated above the ground water table have a batter of 1V:1.5H. Excavations below the water table have soil slopes with a battered of 1V:3H.

7 Recommendations

7.1 On-Site Waste Water Disposal

The results of the percolation tests carried out fall within the minimum requirement of 50mm/hr. percolation and maximum requirement of a 500mm/hr. percolation. The results are considered favourable and it is recommended that a detailed design of soak away requirements be carried out when effluent volumes are better defined.

It is however highlighted that the presence of boulders may influence the percolation rates, as such all boulders should be removed within the soak away pit sidewalls and base.

7.2 Foundations

Based on the results of the site investigations, it is recommended that the ablutions should be founded on conventional footings on or within the residual sandstone at a depth of no less than 1.3m. An allowable bearing pressure of 100kPa is anticipated at these depths within the residual soils. This allowable bearing pressure assumes a total settlement of 25mm with a differential settlement of up to 18mm.

Alternatively, in order to improve the allowable bearing capacity and negate the effects of settlement, it is recommended that the proposed ablutions should be founded on an engineered soil raft using a slab on the ground foundation. This will involve the removal of the in-situ material below the foundation to a depth and width of at least 1m. The in-situ soil material at the base of the excavation should then be compacted to 93% Mod AASHTO at $\pm 2\%$ of optimum moisture content (OMC). Thereafter the removed material should be replaced with a G7 or better quality material compacted in layers not exceeding 150mm to 95% Mod AASHTO at $\pm 2\%$

of OMC up to the desired founding levels. In this way a soil raft would be constructed for the foundations having a minimum allowable bearing capacity of 100kPa. As a general rule, settlement of the fill is taken as 0.5% of the fill height for the well compacted fill.

8 Conclusions

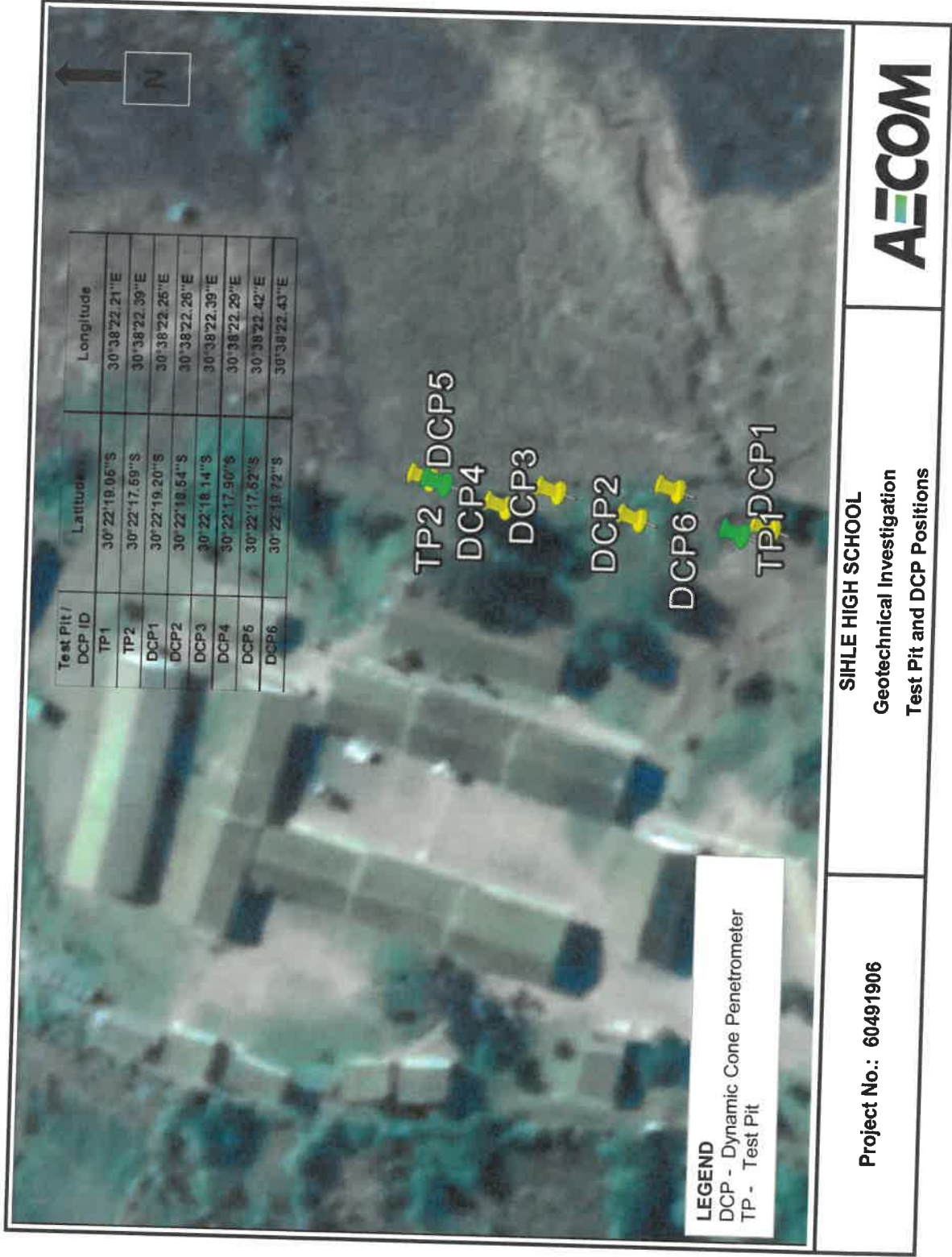
The site is deemed suitable for the proposed development provided cognisance is taken of the findings included herein. It is imperative that the recommendations within this report should be confirmed on site during construction by an engineering geologist or geotechnical engineer to confirm that there is no significant variance to the soils and conditions encountered.

9 References

- Jennings, J.E, Brink, A.B.A and Williams, A.A.B. (1973). Revised Guide to Soil Profiling for Civil Engineering purposes in Southern Africa. Transactions of the South African Institution of Civil Engineers, Vol 15
- SANS 1200D: Earthworks
- SANS 10400-P: 2010
- Water and Sanitation Unit of the EThekweni Municipality. (2005). Guideline for the Design and Approval of on Site (Sub Surface) Disposal of Domestic Sewage, Guideline No. 6

ANNEXURE A

SITE LAYOUT



ANNEXURE B

TEST PIT PROFILES

Sample Name and Type	Depth (m)	Graphic Log	Material Description
	0.2		Slightly moist light grey streaked orange brown loose to medium dense fissured clayey fine sand with roots and occasional sandstone boulders. COLLUVIUM.
	0.4		
	0.6		
	0.8		Slightly moist dark grey streaked orange brown medium dense to dense fissured clayey fine sand with occasional sandstone boulders. RESIDUAL SANDSTONE.
	1.0		Note: Consistency was occasionally loose.
	1.2		
	1.4		
	1.55		

Hole stopped at 1.55m.

- NOTES:**
- 1: No Seepage was encountered.
 - 2: No sample taken.
 - 3: Percolation test at 1.2m, 30 mm drop in 30min.
 - 4: Sandstone boulders were encountered between 0 - 1.2m.

Date excavated: 2017/05/10
Date profiled: 2017/05/10
Contractor: AECOM
Excavated by: AECOM
Machine: HandProfiled by: Sedzani Muravha
Checked by: Rannel NaidooElevation: masl
X Coordinate: 336 1402
Y Coordinate: 31Y34653
Coordinate System: WGS 84 (SA Grid)

Sample Name and Type	Depth (m)	Graphic Log	Material Description
	0.2 0.4 0.6 0.8 1.0 1.2		Slightly moist light grey streaked orange brown loose to medium dense fissured clayey fine sand with roots and occasional sandstone boulders. COLLUVIUM. Slightly moist dark grey mottled orange brown medium dense to dense fissured clayey fine sand with occasional sandstone boulders. RESIDUAL SANDSTONE. Note: Consistency was occasionally loose. Refusal at 1.2m on sandstone boulders.

NOTES:

- 1: No Seepage was encountered.
- 2: No sample taken.
- 3: No Percolation test conducted due to sandstone boulders found at 1.2m.

Date excavated: 2017/05/10
Date profiled: 2017/05/10
Contractor: AECOM
Excavated by: AECOM
Machine: Hand

Profiled by: Sedzani Muravha
Checked by: Rannel Naidoo

Elevation: masl
X Coordinate: 336 1357
Y Coordinate: 31Y34648
Coordinate System: WGS 84 (SA Grid)

ANNEXURE C
TEST PIT PHOTOS

TP1



TP2



ANNEXURE D

DCP RESULTS

Location Sihle High School
Coordinates

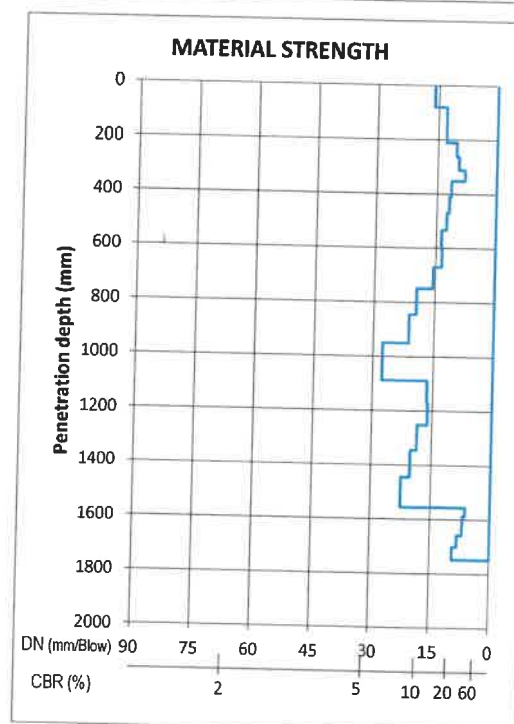
X 30°22'19.20"S

Y 30°38'22.25"E

Undertaken by Sedzani Muravha

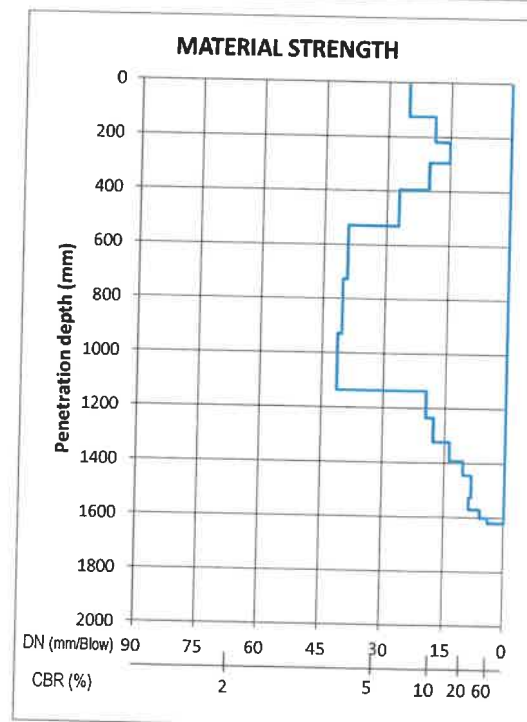
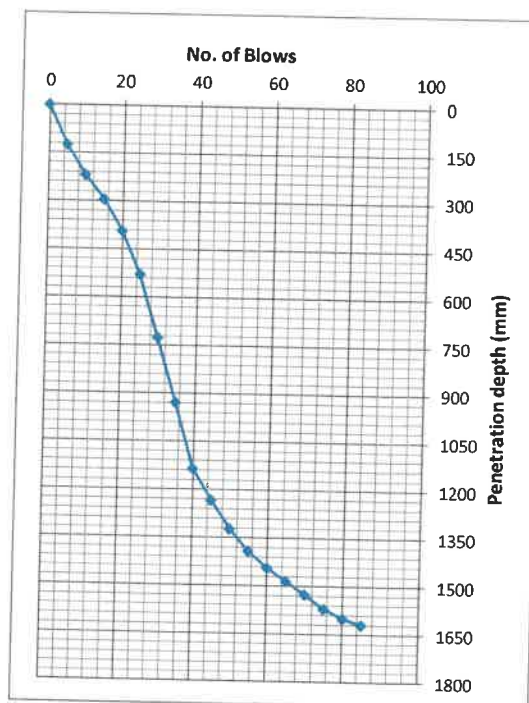
The graph plots 'No. of Blows' on the horizontal axis (0 to 150) against 'Penetration depth (mm)' on the vertical axis (0 to 1950). The data points, connected by a smooth curve, show a non-linear relationship where the number of blows increases at an increasing rate as penetration depth increases.

Penetration depth (mm)	No. of Blows
0	0
150	10
300	20
450	30
600	40
750	50
900	60
1050	70
1200	80
1350	90
1500	100
1650	110
1800	120
1950	130



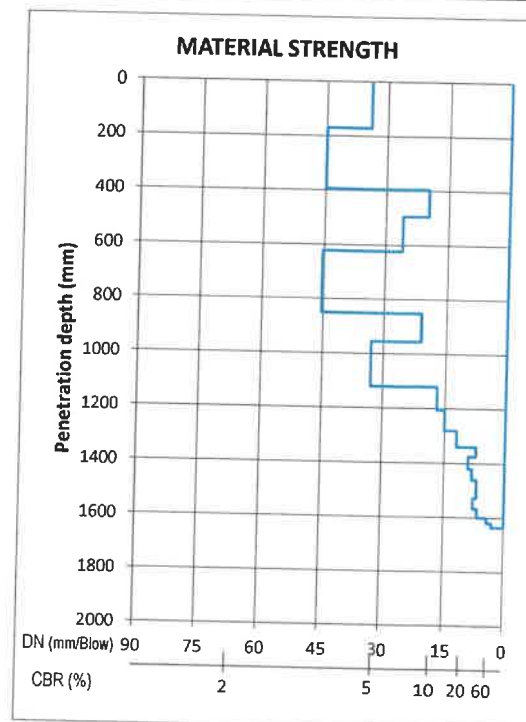
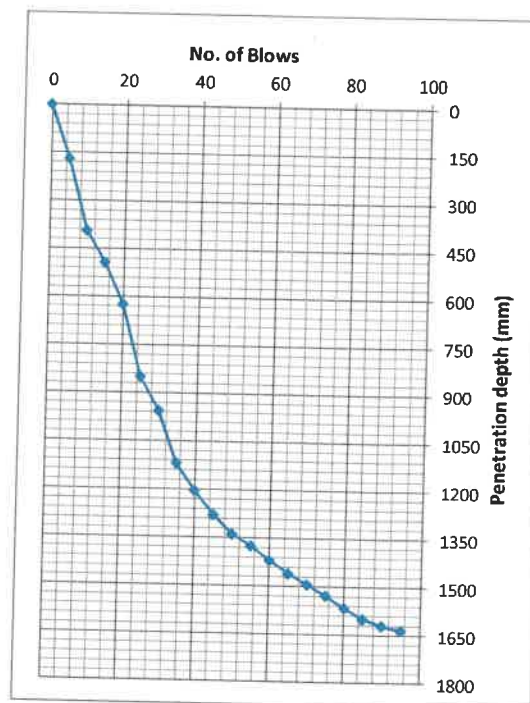
1) Interpretation of DCP Test by Paige-Green and Du Plessis, 2009

Location Sihle High School
Coordinates
 X 30°22'18.54"S
 Y 30°38'22.26"E
Undertaken by Sedzani Muravha

[illegible]

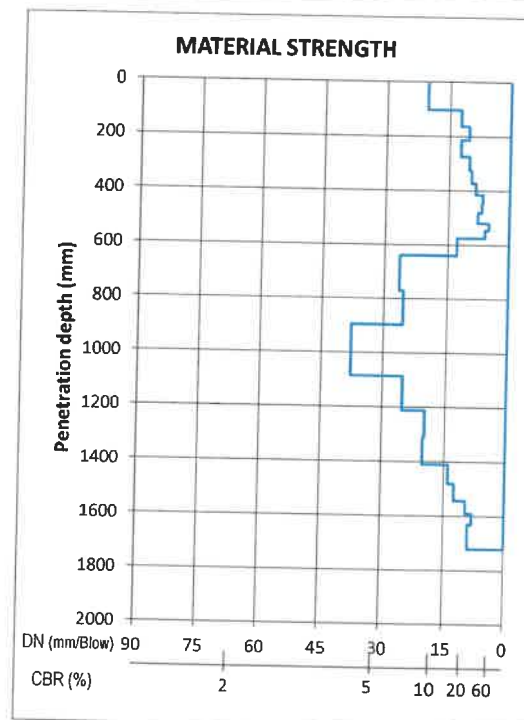
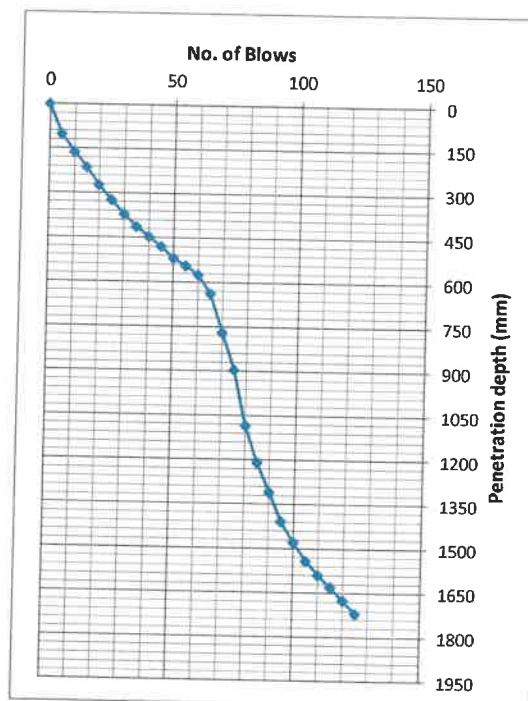
1) Interpretation of DCP Test by Paige-Green and Du Plessis, 2009

Location Sihle High School
Coordinates
 X 30°22'18.14"S
 Y 30°38'22.39"E
Undertaken by Sedzani Muravha

[illegible]

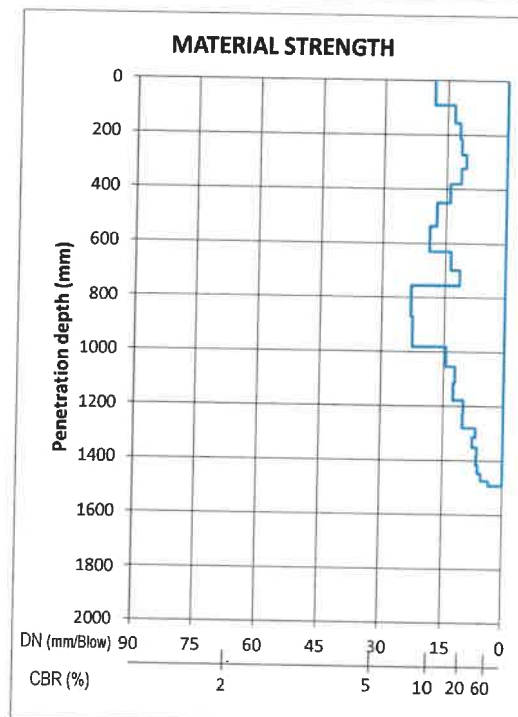
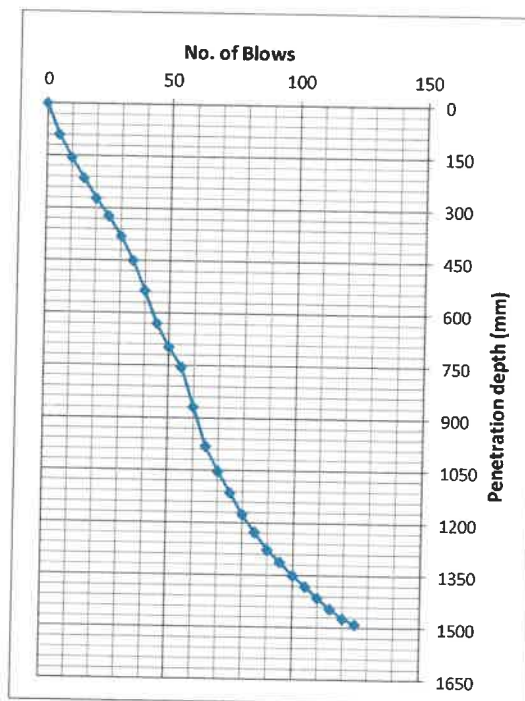
1) Interpretation of DCP Test by Paige-Green and Du Plessis, 2009

Location Sihle High School
Coordinates
 X 30°22'17.90"S
 Y 30°38'22.29"E
Undertaken by Sedzani Murayha

[illegible]

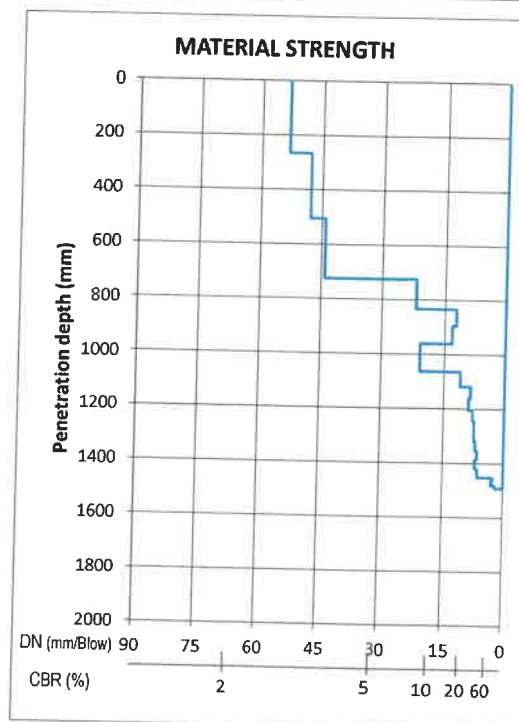
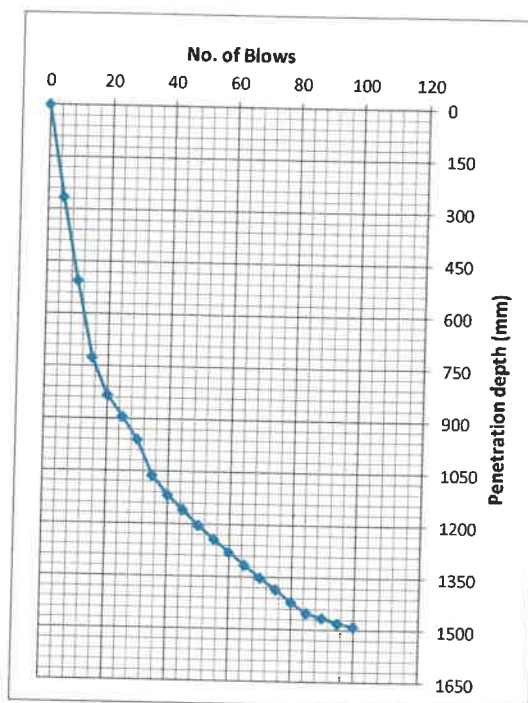
1) Interpretation of DCP Test by Paige-Green and Du Plessis, 2009

Location Sihle High School
Coordinates
X 30°22'17.52"S
Y 30°38'22.42"E
Undertaken by Sedzani Muravha

[illegible]

1) Interpretation of DCP Test by Paige-Green and Du Plessis, 2009

Location Sihle High School
Coordinates
 X 30°22'18.72"S
 Y 30°38'22.43"E
Undertaken by Sedzani Muravha

[illegible]

1) Interpretation of DCP Test by Paige-Green and Du Plessis, 2009



KWAZULU-NATAL PROVINCE

PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 10

THE EPWP CONDITIONS AND SPECIFICATIONS

Changes to be affected in the Bill of Quantities in P&G's Section C12 (page 11 of 13)

C 12 EPWP Conditions and Specifications

C12 to be expanded from C 12.1 to C12.10 as follows;

C 12 EPWP CONDITIONS AND SPECIFICATIONS			
C12.1(a) Employment Targets			
The contractor needs to provide a realistic estimate on the number of jobs that the project has a potential to create throughout the project duration as the project will be implemented using Labour Intensive Construction methods on elements where it is economical and feasible. Number of jobs estimated to be created is a minimum of 10 unskilled labour F.....V.....T..... Item It is a general requirement of this contract that persons normally resident in the ward of the works (local labour) be given preference for employment on the contract. Provided, however, that should adequate and appropriate labour not be available within the ward, others may be employed subject to satisfactory proof being provided that every reasonable endeavour has been made to employ local labour (Local Sub-contractor(s); Skilled; Semi-Skilled and Unskilled). The contractor shall in consultation with the local community leaders (Project Steering Committee) with the purpose of negotiating with them regarding the utilization of local resources in the construction process. In this regard, the contractor shall furthermore give preference, wherever possible to the employment of single heads of households, women and youth as well as families declared as most indigent by War on Poverty/ Sukuma Sakhe program profiling process. The contractor should aim, in general, to maximise the involvement of the local community, however workers from other communities should not exceed 20% of all persons working on the project, where local employees possess skills at level of competency that meet contractors requirements			
C12.1 (b) Employment requirements			
Tenderers are advised that this contract will be subject to the Expanded Public Works Program (EPWP) aimed at alleviating and reducing unemployment. Tenderers must allow for any costs for the following employment requirements of the EPWP 1. 60% of unskilled labour to be women 2. 55% of unskilled labour to be youth aged between 18 and 35 years 3. 2% of unskilled labour to be people with disability 100% unskilled labour utilized must reside within the boundaries of the Municipality Ward where this contract is executed, with preference to the local community closest or a walking distance to the contract site. Wherever possible local skilled tradesmen are to be employed on this contract with the view to maximize utilization of local resources. F.....V.....T..... Item			

C12.1 (c) Labour rate and payment intervals			
The contractor should ensure that the labour rate paid to unskilled local labour is commensurate to the daily task. When determining the rate, consideration should be given to that EPWP beneficiaries are mostly bread winners in their families, as the program intends alleviating poverty. There should also be consideration that the labour rate promotes creation of expanded number of jobs created and person days of work. Contractors should make endeavours to ensure that labourers, particularly unskilled are remunerated on fortnight basis and prior notification be made should there be a shortfall on their wages. The labour rate for local unskilled shall also be determined in consideration of the location of the project, i.e. for projects implemented in urbanized municipalities will not be the same as that for rural municipalities. F.....V.....T..... Item			
C12.2 (a) Labour Intensive Construction (LIC) method			
On site there must a person(s) having the competency in managing and implementing LIC methods. *Foreman @ NQF Level 4 the Unit Standard on Implementing LIC methods on site. *Site Agent/ Managers @ NQF level 5 the Unit Standard on Manage Labour-Intensive Skills Programme both must be CETA accredited Item F.....V.....T.....			
C12.2 (b) Labour Intensive Construction Method			
Those parts of the contract to be constructed using Labour Intensive methods will be marked in the BoQ with letter LI (indicating Labour Intensive) against every item so designated. Such works will only be constructed using the method so indicated. Reference to be made to Guidelines for the implementation of Labour-Intensive Infrastructure projects under EPWP. "Scope of Work in Respect of Work Relating to the Expanded Public Works Programme (EPWP)" Labour-intensive component Due to the nature of the work involved, this type of project lends itself to be feasible as a labour-Intensive project i.e. the construction activities will indeed require skilled/unskilled labour. The aim of the projects is to provide some form of economic benefit whilst generating and increasing the acquired skills shortage to improve sustainability in the local area. The following are potential focus areas where employment creation can be optimized per project: (i) Trenching works not exceeding depth of 1.5m, including trenching for Foundation, Electrical, Water, Mechanical & Civil Services Works including backfilling where ground conditions permit (ii) Building Works; All masonry works (which include concrete mixing on site; brickwork; block work ; plastering; screed works; jointing; etc.); Painting, Plumbing, Ironmongery; roof cladding; glazing; tiling; carpentry; flooring; waterproofing; etc. (iii) Sewers works including Construction of manholes, laying of Sewer pipes, bedding, backfilling and compaction.			

(iv) (v) (vi) (vii) (viii) (ix)	Water Reticulation works including excavation, bedding, laying of pipes and compaction Site Clearance Works Electrical Reticulation works. Stormwater water drainage using in-situ concrete Landscaping and Grassing of Sports Field Cleaning and Fencing Works			
	The above identified activities are deemed suitable to be constructed using the LIC methods; to build, upgrade and maintain the social and economic of the underdeveloped area, promoting community participation, development of skills and creating more work opportunities.			
	The above identified activities should be marked in the Bill of Quantities with the letter (LI). Contractor to price the above items in the Bill of Quantities bearing in mind that they are regarded as the main sources of job creation, whether sub contracted or undertaken by the main contractor.			
	The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letter LI are not necessarily an exhaustive list of all the activities which must be done by hand.			
	Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.			
F.....	V.....	T.....	Item	
C12. 3 Record Keeping				
	12.3.1 Every employer must keep in the project site office the following minutes of site progress minutes; contractors' monthly site progress reports; accurately recorded attendance register; proof of payment as means to verify authenticity of data in the EPWP Beneficiary form submitted with payment certificates. Copies of submitted EPWP beneficiary data forms should also be kept in the site office.			
	12. 3.2 The employer must keep this record for a period of at least three (3) years after the completion of the project in his/her office as the project site office would have been relocated.			
	This should be safely kept for job creation data verifications and periodical audits on projects conducted by National and Provincial Department of Public Works after one (1) or two (2) quarters of submitting captured EPWP Data to the National EPWP coordinating Department.			
F.....	V.....	T.....	Item	
C12.4 EPWP Monthly Reporting documents:				
	At the end of each month the contractor must submit: • EPWP monthly data collection form • Worker monthly payment upload • Worker monthly acknowledgement of receipt of payment • Worker monthly Payment register • Worker monthly training form • Monthly attendance Register • Worker Monthly pay slips			

• Unskilled labour certified ID copies (once off) • Beneficiary ID-size photos • Proof of UIF • Proof of COIDA F.....V.....T..... Item			
C12.5 EPWP Promotion 12.5.1 EPWP signage board EPWP Program at the project level shall always be promoted through the provision of projects signage board that embraces EPWP logo at the bottom, correct measurement for this sign board will be provided by the project leader during the site handing over meeting. F.....V.....T..... Item 12.5.2 Branding of labour apparel Contractor & Sub-contractors' labourers shall be provided with EPWP branded Personal Protective Equipment (PPE), reflector vest with EPWP acronym at the back as an ideal and cost effective means of promoting program on site. The contractor is advised to price for both items 12.5.1 and 12.5.2 F.....V.....T..... Item			
C12.6 COMMUNITY LIAISON OFFICER (CLO) UTILISATION OF A COMMUNITY LIAISON OFFICER The Contractor shall allow for and pay any and all costs necessary for the engagement of the services of a Community Liaison Officer (CLO) for the full duration of this contract A CLO will be identified by the local structures (Project Steering Committee) of the ward areas and appointed following fair and transparent interviewing process, to be conducted in the presence of local structures and the contractor representative, in order to assist the Contractor in the procurement of any local labour, etc. required for this project. The Contractor is to liaise with the CLO and afford him any assistance needed in ensuring sound working relations with the local community. Key Responsibilities of the CLO are envisaged to include and not necessary be limited to: 1. Assisting local leadership in conducting skills and resources audit which facilitates sourcing labour from within the ward or targeted areas for employment, as required by contractor 2. Assisting in sourcing labour-only domestic sub-contractors and the procurement of materials from local resources, as required by the contractor. 3. Assisting the contractor by identifying areas of potential conflict and or threats to the project or to stakeholders in the project and recommend appropriate action to the contractor.			

4. Assisting contractor and stakeholders in the project in the resolution of any conflict which may arise. 5. Establishing and ensuring that sufficient and open communication channels between the contractor and the work force are maintained. 6. Establish and ensuring that efficient and open communication channels between the contractor and the community are maintained 7. Identifying and reporting to the Contractor regarding issues where communication between stakeholder is necessary, recommend courses of action and facilitate such communications 8. Assisting the Contractor and the work force in the establishment of grievance procedures and necessary recommendation to the Contractor regarding the grievances and solution thereto. 9. Attending to site meetings and project implementation meetings as required by the Contractor and prepare and submit periodic reports as may be required by the Contractor from time to time. 10. Attending to such other duties which are consistent with the functions of a CLO, as may be required by the Contractor from time to time. Tenderers are to price twice the rate of unskilled local labour rate for the Community Liaison Officer (CLO) ,all costs arising out of compliance with the foregoing and in the event of a Tenderer failing to price against this item or making inadequate financial provision against this item for compliance as aforesaid, then no claim for costs or additional cost incurred will be entertained by the Head: Public Works F:..... V:..... T:..... Item			
C12.7 Skills development on site The Contractor is conforming to the objectives of EPWP if his beneficiaries are capacitated with skills that will render them employable in the future. It is then the responsibility of the contractor that mandatory life skills are provided to 100% of workforce on site and on the job training to labourers from whom the potential for further development has been identified. The latter is not mandatory to all as it covers technical skills. Contractor should also make provision for the possibility that there might be local youth that will need to be placed on the project with an intention to be provided support towards improving their level of competency and productivity. Contractor shall also provide all necessary on-the-job training to targeted labour to enable such labour to master and advance on techniques required to undertake the work in accordance with requirements of the contract in a manner that does not compromise workers health and safety. F.....V.....T.....Item			
C12.8 Sub-Contracting for local emerging enterprises The project can support the notion of one main contractor to be appointed whilst several sub-contractors, possibly from the local Small, Medium and Micro Enterprises (SMME) group, are employed to undertake various smaller activities. Two alternatives can be applied for setting out work for sub-contractors, i.e. full responsibility (provide			

their own plant, materials and labour) or secondly the main contractor remains responsible for the supply of plant and materials, while the sub-contractor is responsible for implementation, thus providing the skills and labour content only for the various construction activities.

The contractor will be required to appoint a reasonable number of emerging sub-contractors to undertake work to the minimum of **5%** of the contract value on the various service areas but not limited to the following services;

Item	Description/Task/Activity
General Building works	Masonry
	Carpentry and joinery
	Floor finishes/Tiling
	Paint work
	Joinery fittings
	Plumbing (internal & external)
	Plastering
Civil works	Paving
	Landscaping

This percentage excludes the costs of employing local unskilled labour. A minimum of **3%** of the total number of the appointed emerging subcontractors must be owned by **females** who have more than **50.1%** ownership of their company/organization. SMME represent an important vehicle to address the challenges of job creation, economic growth and equity in our country. SMMEs are playing a critical role in absorbing labour, penetrating new markets and generally expanding economies in creative and innovative ways.

F.....V.....T.....Item

C12.8.1 Subcontractor Procedure

The recommendation will be that the Contractor shall advertise and call for competitive tenders in respect of each portion of the works that are required to be subcontracted. The tenders received are then evaluated by both the employer and the contractor. The evaluation panel shall comprises equal representatives from the Employer and from the Contractor

The Contractor shall without delay enter into contract with the successful tendering subcontractor based on their accepted tender submission.

This will promote the cost effective participation and development of smaller registered contractors in larger valued contracts without losing single point of accountability for projects. This will allow the emerging contractors to tender for work in a fair, transparent and equitable manner rather than having to negotiate such contracts with the main contractor. Also guarantees the participation of contractors registered in lower contractor grading designation.

F.....V.....T.....Item

C12.8.2 Subcontractor Mentoring

Once the Subcontractors have been identified and engaged, the Contractor shall closely monitor their performance in the execution of their contracts.

The Contractor will be responsible for drawing implementation plan that will assist in managing the development of sub-contractors undertaking Labour Intensive work.

The Contractor will be responsible for management of the sub-contractors and to ensure that they comply with all EPWP requirements as set-out in this specification.

The Contractor and sub-contractors will be required to compile monthly progress reports to be submitted with payment certificates. The reports shall include planned targets with regards to the works and employment, employment of EPWP beneficiaries and project expenditure. Failure to produce monthly reports will render payment certificates incomplete.

The contractor will be required to assist, train, mentor and monitor its Sub-contractors and report through monitoring tool on progress of each Sub-contractor.

F.....V.....T.....Item

C12.8.3 Portfolio of Evidence

The Contractor is to develop and /or maintain a portfolio of evidence for each sub-contractor. The Portfolio of Evidence is a collection of proof of the training, coaching, guidance and monitoring inputs provided to the Sub-contractor. It is the document which records the development progress of the Sub-Contractor and will need to be updated continually throughout the duration of the contract.

The Portfolio of Evidence should include but not limited to the following documentation:

- The development path designed for each Sub-Contractor,
- The Training course completed by the Sub-Contractor,
- The hours of guiding, coaching and mentoring received for each activity listed in the developmental plan,
- A list of outcomes achieved at each level for each activity.

F.....V.....T.....Item

Performance and penalties

The Contractor performance will be monitored throughout the contract. Should the Contractor fail to fulfil his obligation he will be liable for penalties. Payment of the penalty shall not absolve the Contractor of any claim, or relieve the Contractor of any of his duties, obligations or responsibilities under the contract.

- Utilisation of the Sub-Contractors

The Contractor's achievement of the targets will be measured quarterly to determine the progress made to date.

C12.8.4 Local Suppliers

Local material suppliers within the vicinity of the site to be utilise as long as their materials meets the required specification. However, quality and suitability would have to be checked by the employer, if the local suppliers are unable to meet the demand the nearest suitable suppliers are to be used.

Production of materials should be done on site, where economies of scale allow e.g. concrete paving blocks should be encouraged which will enable employment creation and also allow for enterprise development.

F.....V.....T.....Item

C12.8.5 TENDERER'S TO NOTE CONDITIONS

- a) The contract to be entered into between the Contractor and the Priority Population Group's (PPG's) will be a labour and material sub-contract or labour only depending on the contractor and subcontractor agreement.
- b) The Contractor will be responsible for ensuring that all materials for use by the PPG's in the works are to be on site timeously. The Contractor shall liaise with The Mentor and PPG to determine the nature and extent of materials required and the lead time necessary.

F.....V.....T.....Item

c) The Contractor shall be responsible for the overall programming of the Works and he is to allow for monitoring the PPG's programme and progress.

d) In conjunction with the Mentor, he is to allow for the supervision and mentoring (where necessary) of the PPG to ensure quality and adherence to standard building practice

F.....V.....T.....Item

e) The Contractor is to allow for extra storage facilities on site for the PPG's tools and equipment.

F.....V.....T.....Item

- f) Basic tools shall be provided by the Priority Population Group's (PPG's) and where these are not available; the Contractor will supply him with the necessary tools and equipment and deduct the costs thereof from the interim claims made by the PPG.
- g) Work requiring specialized tools will be provided free of charge by the Contractor with the provision that these be returned upon completion of the Work.

CO-ORDINATION AND SUPERVISION

The Contractor is to co-ordinate and supervise the work of all the PPG's, Sub-Contractors and Nominated Sub- Contractors appointed directly by the Employer in such a manner and at all times as will suit the building programme and he is to allow adequate access, for the PPG's, where required, to carry out their work in an efficient manner and acceptable quality standards in accordance with the specifications as no claims for extras in this connection will be entertained.

ATTENDANCE

The Contractor may allow for attendance upon the PPG's concerned to execute the work. The Contractor is to allow the PPG's the use of any scaffolding belonging to him while it remains so erected on the site.

Where scaffolding is necessary for the use by any PPG and the Contractor has not erected any for his own use or has removed same after his own use, the Contractor shall supply sufficient scaffolding to the PPG to be erected and dismantled by the PPG and returned to the Contractor.

This attendance upon PPG's to execute the work is to include for the scaffolding provisions as

aforesaid and, in addition, is to include for co-operating to the fullest extent with all the parties, attending on off-loading materials, providing suitable storage for tools and materials used by the PPG's, use of general facilities such as latrines, etc., supply and cost of power, lighting, water and the like. F.....V.....T..... Item			
C12.9 EPWP contract for labour It is compulsory that shortly after the contractor and or sub contractor has appointed local labour, the employment contract should be signed by both parties, prior to commencement with works on site. The employment contract forms part of the Ministerial Determination or from the regional EPWP officials. F.....V.....T.....Item			
C12.10 EPWP Scope of Work For This Project Contractors are to price the items on the Bill of Quantities highlighted below, bearing in mind that they are regarded as main sources of job creation, whether sub contracted or undertaken by the main contractor. Elements of the scope of work where the application of Labour Intensive Construction methods are indicated with the letters (LI) are as follows; i) Excavating trenches for foundations and any other civil works with the depth not more than 1.5 m ii) All masonry works which include concrete mixing on site; brickwork; plastering; screed works; jointing; etc. iii) Painting, Plumbing, Ironmongery; roof cladding; glazing; tiling; carpentry; flooring; waterproofing; etc. iv) External works such as landscaping; cleaning; paving; fencing; tarmac; etc.			



KWAZULU-NATAL PROVINCE

PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 11

Proforma Reference Letters for Previous Projects (Annexure 11)

To be Completed by reference and returned

Project **Name** CompletedValue: R.....

Client **Name**.....Year:

Please verify that information provided by the respondent in Part A above is correct Comment alongside if necessary		☐ No ☐ Yes	Comments
Please score and comment on the attributes listed below	Score out of 10		
Overall Project Planning by Contractor			
Ordering of Materials and Long Lead Materials			
Submission and Compliance with Construction programme			
Application for resources to project			
Site Management and Reporting			
Contractual acumen			
Administration of Subcontractors (Nominated, Selected, Domestic)			
Payment of Subcontractors and Suppliers			
Management of OHS and safety on site by the contractor			
Quality of workmanship and Quality Assurance Testing			
Total Score (Sum of all scores)			

Referee name:..... Referee signature.....

Designation:.....

Date:..... Business entity /Client Stamp:

Tel:.....



KWAZULU-NATAL PROVINCE

PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF EDUCATION SANITATION PROGRAMME FOR SCHOOLS, UGU DISTRICT:
SIHLE HIGH SCHOOL (SOUTHERN REGION)**

ANNEXURE 12

ANNEXURE 12

PROJECT SPECIFIC ORGANOGRAM

**PROJECT DESCRIPTION: DEPARTMENT OF EDUCATION SANITATION
PROGRAMME FOR SCHOOLS: UGU DISTRICT: SIHLE HIGH SCHOOL**

