



**Baseline risk assessment undertaken in terms of Construction Regulation 5(1) to identify the operational risks to be addressed by the project specific health and safety specification**



**Client name:** Ekurhuleni East TVET College

**Project name:** Wellness Centre

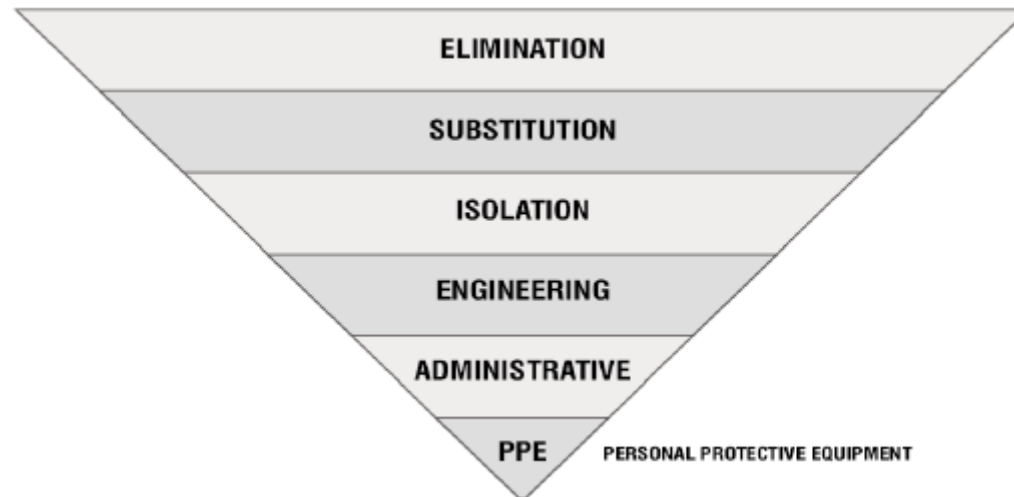
**Risk assessor:** Gareth Bailey

**Pr. CHSA:** Karl Bailey

**Assessment date:** 08 August 2021

**Scope:** The Wellness Centre is approximately 3 334 square metres in size, comprising of facilities to host the following activities or sport codes; aerobics, spinning/ cycling, weight training, yoga, combi-courts, swimming pool, sauna, change rooms, kids play area, café and administration offices. The building design includes a raft concrete foundation, structural steel frame with a metal roof including side cladding, brickwork plaster which is painted externally and internally and appropriate floor finishes and services.

### Hierarchy of controls



## Definitions

Elimination	The most satisfactory method of dealing with hazards is to get rid of it. Once the hazard has been eliminated, the potential for harm has gone.
Substitution	This involves substituting a dangerous process or substance with one that is not as dangerous.
Isolation	Separate or isolate the hazard from the people
Engineering	Introduce or substitute an engineered device to eliminate or reduce the risk.
Administrative	<p>Administrative solutions usually involve modification of the likelihood of an accident happening. Do this by reducing the number of people exposed to the hazard, and by ensuring that those who must remain exposed know about the hazard and how best to manage it.</p> <p>Administrative solutions also include danger signs, and written systems of work, such as those for working in confined spaces and lock-out procedures.</p>
PPE	Provision of personal protective equipment should only be considered when all other control methods are impractical. They provide a means to increase control, and offer a last line of defence when used with another method higher up the hierarchy.

## Risk rating methodology

RISK RATING					Hazard effect or Consequence		Timeline	Budget	Investment return - NPV loss	Quality	Safety Health	Environment	Legal & Regulatory	Reputation Social Community
15 Significant	19 Significant	22 High	24 High	25 High	5 Catastrophic	May result in overall project timeline overrun of 50% or more	Budget timeline overrun of 50% or more	R5b or more	Significant quality issues that requires sponsorship with significant resource & cost implications for rework	Multiple fatalities/impact on health ultimately fatal	Extreme environmental harm - L3 Incident irreversible	Legal non compliance with risk of shutdown of operations with significant cost impacts	International impact - International public attention	
10 Medium	14 Significant	18 Significant	21 High	23 High	4 Major	May result in overall project timeline overrun of between 20% & less than 50%	May result in overall project budget overrun of between 20% & less than 50%	R500m to R5b	Significant quality issues that requires senior management interaction	Single fatality or loss of quality life/irreversible impact on health	Major environmental harm - L2 Incident remedial post LOM	Serious legal concerns & significant impact on operations	National impact - national public concern	
6 Medium	9 Medium	13 Significant	17 Significant	20 Significant	3 Moderate	May result in overall project timeline overrun of between 5% & less than 20%	May result in overall project budget overrun of between 5% & less than 20%	R50m to less than R500m	Some quality issues that requires immediate management action	Loss time Injury/Reversible impact on health	Serious environmental harm - L2 Incident remedial within LOM	Some legal concerns with manageable level of impact	Considerable impact - regional public concern	
3 Low	5 Low	8 Medium	12 Medium	16 Significant	2 Minor	May result in overall project timeline overrun of less than 5%	May result in overall project budget overrun of less than 5%	R5m to less than R50m	Minimal quality issues that can be addressed in a short timeframe with minimal interactions	Medical treatment case/Exposure to major health risk	Material environmental harm - L2 Incident remedial short term	Minor legal concerns with minor impact	Limited impact - local public concern	
1 Low	2 Low	4 Low	7 Medium	11 Medium	1 Insignificant	No Impact on overall project timeline	No Impact on the budget of the project	Less than R5m	No Impact on quality	First aid case/Exposure to minor health risk	Minimal environmental harm - L1 Incident	No legal impact	Slight impact - public awareness may exist but no public concern	
1 Rare	2 Unlikely	3 Possible	4 Likely	5 Almost certain	Likelihood		RISK MATRIX							
The unwanted event has never occurred, has a probability of less than 1% of occurring	The unwanted event has a probability of between 1% & less than 30% of occurring	The unwanted event has a probability of between 30% & less than 60% of occurring	The unwanted event has a probability of between 60% & less than 90% of occurring	The unwanted event has occurred frequently; has a 90% & higher probability of recurring	Probability of the event occurring									

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### Key operational activities/risks that will form part of the project

Description of risk	Risk rating	Potential risk impact	Risk mitigation
Emergency preparedness, contingency planning and response	High 23	Inadequate emergency preparedness, contingency planning and response could result in the inability to effectively respond to emergencies and this could impact negatively on the health and safety of employees and other persons.	<ol style="list-style-type: none"> <li>1. The principal contractor to appoint a competent person to act as emergency controller and/or coordinator.</li> <li>2. The principal contractor to conduct an emergency identification exercise and establish what emergencies (such as health, safety, environmental, third party or community related actions etcetera) could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that Ekurhuleni East TVET College may have in place.</li> <li>3. The principal contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.</li> </ol>
First-aid	High 21	Inadequate first-aid arrangements could impact negatively of the ability to respond to first-aid injuries or to stabilise injured employees or other persons that may require advanced health care. This could negatively impact of the injured person's prognosis, recovery and medical costs.	<ol style="list-style-type: none"> <li>1. The principal contractor to provide first-aid equipment and have qualified first-aider(s) on site as required by General Safety Regulation 3 of the OHSACT.</li> <li>2. The contingency plan of the principal contractor to include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or getting emergency medical support to person(s) who may require it.</li> <li>3. The principal contractor to have firm arrangements with his and other contractors in place regarding the responsibility of these contractor's first-aid arrangements as well as treatment of injured and/or ill employees.</li> </ol>
Security	High 22	Inadequate security arrangements could result in unauthorised access by members of the public that could pose a risk to employees working on this site or	<ol style="list-style-type: none"> <li>1. The principal contractor to establish site access rules and implement and maintain these throughout the construction period. Access control must, among</li> </ol>

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		could also result in the illegal removal of equipment and/or material from the site or injuries to these members of the public.	<p>others, include the rule that non-employees will not be allowed on site unaccompanied.</p> <ol style="list-style-type: none"> <li>2. The principal contractor must ensure that no person under the age of eighteen (18) is allowed to undertake any work on the construction site.</li> <li>3. The principal contractor to develop a set of project applicable security rules and procedures and maintain these throughout the construction period.</li> </ol>
Accommodation of traffic	High 24	Inadequate traffic accommodation pose a potential risk to employees as well as road users and could not only result in injuries and subsequent medical and other costs to employees, but also injuries to road users and damages to vehicles with subsequent claims against the principal contractor and Ekurhuleni East TVET College.	<ol style="list-style-type: none"> <li>1. The principal contractor to appoint a competent traffic safety officer to take responsibility for the accommodation of all traffic.</li> <li>2. The principal contractor to undertake a detailed risk assessment to ensure that all traffic related risks are identified and appropriate risk mitigation measures be established, implemented and maintained. This risk assessment should be kept on the health and safety file and also duly communicated to all employees and especially operators and drivers of construction vehicles and plant.</li> <li>3. The principal contractor to develop a comprehensive traffic accommodation plan to provide for traffic entering the site as well as traffic on site, i.e. internal roads and construction areas.</li> <li>4. Where construction work is undertaken in, next to or close to a public road, the use of appropriate as well as a sufficient number of road signs to be of paramount importance to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/risks/vehicles.</li> <li>5. The principal contractor to ensure that appropriate as well as a sufficient number of road signs are posted to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/vehicles. These signs shall be</li> </ol>

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			<p>repeated and utilised, where appropriate, as actual construction work is approached.</p> <p>6. The following signage to be provided as a minimum where construction work is undertaken in, next to or close to a public road:</p> <ul style="list-style-type: none"> <li>• “Construction work ahead” signs before the start of the construction work;</li> <li>• “Lane narrows” signs before the start of the construction work;</li> <li>• “Keep right/left” signs before the start of the construction work and again where the tapering begins; and</li> <li>• Delineators and cones where applicable areas.</li> </ul> <p>7. Where construction work includes excavations in or next to a public road, warning lights or visible boundary indicators to be provided after dark or when visibility is poor.</p> <p>8. The maintenance of all signage and especially those that is suitable after dark to be duly managed.</p> <p>9. Where appropriate duly trained flag persons to be deployed a good distance ahead of areas where traffic is deviated or lanes closed off. These flag persons to be managed assertively to ensure that they add optimal value and should they not do so they should be retrained and if necessary replaced.</p> <p>10. The community liaison officer (CLO) to be sensitised on the optimal management of traffic and the risks involved and then be instructed to increase community awareness through talking to all stakeholders including the distribution of suitable information brochures.</p>
Work in fall risk positions	High 21	Inadequate fall protection arrangements could result in employees and other persons falling from a fall risk position	<p>1. A pre-emptive risk assessment to be carried out for any work undertaken from a fall risk position and will be classified as “work in elevated positions”.</p>

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		and result in serious injuries or even fatalities.	<ol style="list-style-type: none"> <li>2. As far as is practicable, any person working in a fall risk position will work from a stable platform, ladder or other device that is at least as safe as if he or she is working at ground level and whilst working in this position be wearing suitable fall arrest equipment to prevent the person falling from the platform, ladder or other device utilised. This fall arrest equipment will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length and strength that the person will not be able to move over the edge. Alternatively, any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with suitable guard rails at two different heights as prescribed in SANS 10085 code of practice for the design, erection, use and inspection of access scaffolding.</li> <li>3. Where the requirement in item 2 is not practicable, the person will be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system that is approved by Ekurhuleni East TVET College.</li> <li>4. Where the requirements in item 3 are not practicable, a suitable catch net, which is able to sustain the weight of at least the average person working in a fall risk position, will be erected.</li> <li>5. Employees working in a fall risk position will be trained to do this safely and without risk to their or other person's health and safety.</li> <li>6. Where work on roofs is carried out, the risk assessment must take into account the possibility of persons falling through fragile material and openings in the roof.</li> </ol>



Description of risk	Risk rating	Potential risk impact	Risk mitigation
			7. Updated records confirming the physical and psychological fitness of employees working fall risk positions will be kept on the health and safety file at all times.
Structures	High 21	Unsafe or sub-standard structures could collapse on employees and/or other persons with subsequent injuries to employees/persons or even fatalities and also impact negatively on project costs, and result in liability claims and reputation risks for all stakeholders.	<ol style="list-style-type: none"> <li>Only skilled employees to be allowed to erect structures and that the skills of these employees are being verified at regular intervals.</li> <li>Steps to be taken to ensure that no structure becomes unstable or collapses due to construction work being performed on it or in the vicinity of it.</li> <li>No structure to be overloaded to the extent where it becomes unsafe.</li> <li>The following information to be requested from the designer and also duly considered: <ul style="list-style-type: none"> <li>Information on known or anticipated hazards relating to the construction work and the relevant information required for the safe execution of the construction work.</li> <li>A geo-scientific report (where applicable).</li> <li>The loading the structure is designed to bear.</li> <li>The methods and sequence of the construction process.</li> <li>Any other applicable information.</li> </ul> </li> <li>All drawings pertaining to the design to be on site, utilised and available for inspection.</li> </ol>
Access scaffolding	High 21	Unsafe scaffolding structures could collapse or employees may fall from unprotected working platforms and result in injuries or even fatalities. Loose items falling from scaffolding structures could also cause injuries to employees or persons below as well as asset damages with claims.	<ol style="list-style-type: none"> <li>Access scaffolding to be erected, used and maintained safely in accordance with Construction Regulation 16 and SA Bureau of Standards Code of Practice, SANS 10085 entitled, "The Design, Erection, Use and Inspection of Access Scaffolding".</li> <li>Detailed consideration to be given to all scaffolding to ensure that it is properly planned to meet the working requirements, designed to carry the necessary loadings and maintained in a sound condition. It must also be</li> </ol>

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			<p>ensured that there is sufficient material available to erect the scaffolding properly and safely.</p> <p>3. Scaffolding to be erected, altered, maintained or dismantled by person(s) who has/have adequate training and experience in this type of work or under the continuous and direct supervision</p>
Lifting equipment	High 21	The use of unsafe lifting equipment could result in loads being lifted to fail and fall with subsequent injuries or even fatalities as well as asset damages that will result in claims and reputation risks.	<p>Lifting equipment to be designed and constructed in accordance with the manufactures/designers specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the Driven Machinery Regulation 18 of the OHSACT:</p> <p>The Driven Machinery Regulation requires that:</p> <ol style="list-style-type: none"> <li>Lifting equipment to be clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use, the table of maximum loads should be used by the driver/operator;</li> <li>Each winch on a lifting machine must at all-time have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit;</li> <li>Lifting equipment be fitted with a brake or other applicable device capable of holding the MML. This brake or device must automatically prevent the downward movement of the load when the lifting power is interrupted;</li> <li>Lifting equipment fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML;</li> <li>Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the</li> </ol>

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			<p>machine and where no standard is available the factor of safety must be:</p> <ol style="list-style-type: none"> <li>1. chains – 4 (four)</li> <li>2. steel wire ropes - 5 (five)</li> <li>3. fibre ropes- 10 (ten)</li> </ol> <p>f. Every hook or load attaching device must be designed as such or fitted with a device that will prevent the load from slipping off or disconnecting;</p> <p>g. Every lifting machine must be inspected and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the manufacturers prescription or to 110% of the MML in addition all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person;</p> <p>h. All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book;</p> <p>i. No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by an inspector of the Department of Employment and Labour; and</p> <p>j. All types of lifting tackle must be tested by a duly competent person on at least a 3 (three) monthly basis and such proof of inspections/tests must be kept on site.</p>
Lifting tackle	High 21	The use of unsafe lifting tackle could result in loads being lifted to fail and fall with subsequent injuries or even fatalities as well as asset damages that will result in claims and reputation risks.	<p>The following requirements to adhered to when lifting tackle is utilised:</p> <p>a. Manufactured of sound material, well-constructed and free from latent defects;</p>

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			b. Clearly and conspicuously marked with an identity number; c. Maximum mass load factor of safety: <ul style="list-style-type: none"> <li>Natural fibre ropes - 10(ten)</li> <li>Man-made fibre ropes and woven webbing - 06(six)</li> <li>Steel wire ropes – single rope - 06(six)</li> <li>Steel wire ropes – combination slings - 08(eight)</li> <li>Mild Steel chains - 05(five)</li> <li>High tensile/alloy steel chains - 04(four)</li> </ul> d. Steel wire ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident and must be examined by a competent person every three months for this purpose and the results recorded in a designated log book. e. All types of lifting tackle must be tested by a duly competent person on at least a 3 (three) monthly basis and such proof of inspections/tests must be kept on site.
Construction vehicle and mobile plant operators	High 21	The use of vehicles and/or plant operators that are not competent could result in incidents with subsequent injuries or even fatalities as well as asset damage with subsequent costs/claims and reputation risks.	The following requirements to apply to construction vehicles and mobile plant operators: <ul style="list-style-type: none"> <li>a. Only certified and/or competent employees may be allowed to operate any construction vehicle and mobile plant.</li> <li>b. Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.</li> <li>c. Only employees duly authorised to do so may operate any construction vehicle and mobile plant.</li> <li>d. Only employees physically fit, i.e. in possession of a medical certificate of fitness, may be allowed to operate any construction vehicle and mobile plant.</li> </ul>

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Construction vehicles and mobile plant	High 21	The use of unsafe construction vehicles and plant could result in incidents with subsequent injuries or even fatalities as well as asset damage with subsequent costs and reputation risks.	<p>Construction vehicles and mobile plant will be formally and duly inspected by a competent person appointed by the principal contractor prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment must be required to comply with this specification as well as the OHSACT and Regulations.</p> <p>Construction vehicles and mobile plant to be:</p> <ol style="list-style-type: none"> <li>1. Of acceptable design and construction;</li> <li>2. Maintained in good working order;</li> <li>3. Used in accordance with their design and intention for which they were designed;</li> <li>4. Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons to be allowed to drive construction vehicles and mobile plant;</li> <li>5. Provided with safe and suitable means of access;</li> <li>6. Fitted with adequate signalling devices to make movement safe including reversing;</li> <li>7. Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;</li> <li>8. Provided with roll-over protection;</li> <li>9. Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book and any defects addressed as matter of urgency;</li> <li>10. Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and</li> <li>11. Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.</li> </ol>

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			<p>No loose tools, material etcetera is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.</p> <p>No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose.</p> <p>The construction site must be organised to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated.</p> <p>Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or adequate barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant.</p> <p>In addition, construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely.</p> <p>All construction vehicles and mobile plant daily inspection records must be kept in the occupational health and safety file.</p>
Electrical installations	High 21	Unsafe electrical installations could result in employees and other persons being electrocuted with subsequent injuries or	Any electrical work undertaken as part of the project, including the installation of temporary electricity for

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		even fatalities as well as asset damage due to fire with subsequent costs and reputation risks.	<p>construction use shall be in accordance with Construction Regulation 24 and the Electrical Installation Regulations.</p> <p>The principal contractor to ensure that:</p> <ol style="list-style-type: none"> <li>Existing services are to be located and clearly marked before construction commences and during the progress thereof;</li> <li>Where the abovementioned is not possible, employees with jackhammers etc. will be protected against electric shock by the use of suitable protective equipment e.g. rubber mats, insulated handles etcetera;</li> <li>Electrical installations and -machinery are sufficiently robust to withstand normal working conditions on site;</li> <li>Temporary electrical installations must be inspected at least once per week by a competent person and a record of the inspections kept on the occupational health and safety file;</li> <li>Electrical machinery used on a construction site must be inspected daily before start-up by the competent driver/operator or any other competent person and a record of the inspections kept on the occupational health and safety file; and</li> <li>A competent person appointed in writing must control all temporary electrical installations.</li> </ol>
Electrical and mechanical lockout	High 21	The lack of suitable lock-out procedures may result in employees and other persons being electrocuted with subsequent injuries or even fatalities with resulting costs and reputation risks.	An electrical and mechanical lockout procedure to be developed by a competent person (i.e. duly qualified and certified electrician) and signed off by the Construction Manager. The principal contractor to ensure that the lockout procedure is duly implemented and maintained, i.e. all contractors on site are informed of and adhere to this lockout procedure.
Use and storage of flammables	High 21	The unsafe use and/or storage of flammables could result in fires or	The principal contractor to ensure that:

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		explosions with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent costs and reputation risks.	a. No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapours being present unless adequate precautions is taken; b. Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with consistent access control measures in place and sufficient fire fighting equipment installed and fire prevention methods practiced for example proper housekeeping; c. Only one day's quantity of flammable is to be kept in the workplace; d. Containers (including empty containers) to be kept closed to prevent fumes/vapours from escaping and accumulating in low lying areas; and e. Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.
Hazardous chemical agents (HCA)	High 21	The unsafe use of hazardous chemical agents could result in fires with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent costs/claims. Spilled chemical substances may also impact negatively on the health of employees and other persons or negative implications for the environment including legal and claim exposures.	The principal contractor to ensure that: a. Employees receive the necessary information and training to be able to use, handle and store hazardous chemical agents safely; b. Employees obey lawful instructions regarding: <ul style="list-style-type: none"> <li>• The wearing and use of personal protective equipment;</li> <li>• The use, handling and storage of hazardous chemical agents;</li> <li>• The prevention of the release of hazardous chemical agents;</li> <li>• The wearing and using of exposure monitoring and measuring equipment;</li> <li>• The cleaning up and disposal of materials containing hazardous chemical agents; and</li> </ul>

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			<ul style="list-style-type: none"> <li>Housekeeping, personal hygiene and the protection of the environment;</li> </ul> <p>c. The risk assessments required in terms of Construction Regulation 9 include employee exposure to hazardous chemical agents and that the necessary measures be taken to protect persons from being detrimentally affected by Hazardous chemical agents present or used in the workplace;</p> <p>d. Suppliers provide the necessary information in the form of safety data sheets (SDS) regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances. The safety data sheets have to meet the following –</p> <ul style="list-style-type: none"> <li>be GHS (UN Globally Harmonized System) compliant;</li> <li>classify the HCA, in accordance with regulation 14;</li> <li>be reviewed at least once every five years; and</li> <li>be amended whenever necessary to ensure that it contains correct and current information, aligned to its GHS classification required by regulation 14(c), which includes new data regarding the hazard presented by an HCA that changes its classification in a category or subcategory of a hazard class or results in its classification to another hazard class;</li> </ul> <p>e. An up-to-date list is kept on site of hazardous chemical agents stored and used together with the safety data sheet of the said Hazardous chemical agents;</p> <p>f. Hazardous chemical agent's containers to be clearly and duly labelled, i.e. label to include –</p> <ul style="list-style-type: none"> <li>the product identifier and, where applicable, the United Nations proper shipping name;</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>the chemical identity of all the ingredients contributing to the final GHS classification of the HCA;</li> <li>the name, address, and business telephone number of the manufacturer or importer;</li> <li>an emergency telephone number where support is available;</li> <li>a signal word, hazard statement, precautionary statement and hazard pictogram consistent with the HCA's GHS classification, made in accordance with regulation 14;</li> <li>the quantity of the HCA in the package, unless this quantity is specified elsewhere on the package; <ul style="list-style-type: none"> <li>the quantity of each HCA ingredient;</li> </ul> </li> <li>any information about the hazards, and first-aid and emergency procedures relevant to the HCA, not otherwise included in the hazard statement or precautionary statement; <ul style="list-style-type: none"> <li>first-aid measures; and</li> <li>an expiry date, where applicable.</li> </ul> </li> </ul> <p>g. Hazardous chemical agents are not cleared by using compressed air but vacuumed</p> <p>h. No person eats or drinks in an area where hazardous chemical agents are stored or utilised; and</p> <p>i. Hazardous chemical agents waste is disposed of safely in terms of hazardous waste disposal requirements.</p>
Fire prevention and protection	High 21	Inadequate fire prevention and protection measures may impact negatively on the ability to fight fires that may cause injuries or even result in fatalities as well as asset damages with subsequent costs/claims.	<p>The principal contractor to ensure that:</p> <ol style="list-style-type: none"> <li>The risk of fire is avoided;</li> <li>Sufficient and suitable storage of flammables is provided;</li> <li>All employees are instructed in the use of the fire fighting equipment and know how to attempt to extinguish a fire;</li> </ol>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>d. A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;</li> <li>e. Employees are informed regarding emergency evacuation procedures and escape routes;</li> <li>f. Emergency escape routes are kept clear at all times and clearly marked;</li> <li>g. Evacuation assembly points are demarcated and made known to employees;</li> <li>h. Evacuation is regularly practiced to ensure that all persons are evacuated timeously and;</li> <li>i. Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind; and</li> <li>j. A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.</li> </ul>
Housekeeping	Significant 19	Poor housekeeping may impact negatively on productivity, result in employees/persons tripping and falling or even cause a fire with subsequent asset damage and cost/claims as well as reputation exposures.	<p>The principal contractor to ensure that:</p> <ul style="list-style-type: none"> <li>a. Housekeeping is continuously implemented and maintained;</li> <li>b. Materials and equipment is properly stored;</li> <li>c. Scrap, waste and debris is removed off site regularly;</li> <li>d. Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;</li> <li>e. Where practicable, construction sites are fenced off to prevent entry of unauthorised persons;</li> <li>f. An unimpeded work space is maintained for every employee;</li> <li>g. Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done; and</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>h. As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, skid-free and free of obstruction, waste and materials;</li> <li>i. The walls and roof of every indoor workplace be sound and leak-free.</li> </ul>
Stacking and storage	Significant 20	Unsafe stacking and storage practices may result in stacked items collapsing with subsequent injuries or even fatalities as well as asset damage with associated losses and costs.	<p>The principal contractor to ensure that:</p> <ul style="list-style-type: none"> <li>a. A competent person is appointed in writing to supervise all stacking and storage on a construction site;</li> <li>b. Adequate storage areas are provided and demarcated;</li> <li>c. The storage areas are kept neat and under control;</li> <li>d. The base of any stack is level and capable of sustaining the weight exerted on it by the stack;</li> <li>e. The items in the lower layers can support the weight exerted by the top layers;</li> <li>f. Cartons and other containers that may become unstable due to wet conditions are kept dry;</li> <li>g. Pallets and containers are in good condition and no material is allowed to spill out;</li> <li>h. The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Employment and Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang);</li> <li>i. The articles that make up a single tier are consistently of the same size, shape and mass;</li> <li>j. Structures for supporting stacks are structurally sound and able to support the mass of the stack;</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>k. No articles are removed from the bottom of the stack first but from the top tier first;</li> <li>l. Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;</li> <li>m. Stacks that are in danger of collapsing are broken down and restacked;</li> <li>n. Stability of stacks are not threatened by vehicles or other moving plant and machinery;</li> <li>o. Stacks are built in a header and stretcher fashion and that corners are securely bonded; and</li> <li>p. Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.</li> </ul>
Eating, changing, washing and toilet facilities	Significant 18	Inadequate provision of welfare facilities may have negative implications on the health of employees and other persons as well as the environment with associated claims and costs.	<p>The principal contractor to ensure that:</p> <p><b>Toilets</b></p> <ul style="list-style-type: none"> <li>1. The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.</li> <li>2. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees.</li> </ul> <p><b>Showers</b></p> <p>At least cold-water showers of some sort for each sex have to be provided at a ratio of at least 1 shower per 15 employees.</p> <p><b>Change rooms</b></p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>Some form of screened off changing facility must be provided separately for each sex.</p> <p><b>Eating facility</b></p> <p>Some form of eating facility sheltered from the sun, wind and rain must be provided.</p> <p><b>Living accommodation</b></p> <p>Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided after obtaining of the necessary permission from authorities and adhering to requirements such as Bylaws of the local municipality.</p> <p><b>Note:</b></p> <p>The requirements for COVID-19 should be duly managed and maintained at all times.</p>
Personal and other protective equipment	High 21	Inadequate provision and/or use of unsuitable PPE could cause injuries or even fatalities with associated claims and costs including legal and reputation exposures.	<p>The principal contractor to proactively identify the hazards in the workplace and deal with them on an ongoing basis. He/she to either remove them or, where impracticable take steps to protect employees and make it possible for them to work safely and without risk to health under the hazardous conditions.</p> <p>Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply re-engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.</p>

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			<p>Where it is not possible to create an absolutely safe and healthy workplace the principal contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.</p> <p>It is a further requirement that the principal contractor maintain the said equipment, that he/she instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s in a consistent and correct manner.</p> <p>Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other valid reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.</p> <p>The principal contractor may <b>not charge any fee</b> for protective equipment prescribed by him or her <b>but may charge for equipment under the following conditions,</b></p> <p>where the employee requests additional issue in excess of what is prescribed;</p> <p>following a disciplinary hearing –</p> <ul style="list-style-type: none"> <li>• Where the employee has blatantly abused or neglected the equipment leading to early failure; and</li> <li>• Where the employee has lost the equipment.</li> </ul>

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Tools and equipment	High 21	The use of unsafe and/or unsuitable tools and equipment could result in employees and other persons being injured or even electrocuted with subsequent injuries or even fatalities as well as asset damage due to fire with subsequent claims and costs.	<p><b>1. Portable electrical tools and equipment (Electrical Machinery Regulation 9)</b></p> <p>Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etcetera. In addition, electrical appliances such as fridges, hotplates, heaters, etcetera must be inspected regularly but at least on a weekly basis and maintained to the same standards as portable electrical tools and appliances.</p> <p>The use, inspection and maintenance of portable electrical tools and equipment to be governed by the following:</p> <ul style="list-style-type: none"> <li>• Regular inspections by a competent person appointed in writing;</li> <li>• Inspection results must be recorded in a register;</li> <li>• Only competent authorised persons are allowed to use portable electrical tools and equipment; and</li> <li>• The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.</li> </ul> <p>This equipment -</p> <ul style="list-style-type: none"> <li>• To be maintained in good condition at all times to prevent an electrical shock to the user;</li> <li>• The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and</li> <li>• All equipment to be fitted with a switch to allow for safe and easy starting and stopping.</li> </ul>

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			<p><b>2. Hand tools</b></p> <p>Section 8(2)(a) of the OHSACT stipulates that the employer to ensure that plant and machinery, including hand tools, are safe for use. To meet this requirement hand tools ought to be inspected, recorded and defects reported at intervals specified. The inspection registers also serve as proof that a formal process was implemented and maintained to ensure that hand tools are safe for use.</p> <p>To ensure compliance with the above, the principal contractor shall implement and maintain a process to ensure that hand tools utilised are formally inspected and declared safe for use.</p> <p><b>3. Defective tools and equipment</b></p> <p>Any defective tools or equipment to be placed in a designated “quarantine” area or clearly marked as “defective” and steps be taken to ensure that these are no longer allowed to be used.</p> <p>The use of defective hand tools to be strictly managed with no exceptions being allowed. Documentary proof must also be kept of actions taken against supervisors allowing and employees using unsafe tools to ensure that this could be used in a court of law to proof that the usage of such tools was not generally tolerated.</p>
Portable lights	High 21	The use of unsafe portable lights could result in employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset	The following requirements to be applied with when portable lights are utilised (such as for illumination at stop-go points at night):

Description of risk	Risk rating	Potential risk impact	Risk mitigation
		damage due to fire with subsequent claims and costs.	<ul style="list-style-type: none"> <li>a. Must be fitted with a robust non-hygroscopic non-conducting handle;</li> <li>b. Live metal parts which may become live must be protected against contact;</li> <li>c. The lamp must be protected by a strong guard;</li> <li>d. The cable lead-in must withstand rough handling;</li> <li>e. A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights;</li> <li>f. Inspections must be undertaken that concentrate on at least the plug, cord, switch, guard and any obvious faults; and</li> <li>g. When used in wet/damp/metal container conditions, it must be protected.</li> </ul>
Public health and safety	High 24	The disregard of the public's health and safety could result in injuries or even fatalities with associated claims and reputation risks	<p>The principal contractor will responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes among others:</p> <ul style="list-style-type: none"> <li>a. Non- employees entering the site for whatever reason;</li> <li>b. The surrounding community; and</li> <li>c. Passers-by the site.</li> </ul> <p>Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.</p> <p>All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.</p>
Excavations	High 21	Excavations excavated in an unsafe manner could collapse with subsequent	The principal contractor to ensure that –

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
		injuries and fatalities or even damages to adjacent structures/services with resultant claims and costs. Excavations that are not suitably barricaded could result in employees, other persons, animals or even vehicles falling into them resulting in damages, injuries or even fatalities.	<p>All excavation work to comply with the following:</p> <ol style="list-style-type: none"> <li>Excavation work must be carried out under the supervision of a competent person who has been appointed in writing.</li> <li>Before excavation work begins the stability of the ground must be evaluated.</li> <li>Whilst excavation work is being performed, the principal contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.</li> <li>No person may be required or permitted to work in an excavation that has not been adequately shored or braced.</li> <li>Where the excavation is in stable material or where the sides of the excavation are sloped back to at least the maximum angle of repose measured relative to the horizontal plane, shoring or bracing may be left out <b>but only after</b> written permission has been obtained from the appointed competent person.</li> <li>Shoring and bracing must be designed and constructed to safely support the sides of the excavation and prevent it from collapsing.</li> <li>Where uncertainty exists regarding the stability of the soil the opinion of a competent professional engineer or professional technologist must be obtained, before excavation proceeds, whose opinion will be decisive. The opinion must be in writing and signed by the engineer or technologist as well as the appointed excavation supervisor.</li> <li>No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load. Best practice</li> </ol>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>requires a one-meter clearance so as to reduce the pressure on the side walls as well as risk of material falling onto persons inside the excavation.</p> <ul style="list-style-type: none"> <li>i. Every excavation must be provided with means of access that must be within 6 metres of any employee within the excavation at any time. Should ladders be utilised for this purpose they should be duly secured.</li> <li>j. The location and nature of any existing services such as water, electricity, gas, telecommunication etcetera must be established before any excavation is commenced with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.</li> <li>k. Every excavation, including the shoring and bracing or any other method to prevent a possible collapse, must be inspected by the appointed competent person as follows: <ul style="list-style-type: none"> <li>• Daily before work commences</li> <li>• After every blasting operation</li> <li>• After an unexpected collapse of the excavation or part thereof</li> <li>• After substantial damage to any support</li> <li>• After rain</li> </ul> </li> <li>l. The results of any inspections must be recorded in a register kept on site in the health and safety file.</li> <li>m. Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off, on all sides, to at least one-meter-high and as close to the excavation perimeter as practicable. All such excavations must also be provided with warning lights or visible boundary indicators after dark or when visibility is poor.</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			n. Excavation permits should be implemented and maintained for all excavations.
Tunnelling activities	High 21	Unsafe tunnelling activities could result in these tunnels collapsing with subsequent injuries and fatalities or even damages to adjacent structures/services with resultant claims and costs.	The principal contractor to ensure that –  1. Tunnelling activities to be carried out under the supervision of a competent person who has been appointed in writing. 2. All tunnelling activities to comply with the Tunnelling Regulations as published under the Mine Health and Safety Act (No 29 of 1996), as amended. 3. No person to be allowed to enter a tunnel which has a height dimension of less than 800 mm.
Blasting	High 21	Unsafe blasting activities could result in injuries, fatalities and/or damage to structures/services that may result in claims and costs.	The principal contractor to ensure that –  1. Blasting activities to be carried out under the supervision of a competent person who has been appointed in writing. 2. A method statement to be developed in accordance with all applicable explosives legislation, by an appointed person who is certified as a competent person in the use of explosives. 3. The necessary permits to be in place for the transportation of explosives to be used. 4. Access to the blasting area to be strictly restricted. 5. No smoking or hot work to be allowed close to explosives or the blasting areas. 6. Reasonable steps to be taken to prevent damage to structures in the vicinity of the blasting area. 7. Any other industry required safety measures to be considered and implemented specifically taking the construction site's specific requirements into account including the removal of any surplus explosives off the site.

Description of risk	Risk rating	Potential risk impact	Risk mitigation
Working in confined spaces	High 21	Employees and other persons working in confined spaces with inadequate ventilation or gasses present may cause these employees/persons to die with subsequent claims, costs and/or reputation risks.	<p>The principal contractor to ensure that –</p> <p>All work undertaken in confined spaces to comply with the following:</p> <p><b>1. Ventilation</b></p> <p>The confined space to be opened and allowed to ventilate for at least 15 minutes before entering the manhole. All open manholes to be barricaded and manned at all times.</p> <p>A gas monitor to be lowered to the bottom of the confined space with a rope to test the presence of any toxic/flammable gas. If any gas is detected, the space to be force ventilated by means of a blower for at least 15 minutes where after the air should be tested again. Under no circumstances may any space be entered while there is a toxic/flammable gas present.</p> <p>After the undertaking of the necessary work, the person in charge of the activities to confirm that all the employees are accounted for.</p> <p><b>2. Entering a confined space</b></p> <p>When entering a confined space, the person entering the space to wear a safety harness and fully operational gas detector. A lifeline should be attached to the safety harness and a person on the surface should be in continuous contact with the person in the confined space. At least one person on the surface to be trained in basic first-aid (level 1) with proof of such training as well as a fully equipped first aid box available on site.</p>

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			<p>No person shall remain within a confined space for a period of more than one hour at a time. A minimum of 5-minute rest periods on the surface to be taken after this period before re-entering.</p> <p>Should the alarm sound on the gas monitor, all employees to exit the confined space and the immediate area should also be evacuated immediately. The area to be properly ventilated and re-tested before re-entering the confined space. Professional support should be called for if necessary.</p> <p>Employees to be provided with flameproof lighting when entering a confined space with the possibility of flammable gases. No naked lights, smoking or unprotected electrical apparatus which may cause sparks, shall be permitted in any confined space or in its vicinity.</p> <p><b>3. General</b></p> <p>All employees working in confined spaces to be issued with fully functioning gas monitoring equipment and safety harnesses. All these employees to be trained (including refresher training on a regular and continuous basis) in the use thereof.</p> <p><b>4. Safety equipment</b></p> <p>All teams to be issued with fully functional gas monitoring equipment and safety harnesses where applicable. All employees to be trained (including</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>refresher training on a regular and continuous basis) in the use thereof.</p> <p><b>5. General records</b></p> <p>The following records shall be implemented and maintained by the principal contractor:</p> <ul style="list-style-type: none"> <li>a. Confined space entry permits</li> <li>b. Confined space entry registers</li> <li>c. Safety harness and gas monitoring equipment registers</li> <li>d. Risk assessments</li> <li>e. Incident registers</li> </ul> <p><b>6. Training</b></p> <ul style="list-style-type: none"> <li>a. All employees that have to enter a confined space to be formally trained and confirmed competent before being required to enter such areas (new employees to complete this training and be declared competent before allowed to work in a confined space).</li> <li>b. Refresher courses to be attended by employees at least once every 2 years or immediately if new methodologies or equipment are adopted or acquired.</li> <li>c. Continuous onsite training and support by supervisory staff to be undertaken and enforced where required.</li> </ul>
Working over or next to or close to water or similar substances	Significant 18	Working close to or over water without the necessary risk mitigation (such as life buoys/life jackets/lifelines) may result in	<p>The principal contractor to ensure that –</p> <ul style="list-style-type: none"> <li>1. A competent person to be appointed in writing to supervise, control and inspect any work on or over or</li> </ul>

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		employees and other persons drowning with subsequent claims and costs.	<p>in close proximity of the water as well as the construction, installation, and dismantling of caissons and/or cofferdams and/or other support or safety structures;</p> <ol style="list-style-type: none"> <li>Written proof of the competence of above appointee to be available on site;</li> <li>Risk assessments to be carried out by the competent person before any work is undertaken, mitigation measures documented as well as implemented and thereafter evaluated on a daily basis;</li> <li>The necessary induction and refresher training to be undertaken;</li> <li>Measures for the timeous warning of flooding to be in place;</li> <li>Provision to be made to prevent employees from falling into the water and the rescuing of employees in danger of drowning;</li> <li>Ensure that where an employee is exposed to the risk of drowning by falling into the water, a lifejacket is provided to and worn by the employee; and</li> <li>Provide applicable personal protective equipment such as safety harnesses etcetera and enforce the utilisation thereof.</li> </ol>
Temporary work	High 23	Unsafe temporary work may cause the temporary structures to collapse with subsequent injuries, fatalities and/or even damages to assets with subsequent claims and costs.	<p>The principal contractor to ensure that –</p> <ol style="list-style-type: none"> <li>Temporary work to be carried out under the supervision of the competent person designated in writing.</li> <li>Temporary work structures to be so designed, erected, supported, braced and maintained that they will be able to support any vertical or lateral loads that may be applied.</li> <li>No load to be imposed onto a structure that the structure is not designed to carry.</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ol style="list-style-type: none"> <li>4. Temporary work to be erected in accordance with the structural design drawings for such temporary work and if there is any uncertainty, the designer must be consulted before proceeding with the erection/use of the temporary work.</li> <li>5. All drawings pertaining to the temporary work to be kept and be available on site.</li> <li>6. All equipment used in the erection of temporary work to be checked by a competent person before use.</li> <li>7. The foundation or base upon which the temporary work is erected to be able to bear the weight and keep the structure stable.</li> <li>8. Employees erecting temporary work to be trained in the safe work procedures for the erection, moving and dismantling of the temporary work.</li> <li>9. Safe access and emergency escape to be provided for employees.</li> <li>10. A competent person to inspect the temporary work structures that have been erected before, during and after pouring of concrete or the placing of any other load and thereafter daily until the temporary work is stripped. The dismantling also to be undertaken under the direct supervision of the appointed competent person. The results of all inspections must be recorded in a register kept on the site health and safety file.</li> <li>11. The temporary work to be left in place until the designated competent person has authorised its stripping in writing.</li> <li>12. Any damaged temporary work to be repaired and/or rectified without delay.</li> <li>13. Deck panels to be secured against displacement.</li> <li>14. The slipping of employees and other persons on release agents on deck panels to be prevented at all times.</li> </ol>

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			15. Employees' health to be protected against the use of solvents, oils or other similar substances.
Demolition work	High 21	Demolition undertaken in an unsafe manner could cause the structure being demolished to collapse with subsequent injuries and fatalities with costs and claims. The Inadequate management of demolition debris could also result in injuries and claims.	<p>The principal contractor to ensure that –</p> <ol style="list-style-type: none"> <li>1. Demolition work to be carried out under the supervision of a competent person who has been appointed in writing.</li> <li>2. A detailed structural engineering survey of the structure to be demolished to be carried out and a method statement on the procedure to be followed in demolishing the structure to be developed by a competent person, before any demolition to be commenced.</li> <li>3. As demolishing progresses, the structural integrity of the structure to be checked at intervals as determined in the method statement by the appointed competent person in order to prevent any premature or uncontrolled collapse.</li> <li>4. Steps to be taken to ensure that where a structure is being demolished: <ul style="list-style-type: none"> <li>• no floor, roof or any other part of the structure is overloaded with debris, material or equipment that would make it unsafe;</li> <li>• precautions are taken to prevent the collapse of the structure when any frame, support or reinforcement is cut or removed;</li> <li>• shoring or propping is applied where necessary;</li> <li>• no employee is required or allowed to work under unsupported overhanging material; and</li> <li>• the stability of an adjacent building, structure, road or services is maintained at all times.</li> </ul> </li> <li>5. The location and nature of any existing services such as water, electricity, gas etcetera to be established before any demolition is commenced with and any</li> </ol>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>service that may be affected by the demolition must be protected and made safe for employees and other persons.</p> <p>6. Every stairwell in a building being demolished to be adequately illuminated.</p> <p>7. Convenient and safe means of access to be provided and maintained at all times.</p> <p>8. A catch platform or net to be erected over every entrance to the building or structure being demolished where the likelihood exists of material or debris falling on employees and/or persons entering and leaving and every other area where the likelihood exists of material or debris falling on employees and/or persons must be fenced or barricaded.</p> <p>9. No material to be dropped on the outside of the building unless the area into which it is dropped is fenced off or barricaded.</p> <p>10. Waste and debris only to be disposed from a height in a chute with the following design:</p> <ul style="list-style-type: none"> <li>adequately constructed and rigidly fastened and secured;</li> <li>inclined greater than 45 degrees and enclosed on all four sides;</li> <li>fitted with a gate or control mechanism to control the flow of material that may not freefall down the chute;</li> <li>discharged into a container or a barricaded area; and</li> <li>demolition equipment may only be used on floors or slabs that are able to support it.</li> </ul> <p>11. Asbestos related work to be conducted to the requirements of the Asbestos Regulations promulgated under the OHSACT and in particular Asbestos Regulation 21, i.e.:</p>

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			<ul style="list-style-type: none"> <li>• demolition of asbestos may only be carried out by a registered (with the Department of Labour) asbestos contractor;</li> <li>• all asbestos materials likely to become airborne must be identified; and</li> <li>• a plan of work must be submitted for approval to an Approved Asbestos Inspection Authority (AAIA), whom is approved by the Department of Labour, thirty calendar days prior to commencement of demolishing work unless the plan was drawn up by an AAIA and a signed (by all parties) copy is submitted to the Department of Labour fourteen calendar days before commencement of the demolishing.</li> </ul> <p>12. During demolition work:</p> <ul style="list-style-type: none"> <li>• all asbestos containing material to be disposed of safely, i.e. deposited only at a suitable site and proof of such deposits kept;</li> <li>• employees to be issued with appropriate personal protective equipment and the proper use thereof enforced at all times; and</li> <li>• after the demolition has been completed the area/premises to be thoroughly checked to ensure that all asbestos waste has been removed.</li> </ul> <p>13. No employee to be allowed to:</p> <ul style="list-style-type: none"> <li>• use compressed air or permit the use of compressed air to remove asbestos dust from any surface or employee or person;</li> <li>• smoke, eat, drink or keep food or beverages in an area not specifically designated for this; and</li> <li>• apply asbestos by spraying.</li> </ul> <p>14. Lead related work to be conducted to the requirements of the Lead Regulations promulgated under the OHSACT.</p>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			15. Where demolition work will involve the use of explosives a method statement to be developed by a competent person in accordance with applicable explosives legislation before any explosives are used.
Explosive actuated fastening devices	High 21	The unsafe use of explosive actuated fastening devices could result in injuries and/or fatalities with subsequent costs and claims.	<ol style="list-style-type: none"> <li>The principal contractor not to permit any person to use an explosive actuated fastening device, unless- <ol style="list-style-type: none"> <li>it is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and</li> <li>the firing mechanism is so designed that the Explosive actuated fastening device will not function unless- <ul style="list-style-type: none"> <li>it is held against the surface with a force of at least twice its weight; and</li> <li>the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle:</li> </ul> </li> </ol> <p>provided that the provisions of this requirement will not apply to explosive actuated fastening devices in which the energy of the cartridge is transmitted to the bolts, nails or similar relevant objects by means of an intermediate piston which has a limited distance of travel.</p> </li> <li>The principal contractor to ensure that- <ol style="list-style-type: none"> <li>only cartridges suited for the explosive actuated fastening device and the work to be performed are used;</li> <li>the explosive actuated fastening device is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed and certified as being competent;</li> <li>that the safety devices are confirmed to be in proper working order prior to use;</li> </ol> </li> </ol>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>d. when not in use, the explosive actuated fastening device and the cartridges are locked up in a safe place, which is inaccessible to unauthorised persons and adequate control is exercised over the keys and storage area;</p> <p>e. the explosive actuated fastening device is not stored in a loaded condition;</p> <p>f. a warning notice, or warning notices if more than one entrance is in place at the point where the explosive power tool is utilised, is/are displayed in a conspicuous manner wherever the explosive actuated fastening device is used; and the issuing and collection of cartridges and nails or studs are-</p> <ul style="list-style-type: none"> <li>controlled and done in writing by a competent person having been appointed in writing; and</li> <li>recorded in a register and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges;</li> </ul> <p>3. The principal contractor not to permit or require any person to use an explosive actuated fastening device unless such person has been-</p> <p>a. provided with and uses suitable personal protective equipment; and</p> <p>b. trained in the operation, maintenance safety requirements and use of such tool.</p>
Material hoists	High 21	The use of an unsafe material hoist may cause such hoist to collapse with subsequent injuries, fatalities and/or even damages to assets with subsequent claims and costs.	<p>The principal contractor to:</p> <p>a. Ensure that every material hoist and its tower have been constructed of sound material in accordance with the generally accepted technical standards and are strong enough and free from defects.</p> <p>b. Cause the tower of every material hoist to be-</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>erected on firm foundations and secured to the structure or braced by steel wire guy ropes and to extend to such a distance above the highest landing as to allow a clear and unobstructed space of at least 900 mm for over travel;</li> <li>enclosed on all sides at the bottom, and at all floors where persons are at risk of being struck by moving parts of the hoist, except on the side or sides giving access to the material hoist, with walls or other effective means to a height of at least 2100 mm from the ground or floor level; and</li> <li>provided with a door or gate at least 2100 mm in height at each landing and such door or gate will be kept closed, except when the platform is at rest at such a landing.</li> </ul> <p>c. Cause-</p> <ul style="list-style-type: none"> <li>the platform of every material hoist to be designed in such a manner that it will safely contain the loads being conveyed and that the combined weight of the platform and the load does not exceed the designed lifting capacity of the hoist;</li> <li>the hoisting rope of every material hoist which has a remote winch to be effectively protected from damage by any external cause to the portion of the hoisting rope between the winch and the tower of the hoist; and</li> <li>every material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when the power is not being supplied to the hoisting machinery.</li> </ul> <p>d. Not convey barrows or material unless such articles are so secured or contained in such a manner that displacement thereof cannot take place during movement.</p>

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			<ul style="list-style-type: none"> <li>e. Cause a notice, indicating the maximum mass load which may be carried at any one time and the prohibition of persons from riding on the platform of the material hoist, to be affixed around the base of the tower and at each landing.</li> <li>f. Not require or permit any person to operate a hoist, unless the person is competent in the operation thereof.</li> <li>g. Not require or permit any person to ride on a material hoist.</li> <li>h. Cause every material hoist to be inspected on a daily basis by a competent person who has been appointed in writing and has the experience pertaining to the erection and maintenance of material hoists or similar machinery. This inspection shall include the determination of the serviceability of the entire material hoist including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices. The inspection results shall be entered and signed in a record book, which will be kept on the premises for that purpose and which would become part of the health and safety file at the end of the contract; and</li> <li>i. Cause every material hoist to be properly maintained and ensure that the maintenance records in this regard are kept on site which should also become part of the health and safety file at the end of the contract.</li> </ul>
Welding and flame cutting	Medium 12	The unsafe use of welding and flame cutting equipment could result in employees and other persons suffering from burns or even result in fires that could cause injuries and fatalities as well as damage to property with subsequent claims and costs.	<p>The principal contractor to ensure that –</p> <ul style="list-style-type: none"> <li>1. A competent person to be appointed to supervise welding, flame cutting or similar operations on site.</li> <li>2. The following rules to govern all welding and flame cutting or similar operations:</li> </ul>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>a. The welder will be trained regarding the safe use/operation of the equipment.</li> <li>b. The welder and his assistant will be provided with effective and appropriate personal protective equipment and/or clothing.</li> <li>c. Cables and electrode holders will be effectively insulated.</li> <li>d. The workplace will be effectively screened off to prevent bystanders from being affected by the welding rays or they will be provided with personal protective equipment.</li> <li>e. Special precautions will be taken where welding is undertaken in confined spaces e.g. proper and sufficient ventilation will be provided.</li> <li>f. In wet or damp conditions, the welding equipment and the welder will be properly insulated and someone will be on standby to assist in the event of any emergency.</li> <li>g. A qualified person will certify in writing that it is safe to enter and work in a specific confined space before welding or flame cutting is undertaken.</li> <li>h. No welding, flame cutting, grinding, soldering or similar work shall be undertaken in respect of any drum, vessels or similar object or container where such object or container- <ul style="list-style-type: none"> <li>• is completely closed, unless the rise in internal pressure cannot render it dangerous; or</li> <li>• contains any substance which, under the action of heat may explode or react to form dangerous or poisonous substances.</li> </ul> </li> <li>i. Where pressure vessels/welding cylinders containing oxygen or acetylene are transported</li> </ul>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>or used, the proper precautionary measures will be taken against bumping, falling, rolling etcetera.</p> <ul style="list-style-type: none"> <li>j. Gas welding hoses may only be joined with approved connectors and clamps.</li> <li>k. No oil or grease may be applied to oxygen valves and fittings.</li> <li>l. It is a sound practice to store pressure vessels and/or welding cylinders vertically and to secure them by means of a chain.</li> <li>m. Acetylene cylinders may never be inclined in excess of 45°.</li> <li>n. Proper and adequate fire prevention measures will be instituted and maintained for as long as the welding continues.</li> <li>o. Where explosive and/or flammable vapours are present welding will only be done under "hot work" permits.</li> </ul>
Transportation of employees	High 21	The unsafe transportation of employees could result in injuries and/or fatalities with subsequent costs and claims.	<p>The principal contractor to ensure that –</p> <ol style="list-style-type: none"> <li>1. Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.</li> <li>2. Regulation 247 of the National Road Traffic Act, Number 93 of 1996 (NRTA) stipulates that the principal contractor shall not allow employees to be transported in a vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of – <ul style="list-style-type: none"> <li>a. at least 350 mm above the surface on which employees are seated; or</li> <li>b. at least 900 mm above the surface on which employees are standing,</li> </ul> </li> </ol>

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			<p>in a manner and with a material of sufficient strength to prevent employees from falling from such vehicle when it is in motion.</p> <p>3. Regulation 247 of the NRTA also stipulates that the principal contractor shall also not allow any employees to be conveyed in the goods compartment of a vehicle together with any tools or goods, except their personal effects, unless that portion in which the employees are being conveyed is separated by means of a partition, from the portion in which such goods are being conveyed.</p>
Working under or close to overhead power lines	High 21	Unsafe working under or close to overhead power lines could result in accidental contact or an arch and employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset damage with subsequent costs and reputation risks.	<p>The principal contractor to ensure that the following requirements are duly considered and adhere to:</p> <p><b>1. Passing underneath overhead lines to access the site</b></p> <p>Some of the access roads to the site cross under existing power lines. To ensure that vehicles traveling to and from the site do not damage these lines and to reduce the risk of accidental contact the principal contractor should erect ground-level barriers to establish a safety zone to keep employees, other persons as well as construction vehicles and plant away from the wires. These barriers should be constructed out of large steel drums filled with rubble, concrete blocks, wire fence earthed at both ends, or earth banks marked with posts.</p> <p>a. If steel drums are used, they should be highlight by painting them with red and white horizontal stripes.</p> <p>b. If a wire fence is used, put red and white flags on the fence wire posts.</p>

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			<p>c. Make sure the barriers can be seen at night, by using white or fluorescent paint or attaching reflective strips.</p> <p>The principal contractor to –</p> <p>a. keep the number of passageways to a minimum;</p> <p>b. define the route of the passageway using fences and erect goalposts at each end to act as gateways using a rigid, non-conducting material, for example timber or plastic pipe, for the goalposts, highlighted with, for example, red and white stripes. If the passageway is too wide to be spanned by a rigid non-conducting goalpost, the principal contractor has to use tensioned steel wire, earthed at each end, or plastic ropes with bunting attached. These should be positioned further away from the overhead line to prevent them being stretched and the safety clearances being reduced by plant moving towards the line;</p> <p>c. ensure the surface of the passageway is levelled, firmed-up and well maintained to prevent undue tilting or bouncing of the vehicles and/or equipment;</p> <p>d. put warning notices at either side of the passageway, on or near the goalposts and on approaches to the crossing giving the crossbar clearance height and instructing drivers to lower booms, tipper bodies etcetera and to keep below this height while crossing;</p> <p>e. illuminate the notices and crossbar at night, or in poor weather conditions, to make sure they are visible;</p> <p>f. enforce strict speed control measures; and</p>

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			<p>g. make sure that the barriers and goalposts are maintained.</p> <p><b>2. Working underneath overhead lines</b></p> <p>a. The principal contractor to confirm with the local authority or if applicable Eskom what the standard is for working close to and under these overhead lines.</p> <p>b. A risk assessment to be undertaken taking into account any situations that could lead to danger from the overhead wires, for example, consider whether someone may need to stand on top of a machine or scaffold platform and lift a long item above their head, or if the combined height of a load on a low truck breaches the safe clearance distance. If this type of situation could exist, applicable precautionary measures have to be taken.</p> <p>c. Where there is a risk of contact from, for example, the upward movement of cranes or tipper trucks or employees carrying tools and equipment, the principal contractor to carefully assess the risks and precautionary measures.</p> <p>d. Vehicles, plant, machinery, equipment, or materials that could reach beyond the safe clearance distance not to be taken near the line.</p> <p>e. Under no circumstances may any part of plant or equipment such as ladders, poles and hand tools be able to be utilised within the danger zone or make contact with the lines.</p> <p>f. The principal contractor to allow for uncertainty in measuring the distances and for the possibility of</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>unexpected movement of the equipment due, for example, to wind conditions.</p> <ul style="list-style-type: none"> <li>g. Long objects to be carried horizontally and close to the ground and vehicles positioned so that no part can reach into the danger zone, even when fully extended.</li> <li>h. Construction vehicles and plant working underneath overhead lines such as cranes, excavators and tele-handlers to be modified by the suppliers with the addition of suitable physical restraints so that they cannot reach beyond the safe clearance distances, measures should be put in place to ensure these restraints are effective and cannot be altered or tampered with.</li> <li>i. Operators of high machinery to be instructed not carry out any work on top of the machinery near overhead power lines.</li> <li>j. Make sure that employees, including any sub-contractors, understand the risks and are provided with instructions about the risk prevention measures.</li> <li>k. Arrange for the work to be directly supervised by a competent person at all times who is familiar with the risks and can make sure that the required safety precautions are observed.</li> </ul> <p><b>3. Emergency procedures</b></p> <p>If someone or something comes into contact with an overhead line, it is important that everyone involved knows what action to take to reduce the risk of anyone sustaining an electric shock or burn injuries. Key points include –</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>a. Never touch the overhead line's wires.</li> <li>b. Always assume that the wires are live, even if they are not arcing or sparking, or if they otherwise appear to be dead. Even if lines are dead, they may be switched back on either automatically after a few seconds or remotely after a few minutes or even hours if the line's owner is not aware that their line has been damaged.</li> <li>c. In the event of accidental contact call the emergency services. Give them the location of the incident, tell them what has happened and that electricity wires are involved.</li> <li>d. Should any employee or other person come in contact with, or close to, a damaged wire, he must away as quickly as possible and stay away until the line's owner advises that the situation has been made safe.</li> <li>e. In the event of a vehicle touching a wire, the driver and occupants should either stay in the vehicle or, should the need to get out, jump out of it as far as you can. Never touch the vehicle while standing on the ground. Do not return to the vehicle until it has been confirmed that it is safe to do so.</li> <li>f. All employees and other persons should be aware that if a live wire is touching the ground the area around it may be live. A safe distance from the wire or anything else it may be touching should therefore be maintained.</li> <li>g. Only duly competent and authorised persons may work on electrical wires and installations.</li> </ul>
Tower cranes	High 21	The use of tower cranes in an unsafe manner could result in loads being lifted	The principal contractor to ensure that the following requirements are duly considered and adhere to:

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		to fail and fall with subsequent injuries or even fatalities as well as asset damages that will result in claims and reputation risks.	<ul style="list-style-type: none"> <li>a. Account to be taken of the effects of wind force on the structure;</li> <li>b. Account to be taken of the bearing capacity of the ground on which the tower crane is to be erected;</li> <li>c. The bases for the tower crane and tracks for rail mounted tower cranes to be firm and level;</li> <li>d. All cranes to be erected at a safe distance from excavations;</li> <li>e. Clear space to be provided and maintained for erection, operation, maintenance and dismantling;</li> <li>f. Tower crane operators to be competent to carry out the work safely; and</li> <li>g. Tower crane operators to be in possession of a valid medical certificate testifying that the holder is physically and psychologically fit to work on a tower crane.</li> </ul> <p>All lifting operations where the lift will exceed 2000 kg to be planned by a competent person and the plan submitted to the Ekurhuleni East TVET College for approval and permission to carry out the lift.</p>
Exposure to poisonous animals or insects	Significant 18	Interaction with poisonous animals or insects could result in injuries or even fatalities.	<p>The principal contractor to ensure that the following are duly adhered to:</p> <ul style="list-style-type: none"> <li>a. the emergency procedure to be expanded to provide for the effective treatment of employees or other persons visiting exposed to bites or stings from poisonous animals and insects, i.e. the contact details of the nearest medical unit that could treat employees exposed to bites or stings be obtained and arrangements be made with this service provider on the procedures to be followed to ensure swift response when required;</li> </ul>

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			<ul style="list-style-type: none"> <li>b. confirmation to be obtained from this medical unit that they have anti venom reserved to treat employees or other persons visiting that may be exposed to snake bites or scorpion stings;</li> <li>c. competent first aiders to be available to facilitate the treatment of employees or other persons visiting exposed to stings or bites; and</li> <li>d. the potential exposure posed by poisonous animals or insects and awareness thereof to be discussed with all employees as part of the toolbox talks and general awareness training and other persons visiting as part of the pre-site visit induction process.</li> </ul>
Working in inclement weather	High 21	Inclement weather conditions encountered during construction work could result in injuries or even fatalities and/or even damages to assets with subsequent claims and costs.	<p>The principal contractor to implement an early warning system to identify inclement weather and to prevent such weather from posing negative implications on the safety of employees and other persons visiting.</p> <p>The early warning system to, as a minimum. provide for the following:</p> <p><b>1. Construction work done during electrical storms</b></p> <ul style="list-style-type: none"> <li>a. The principal contractor to ensure that all employees are removed from heights and all employees are as safe as possible, in inclement weather conditions.</li> <li>b. No work to be allowed on the construction site during electric storms where employees cannot be protected from it. Protection involves: <ul style="list-style-type: none"> <li>• eating area fitted with a lightning mast</li> <li>• workshops</li> <li>• inside buildings</li> </ul> </li> <li>c. No work to be allowed in electrical storms on top of open structural steel, even when earthed.</li> </ul>

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			<p>d. No work to be allowed on height where the lightning is within a 10 kilometre radius.</p> <p>e. After inclement weather on-site risk assessments to be reviewed to include wet conditions.</p> <p><b>2. Crane operations during inclement weather</b></p> <p>a. Crane operations to stop during lightning within a 10 kilometre radius and wind above 30 km/h, crane driver will not be allowed to leave the crane with the booms extended.</p> <p>b. Lifting operation to stop during rain, rigging and hand lifts.</p> <p>c. Booms on all cranes to be retracted.</p> <p>d. All rigging operations to stop and employees will be removed from site.</p> <p>or</p> <p><b>2. Lifting equipment operations during inclement weather</b></p> <p>a. Lifting operations will stop during lightning within a 10 kilometre radius and wind above 30 km/h, and the lifting equipment operator will not be allowed to leave the lifting equipment with the booms extended.</p> <p>b. Lifting operations will stop during rain, rigging and hand lifts.</p> <p>c. Booms on all lifting equipment will be retracted.</p> <p>d. All rigging operations will stop and employees will be removed from site.</p>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation																		
			<p><b>3. Construction work done during rain</b></p> <p>a. During rainy conditions all work on steel structures to stop.</p> <p>b. No electrical tools to be used during rainy weather in open areas.</p> <p>c. If necessary, work only to be done in water proof areas where there is a zero risk for electrocution.</p> <p>d. Areas to be cleared for work during rain:</p> <ul style="list-style-type: none"><li>workshops</li><li>offices</li><li>work on ground level with the provision that the area is maintained in a safe dry condition</li></ul> <p><b>4. Scaffolding activities during inclement weather conditions</b></p> <p>During inclement weather only limited scaffolding actions to be permitted i.e. erecting and dismantling activities.</p> <p>Guidelines for safe choices:</p> <table><tr><th>Weather type</th><th>Building and dismantling of scaffolding</th></tr><tr><td>Lightning</td><td>Stop all activities</td></tr><tr><td>Light rain</td><td>Stop all activities</td></tr><tr><td>Heavy rain</td><td>Stop all activities</td></tr><tr><td>Wind &lt;28 km/h</td><td>Full use</td></tr><tr><td>Wind &gt;30 km/h</td><td>Stop all activities</td></tr><tr><td>Light mist</td><td>Full use</td></tr><tr><td>Heavy mist</td><td>Full use</td></tr><tr><td>Hail</td><td>Stop all activities</td></tr></table>	Weather type	Building and dismantling of scaffolding	Lightning	Stop all activities	Light rain	Stop all activities	Heavy rain	Stop all activities	Wind <28 km/h	Full use	Wind >30 km/h	Stop all activities	Light mist	Full use	Heavy mist	Full use	Hail	Stop all activities
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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>When absolutely necessary to allow scaffolding activities to continue during abnormal equipment and process conditions so not to impair personnel safety or pose an environmental risk. In such cases, scaffolding activities may continue with the provision that the relevant team ensures that a comprehensive risk assessment is done, whilst considering both work and weather conditions.</p> <p>All scaffold users to:</p> <ol style="list-style-type: none"> <li>Ensure that scaffolding is inspected immediately after inclement weather conditions.</li> <li>Ensure that the risks associated with working at heights during inclement weather are identified and reasonably mitigated.</li> <li>Be cautious of slip/trip hazards when performing activities during inclement weather.</li> <li>Take note of the weather when completing the daily safe task instructions on site, where applicable.</li> </ol> <p><b>5. Driving in inclement weather</b></p> <p>The principal contractor to ensure that the danger of driving in wet conditions is adequately covered in a risk assessment.</p> <p>The risk assessment to include, but not limited to:</p> <ol style="list-style-type: none"> <li>route planning</li> <li>speed reduction</li> <li>planning for emergency situations</li> <li>driving precautions for slippery surfaces</li> <li>visibility hazards</li> </ol>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
Pressure equipment	Significant 15	Incorrect or unsafe pressure equipment or pressure equipment utilised in an unsafe manner could result in incidents with subsequent injuries or even fatalities as well as asset damage with subsequent costs and reputation risks.	<p>The principal contractor to ensure that:</p> <ul style="list-style-type: none"> <li>a. any pressure equipment in use to be subjected to a formal inspection and pressure test by an approved inspection authority before commissioning, after installation, re-erection or repairs (i.e. Pressure Equipment Regulation 11 has reference). Once installed, similar inspections and pressure tests are required every 36 months.</li> <li>b. formal registers by an approved inspection authority to be duly maintained (with copies readily available in the occupational health and safety file) to proof that any pressure equipment in use was subjected to the necessary inspections and pressure tests.</li> <li>c. pressure equipment (such as compressors) to be provided with all appropriate safety accessories required to ensure that it is safe for use (i.e. Pressure Equipment Regulations 10(1) has reference). This include but are not limited to safety latches to secure the pressure hoses to the compressor's outlet valves as well as the pressure driven equipment at the other end of the hoses to prevent these pressure hoses from causing serious injuries to employees should their securing mechanisms fails and they become loose whilst under pressure.</li> <li>d. should gas fuel be utilised, either on site or as part of the construction process, no person be allowed to install a fixed appliance, equipment or system for gas fuel unless such person is a holder of a certificate of registration (i.e. Pressure Equipment Regulation 17(3) has reference).</li> </ul>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
Occupational health	High 24	Exposing employees to occupational health risks could result in occupational diseases with subsequent absenteeism and cost. In the case of Covid-19 the site will be closed and all construction work ceased.	<p>The principal contractor to ensure that –</p> <ol style="list-style-type: none"> <li>the work area and surrounding site, which is part of the operational area, are at all times maintained to a reasonably practicable level of hygiene and cleanliness; and</li> <li>all areas, where work is performed, are kept neat, clean and orderly without any unnecessary waste.</li> </ol> <p><b>1. Risk assessment</b></p> <p>The principal contractor to undertake a risk assessment to identify the potential health hazards that employees and other affected persons are or may be exposed to during the construction process and also identify the appropriate risk mitigation measures to be taken and maintained to ensure the health of employees and affected persons.</p> <p><b>2. Health hazards</b></p> <p>The principal contractor to ensure that appropriate measures are put in place to prevent exposure to health hazards such as viruses, the accidental inhalation, ingestion, and absorption of any hazardous substance, high noise level exposure etcetera.</p> <p><b>3. Medical surveillance</b></p> <p>The principal contractor to provide for the management of an employee medical surveillance program that will ensure the following:</p> <ol style="list-style-type: none"> <li>All employees on site undergo routine medical examinations specific to the work to be</li> </ol>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>performed taking into account the hazard and risk exposures. This must address pre-employment examination, periodic examination as required, and exit examinations.</p> <ul style="list-style-type: none"> <li>b. Where medical examinations are governed by legislation, the principal contractor shall ensure the legislative requirements are complied with by all employees.</li> <li>c. All the employees performing work on site are declared medically fit for the work they are to perform.</li> <li>d. Employees are notified confidentially by the construction health and safety officer or other appropriate delegated person of the results and interpretation of their medical examinations on any abnormal findings, health conditions, referrals or recommendations made as well as any restrictions that may become evident from medical examinations.</li> <li>e. Maintain written confirmation/proof of the consultation, notification and communication with the employee, provided that, the required proof does not contain any confidential, sensitive, highly personal or information which might place the employee in an uncomfortable or disconcerting state or situation when such information is known by others.</li> <li>f. In the event of referrals or recommendations for additional testing or consultation with health specialists, proof of action taken by the principal contractor should be maintained. Action taken could be a scheduled</li> </ul>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>appointment with a specialist, an appointment for the additional testing etcetera.</p> <p>g. Copies of valid medical certificates of fitness are available in the occupational health and safety file. The requirements above are founded on a duty of care towards employees to ensure employees are made aware of any health conditions or health restrictions which may have resulted from or may be aggravated by work activities on site or associated areas. The consultation, notification and communication with the employee should, with the employees' written consent, be made available upon request for verification by Ekurhuleni East TVET College, regulatory authority or their representatives.</p> <p><b>4. COVID-19</b></p> <p>As a result of the current COVID-19 pandemic and subsequent exposure, the principal contractor to develop a COVID-ready Workplace Plan addressing among others the following:</p> <p>a. Appointment of a COVID-19 Compliance Officer.</p> <p>b. The date the construction site will open.</p> <p>c. The hours the site it will be open.</p> <p>d. A timetable setting out the phased return of employees to enable appropriate measures to be taken to avoid and reduce the spread of the virus.</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<ul style="list-style-type: none"> <li>e. List of employees who can work from home, employees who are 60 years or older and those with comorbidities.</li> <li>f. Detailed procedure adopted to reduce the risk of infection or transfer to employees or affected persons. The procedure should among others provide for –               <ul style="list-style-type: none"> <li>1. An employee and visitor disclosure questionnaire.</li> <li>2. Staggering of entrance/exit.</li> <li>3. Access control.</li> <li>4. Thermal testing, i.e. who will be undertaking the testing, maximum thermal limit allowed as well as frequency of testing.</li> <li>5. Recordkeeping of entering and exiting the site as well as safe keeping of these records.</li> <li>6. Response when an infected person is identified.</li> <li>7. Isolation area to be provided and maintained on site to ensure that any person presenting symptoms could be isolated pending the undertaking of a second thermal test and/or whilst arrangements are made to transport the person to a facility for self-isolation, or for medical examination or testing</li> <li>8. Return to work protocols, i.e. who will evaluate and what medical information to be submitted when an employee wants to return to work.</li> <li>9. All employees, visitors, suppliers and sub-contractors be duly inducted as</li> </ul> </li> </ul>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>well as regularly informed to understand the severity, relevant information as well as control measures to comply with requirements.</p> <ol style="list-style-type: none"> <li>10. Ways to be adopted to minimise the number of employees on site.</li> <li>11. Measures taken to minimise contact between employees as well as employees and other persons.</li> <li>12. Social distancing – how will that be implemented and maintained. If not practicable physical barriers to be placed between work stations.</li> <li>13. Operational plant and construction vehicle sanitising and frequency.</li> <li>14. Sanitising of ablution facilities and eating areas.</li> <li>15. Sanitising of tools and shared equipment as well as work areas in general.</li> <li>16. Ventilation inside confined spaces such as offices.</li> <li>17. Raise awareness among construction workers of the risk of infection, promote early diagnosis and assist affected persons.</li> <li>18. Display suitable awareness posters at all applicable areas such as high-traffic areas as well as replacement to ensure relevancy.</li> <li>19. Provide and display information regarding counselling, support and care for those that are affected.</li> </ol>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>20. Identify, provide and maintain the required personal protective equipment based on a relevant risk assessment, including the correct use, removing and replacement as well as disposal.</p> <p>21. Encourage employees to report and undergo COVID-19 testing should they encounter any applicable symptoms.</p> <p>22. Establish methods of identifying persons who may be at risk, and support them without attracting stigma and discrimination. This could include employees who have recently travelled to a high area, or who have conditions that put them at higher risk of serious illness (e.g. diabetes, HIV/AIDS, tuberculosis, heart and lung disease).</p> <p>23. Management of medical surveillance.</p> <p>24. Management of COVID-19 waste, i.e. used masks, gloves etcetera, as this is regarded as infected or when applicable hazardous waste and as such waste bins with lids and labelled as hazardous waste as well as sealed bags to be provided.</p> <p>25. The procedure adopted to resolve any issue that may arise from the exercise by an employee of the right to refuse to work.</p> <p>g. Reporting of any incidents to the Project Manager and Ekurhuleni East TVET College.</p> <p>h. Development of project specific business continuity plan.</p>

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Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p><b>5. COVID-19 statutory reporting and administrative measures</b></p> <p>a. The principal contractor to report the following to the National Institute of Occupational Health -</p> <ol style="list-style-type: none"> <li>1. the data of every employee who may be vulnerability to serious outcomes in case of COVID-19 infection on a once-off basis;</li> <li>2. the details of employees testing positive for the COVID-19 virus before Tuesday for the previous calendar week commencing on the Sunday (guideline requirements); and</li> <li>3. the details of post-infection outcomes of those who have tested positive, weekly before Tuesday until the employee returns to work.</li> </ol> <p>b. If the principal contractor employs more than 50 employees, it will submit a record of its COVID-19 risk assessment together with a written policy concerning the protection of the health and safety of its employees from COVID-19 to the Department of Employment and Labour.</p> <p><b>6. Smoking</b></p> <p>The principal contractor to ensure that a smoking policy is developed and maintained for the project providing among others for -</p>

Description of risk	Risk rating	Potential risk impact	Risk mitigation
			<p>a. no person to be allowed to smoke on site, other than in demarcated smoking areas.</p> <p>b. The establishment and maintenance of designated smoking areas in terms of the Tobacco Product Control Act (No. 83 of 1993) as amended and the National Health Act (No. 61 of 2003) as amended.</p> <p>c. The following signage to also be displayed at the designated smoking areas:</p> <ol style="list-style-type: none"> <li>1. "Smoking of tobacco products is harmful to your health and to the health of children, pregnant or breastfeeding women and non-smokers. For help to quit phone (011) 720 3145."</li> <li>2. "Any person who fails to comply with this notice shall be prosecuted and may be liable to a fine."</li> </ol> <p><b>Note:</b></p> <p>Due to the ongoing changes of the COVID-19 Regulations it remains the responsibility of the principal and other contractors to adapt the Workplace Plans as and when required.</p>

**Risk areas arising from the activities outlined above that the principal contractor's operational risk assessments to be undertaken in terms of Construction Regulation 9(1) should cover**

- Aggregate/Sand Delivery
- Arc welding
- Blasting
- Brickwork
- Construction vehicles, plant and equipment as well as operators

- f. Compressed gas cylinders-handling
- g. Compressors – Air
- h. COVID-19
- i. Cutting of pipes
- j. Demolition
- k. Directional drilling
- l. Distribution boards – electrical installation, maintenance, lock-out, lights, power lines, equipment, tools, etcetera
- m. Drivers – of vehicles
- n. Eating and ablution facilities
- o. Emergencies that the project are exposed to (such as health, safety, environmental, third party or community related actions etcetera)
- p. Excavation work
- q. Explosive fastening devices
- r. Exposure to poisonous animals or insects
- s. Fire prevention and protection
- t. First aid
- u. Flammable including storage and fire risks
- v. Fuel supply
- w. Gas welding-cutting operations
- x. Hand tools
- y. Hazardous chemical agents
- z. Hoists
- aa. Housekeeping
- bb. Kerb laying
- cc. Landscaping
- dd. Laying of pipes
- ee. Laying of storm water drains
- ff. Levelling – of materials
- gg. Lifting equipment as well as tackle
- hh. Loading supervisor
- ii. Loading/unloading - of trucks
- jj. Machine operator
- kk. Making of steel items
- ll. Manholes – Laying of precast section

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mm.	Material delivery
nn.	Material handling
oo.	Mixer operator
pp.	Notices and signs
qq.	Occupational health (including COVID-19)
rr.	Personal protective equipment
ss.	Pipe-jacking
tt.	Placing concrete
uu.	Plastering
vv.	Portable ladders
ww.	Pressure equipment
xx.	Public health and safety
yy.	Refuelling vehicles/plant
zz.	Scaffolding
aaa.	Site establishment
bbb.	Security
ccc.	Stacking and storage
ddd.	Structures
eee.	Temporary works
fff.	Tower and other cranes
ggg.	Traffic control
hhh.	Transport of employees
iii.	Trenches – Digging of
jjj.	Use of portable electrical tools
kkk.	Work in confined spaces
lll.	Work in fall risk positions
mmm.	Working close to existing services i.e. electrical, waste water etc.
nnn.	Working close to traffic
ooo.	Working close to water
ppp.	Working in inclement weather



Please note some photographs of the site as well as surrounding areas



Existing Stadium and Stand



Existing services



Unsure what these area are with wooden stakes and bricks around them



Rocky outcrops – Wellness centre



Rocky outcrops – Wellness Centre



View of location between media centre and wellness centre



View of location of Wellness Centre

**Sign-off by Professional Construction Health and Safety Agent**

This serves as confirmation that I, Karl Bailey, have developed this baseline risk assessment in terms of Construction Regulation 5(1)(a) and that the results were duly taken into consideration during the development of the project specific occupational health and safety specification developed in terms of Construction Regulation 5(1)(b).

Signed on this 09<sup>th</sup> day of August 2021.



Karl Bailey Pr CHSA  
CHSA/022/2015



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E & OE

Version 1.1

Aug 2021