















































Project		CONSTRUCTION OF NEW MARITIME SCHOOL OF EXCELLENCE, UMLAZI DISTRICT IN KWAZULU-NATAL FOR THE DEPARTMENT OF EDUCATION		Evaluator Name		Thulani Bukhosini		<div>  </div> <div> 3006-S34-BRA-0001-00 </div>																																											
Compiled By		Client Team		Signature																																															
Date of Assessment		11 November 2021		Responsible Manager																																															
		Signature						<div> BASELINE RISK ASSESSMENT </div> <div> Annexure B </div>																																											
PROBABILITY INDEX	5	Almost certain to inevitable	SEVERITY INDEX INJURY/DISEASE (I)	5	Fatal	SEVERITY INDEX PRODUCTION (P)	5	No production	SEVERITY INDEX ENVIRONMENT (E)	5	Permanent effects	SEVERITY INDEX COST (C)	5	> R500 000	FREQUENCY INDEX	5	Hazard permanently present	PROBABILITY VALUE X SEVERITY VALUE X FREQUENCY VALUE /125 = TOTAL SCORE (%)																																	
	4	Probable		4	Permanent to Slight Disability		4	Long term 2 years		4	R100 000 - R499 999		4	Hazard arises every week																																					
	3	Improbable		3	14 Days with complete recovery		3	Med - 6 months to 1 year		3	R10 000 - R99 999		3	Hazard arises every month																																					
	2	Less than even chance		2	Medical attention 14 Days with complete recovery		2	Short term - 1 day to 6 months		2	R1 000 - R9 999		2	Hazard arises every year																																					
	1	High improbable		1	First aid only		1	Insignificant effect		1	R0 - R999		1	Hazard arises every 5 years																																					
<div> Risk Value </div> <table border="1"> <tr> <td>A</td> <td>80 - 100%</td> <td>Very High Risk</td> </tr> <tr> <td>B</td> <td>60 - 79 %</td> <td>High Risk</td> </tr> <tr> <td>C</td> <td>40 - 59%</td> <td>Medium Risk</td> </tr> <tr> <td>D</td> <td>20 - 39%</td> <td>Lower Risk</td> </tr> <tr> <td>E</td> <td>0 - 19%</td> <td>Low Risk</td> </tr> </table>																		A	80 - 100%	Very High Risk	B	60 - 79 %	High Risk	C	40 - 59%	Medium Risk	D	20 - 39%	Lower Risk	E	0 - 19%	Low Risk																			
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<div> PPE Requirement & Safety Signs </div> <table border="1"> <tr> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> <td>F</td> <td>G</td> <td>H</td> <td>I</td> <td>J</td> <td>K</td> <td>L</td> <td>M</td> <td>N</td> <td>O</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O																			
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Item	Task / General Activities		Hazard Identified		Risks i.r.t the hazard		Severity Index								PPE	Signs	Corrective Action	Responsible Person & Time Frame																																	
							I	P	E	C	Tot	Assess. Count	5 Points Each	Formula = points * 5	Probability Index	Frequency Index	Risk Score	Risk Value																																	
1	Site establishment The project scope primarily includes the repairs and renovations to: • Construct all new piling, ground beams and floor slabs & suspended floor slabs & beams and columns by engineer.		1. Crime/theft 2. Traffic congestion 3. Movement of vehicles and Plant 4. Improper electric installation 5. Use of damaged portable electrical tools and hand tools 6. Dust 7. Clearing of ground / Earthworks with Mobile Plant(leveling) 8. Social / Community Disruption 9. Contractors / Service Providers working on site without being approved by Client or client representative 10. Truck Crane Operations 11. Working at height 12. Labour unrest and community issues casing strikes . 13. Environmental hazards		1. Health & safety (I) 4 2. Cost (C) 4 3. Productivity (P) 3 4. Environment (E) 2		<table border="1"> <tr> <td>4</td> <td>1</td> <td>5</td> <td>125</td> <td>5</td> <td>5</td> <td>100</td> <td>80%</td> </tr> <tr> <td>4</td> <td>1</td> <td>5</td> <td>125</td> <td>5</td> <td>5</td> <td>100</td> <td>80%</td> </tr> <tr> <td>3</td> <td>1</td> <td>5</td> <td>125</td> <td>5</td> <td>5</td> <td>75</td> <td>60%</td> </tr> <tr> <td>2</td> <td>1</td> <td>5</td> <td>125</td> <td>5</td> <td>5</td> <td>50</td> <td>40%</td> </tr> </table>								4	1	5	125	5	5	100	80%	4	1	5	125	5	5	100	80%	3	1	5	125	5	5	75	60%	2	1	5	125	5	5	50	40%	Mandatory or as per requirement		Site Specific Construction Sign at site entrance	1. Appoint competent security service provider that have competent resources to guard and monitor the site. 2. Appointed spotter (flagperson) to be in position wearing reflective vest and whistle to assist Truck driver or Plant operator with movement on site. 3. Clear all bystanders away from operations - Barricade area and post warning signage - Only Authorised workers/persons to enter construction area 4. Appointed competent Banksman (Rigger) to oversee all lifting operations • Pre-lift checks to be done on lifting material, and recorded on a Checklist, any deviations must be recorded and reported to Construction manager. • Slings and chain blocks to be checked prior lifting operations and to have valid load test certificate. Lifting truck to also be in possession of a load test certificate and driver to be appointed in writing with valid competency. 5. All electrical installations to be conducted by a competent appointed person and COC's to be obtained when necessary. 6. Power tools to be inspected by a competent person, pre-check inspections to be conducted, power tools to be recorded on inspection register 7. Social facilitators to ensure community are aware of Construction work before Site establishment. 8. Only Competent appointed Contractors or Service Providers will be authorised to work on the site. 9. Dust Control measures to be implemented continuously at the site laydown area, watering the areas and roads on site. 10. All operators must be appointed to operate and inspect the specific plant he is competent in operating, Medical fitness and competencies for operators must be valid and available on site. 11. Site Establishment Risk Assessment and Safe working Procedure / Method Statement to be communicated to all workers for all task/activities including service providers, example security service provider. 12. Fall protection planner must prepare fall protection plan and comply to all Construction 10 Regulations. 13. Construction Manager must consult with Community liason, project steering committee and DBSA Social facilitator regarding managing stake holders and interested parties in the project. 14. Prepare environmental plan, consider danderesof thunder/lightning, protect plants, animals, social and manage waste in accordance with environmental Management Act, NEMA and Municipal by laws	Principal Contractor
4	1	5	125	5	5	100	80%																																												
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3	1	5	125	5	5	75	60%																																												
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Manual Loading and Offloading - Manual Handling (Ergonomics)	1.Improper manual loading and off loading procedure 2. Nip & Pinch Points 3. Poor Communication 4. Slipping & Tripping Hazards 5. Employee handling materials / equipment that is too heavy to lift 6. Materials / equipment or tools falling	3. Productivity (P)	2	2	1	5	125	5	5	50	40%	Mandatory or as per requirement	Signage Posted at Design: Storage Areas	(nie) 2. Workers assisting each other to lift must communicate with each other to ensure safe lifting and lowering of items. 3. Before offloading or handling any materials, equipment or tools, ensure walkways are clear and free from tripping hazards. 4. Workers to assist each other if intended load to be lifted exceeds 25kg (per person). 5. Workers / Supervisors to ensure materials, equipment and tools are secure when offloading. 6. When manual lifting the correct procedure must be used, workers to lift loads using their legs and not their back.	Principal Contractor
		4. Environment (E)	1	1	1	5	125	5	5	25	20%				
		Total Average Risk Value													

3	Lifting Operations - (includes truck crane, mobile crane, Lifting Machinery as per DMR 18(11) (Lifting / offloading of Prefabricated panels for Mobile Units)	1. Incompetent Operator 2. Unsafe Lifting Machine (Substandard) 3. Man - Machine interface 4. Defecting Lifting equipment(slings, chains, ropes etc) 5. Incorrect lifting equipment used for specific operations 6. Uneven surfaces 7. Surrounding structures and other machinery or equipment 8. Incompetent Rigger 9. Incliment Weather (high winds, lightning) 10. Poor ground conditions	<table><tr><td>1. Health & safety (I)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>70%</td></tr></table>	1. Health & safety (I)	5			5	1	5	125	5	5	125	100%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)			2	2	1	5	125	5	5	50	40%	Total Average Risk Value										70%	Mandatory or as per requirement	Warning Signage to be Posted at Lifting area	1. Only appointed competent operator will be authorised to operate lifting machinery (Competency must be valid) 2. Lifting Machine must be inspected before use, and finding to be recorded on checklist, any deviations must be recorded and reported to supervisor. 3. Load test certificate and maintenance schedule (Service history) must be available and valid for the lifting machine to be used 4. All lifting equipment must be inspected before use and findings to be recorded on a checklist, any deviations must be recorded and reported to supervisor. Load test for all lifting equipment must be valid and available on site. 5. Appointed / competent rigger to indicate the correct lifting equipment to be used. Rigger to use a whistle as communication method when lifting is taking place to warn surrounding areas. 6. Operator to inspect work area before work, to identify any unsafe ground conditions or uneven surfaces, Operator to ensure outrigger are used with base plates to level the lifting machine. 7. Lifting operations will not be allowed in windy conditions or when raining. 8. SWP & Risk assessment to be communicated to all involved with lifting operations 9. Lifting area to be barricaded with solid barricading and warning signage to be posted. No other work operations will be allowed in close vicinity with the lifting operations 10. Ensure 3 point contact when climbing on and off the lifting machine 11. 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; 12. 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;	Principal Contractor
1. Health & safety (I)	5			5	1	5	125	5	5	125	100%																																																							
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4	Exposure of underground services	1. Underground water lines 2. Underground Electrical cables 3. Manual Excavations 4. Machine Excavations	<table><tr><td>1. Health & safety (I)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>70%</td></tr></table>	1. Health & safety (I)	5			5	1	5	125	5	5	125	100%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)			2	2	1	5	125	5	5	50	40%	Total Average Risk Value										70%	Mandatory or as per requirement	Warning Signage to be Posted at excavated area	1. Scanning devices to be used prior any excavation issues in order to determine live services and avoid electrocution or damage to existing water lines. 2. Drawings can be used to identify any underground services (If drawings are available)	Principal Contractor
1. Health & safety (I)	5			5	1	5	125	5	5	125	100%																																																							
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5	Mechanical and Hand Excavations/Backfilling	<div>1. Unsuitable ground conditions for excavation work that may lead to excavation collapse</div> <div>2. Man machine interaction,</div> <div>3.Dust generation</div> <div>4. Noise generation (especially during rock breaking)</div> <div>5. Unbarricaded excavations/trenches</div> <div>6. Damage to existing services during excavations</div> <div>7. Oil spillages causing ground contamination</div> <div>8. Incompetent Operator</div> <div>9. Substandard Machinery used for excavation.</div> <div>10. Unsafe / selfmade hand tools used</div> <div>11. Working in direct sun / Heat stress</div>	<table><tr><td>1. Health & safety (I)</td><td>5</td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr></table> <div>Total Average Risk Value</div> <div>75%</div>	1. Health & safety (I)	5		5	1	5	125	5	5	125	100%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)		3		3	1	5	125	5	5	75	60%	Mandatory or as per requirement	Warning Signage to be Posted at excavated area Unauthorised entry Prohibited	<div>1. Shore/brace excavations to prevent caving/falling in and provide access ladder. Soil dumped at least 1m away from edge of excavation and no material to be kept closer to the edge of excavation.</div> <div>2. Traffic control to be managed to prevent collision of mobile plant as well as collision with personnel.</div> <div>3. Dust suppression methods to be used when required and employees to be provided with dust masks when required.</div> <div>4. In residential areas noisy activities to be conducted at timings specified by laws.</div> <div>5. Excavations guarded/barricaded/lighted after dark in public areas and when there is no work conducted. All excavations are subject to daily inspections by a competent appointed person. Excavations must be kept open to the minimum, do not leave open for long periods.</div> <div>6. Scanning devices to be used to identify underground services prior excavation works, in order to prevent cable damage and possible electrocution.</div> <div>7. Spill kit to be used for any Chemical spillages on site.</div> <div>8. Only competent / Appointed operators authorised to operate machinery (must have valid Competency, medical and PDP)</div> <div>9. Machinery must be inspected before use, findings to be recorded on a checklist, any deviations must be recorded and reported to a supervisor. Service / maintenance schedule / history must be available for the specific machinery.</div> <div>10. SWP & Risk Assessment to be communicated to all workers involved.</div> <div>11. All hand tools must be inspected and recorded on a checklist. NO SELF-MADE tools will be allowed.</div> <div>12. Workers working in direct sun / heat must take regular water breaks to ensure they stay hydrated</div> <div>13. Excavation work must be carried out under the supervision of a competent person who has been appointed in writing.</div> <div>14. Before excavation work begins the stability of the ground must be evaluated.</div> <div>15. 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</div> <div>16. Only workers declared medically fit are allowed to work inside an excavation, Proof of Medical must be valid and available on site.</div>	Principal Contractor
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6	Construction vehicles and mobile Plant operations	<div>1. Construction vehicles not roadworthy</div> <div>2. Employees transport facilities not roadworthy</div> <div>3. Mobile plant used in the project unsafe or substandard</div> <div>4. Intoxicated operator</div> <div>5. Vehicles left unattended when not operated</div> <div>6. Speeding</div> <div>7. Overloading vehicles or Plant</div>	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> <div>Total Average Risk Value</div> <div>65%</div>	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	Mandatory or as per requirement	Speed Limit signage and Heavy Vehicle Movement Signage to be posted on site	<div>1. All construction vehicles and mobile plant have to comply with Construction regulations and Driven Machinery Regulations. Other construction vehicles used must have a valid roadworthy certificate</div> <div>2. Employees to be transported to and from work in a safe manner, never to be carried at the back of bakkies and trucks.</div> <div>3. Mobile plant operating on site to fully comply with CR 23. Maintenance / Service history must be available on site and Used in accordance with their design and intention for which they were designed</div> <div>4. Random alcohol and drug tests to be introduced and maintained</div> <div>5. Ensure vehicles are isolated when not in operation, 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. 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.</div> <div>6. Operators to drive according to the required speed limit on site and on public roads.</div> <div>7. All drivers must be appointed and must have a valid drivers license and PDP/Competency certificate</div> <div>8. Vehicles or plant not to exceed the prescribed weight limit of the plant or vehicle.</div> <div>9. Construction Vehicle to be Fitted with adequate signalling devices to make movement safe including reversing; Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions.</div> <div>10. 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.</div> <div>11. 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.</div>	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																											
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3. Productivity (P)		3		3	1	5	125	5	5	75	60%																																										
4. Environment (E)		2		2	1	5	125	5	5	50	40%																																										

7	Hot works (Grinding, Cutting, Welding, Drilling, Flame cutting, Soldering)	1. Incompetent employees conducting hot works 2. Improper storage of welding material 3. Hot works conducted in view of employees 4. Unsafe/ damaged equipment used 5. Sparks 6. Fire 7. Hotwork near flammable materials 8. Unsecured / unsafe storage of cylinders 9. Substandard PPE used 10. Overhead Hotwork operations 11. Hot works in wet conditions 12. Incorrect Discs used when cutting 13. No Guards in Place when cutting / Grinding. 14. Incorrect fittings used when connecting pipes to cylinders 15. Guages not working on cylinders 16. No fire fighting equipment or fire fighter available 17. Hot work area not barricaded	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>65%</td></tr></table>	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)	3		3	1	5	125	5	5	75	60%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										65%	Mandatory or as per requirement	Warning Signage to be posted at Designated Hotwork area	1. Only competent workers with the required skills and knowledge will be appointed to operate such machinery like grinders, welding machines, cutting torch etc. 2. Gas cylinders when used to be safely stored and to be secured, when not in use, in a cool place, upright position and locked store room. 3. All hot works to be conducted in an enclosed place away from public and employees conducting other activities. Welding screens to be placed at welding areas and solid barricading used to close off areas 4. All equipment used for Hot works must be inspected before use, all findings to be recorded on a checklist and any deviation must be recorded and reported to a supervisor, all guards must be in place and correct blades/ discs or drill bits to be used. 5. If conducting hot works near flammable materials or the bush, spark containment must be used, for example fire blankets, welding screens and wetting the areas with water. 6. Fire extinguishers must be placed near areas where hot works are conducted, and a trained competent appointed fire fighter to be available onsite. 7. SABS approved PPE to be issued and used on site. Task specific PPE is required for Hot work activities, for example welding helmet, face shield when cutting, safety glasses, dust masks, welding apron etc. 8. No Overhead Hotworks will be allowed, if Hot work is required at height it should be done from a approved scaffold or MEWP. Then the area below should be barricaded to prevent workers from entering that area. 9. Hot work will not be allowed in wet conditions, electrical cables must be made safe and free from water. 10. All cylinders used onsite must be fitted with the correct fittings and clamps when connecting the hoses. All gauges must be in good working condition. 11. All new vessels must be checked for leaks, leaking vessels should NOT be used. Equipment must be identified/numbered and entered into a register.	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																				
2. Cost (C)		4	4	1	5	125	5	5	100	80%																																																				
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Total Average Risk Value										65%																																																				
8	Limited recourses to conduct all task	1. Contractual non compliance 2. Schedule and cost over run on project	<table><tr><td>1. Health & safety (I)</td><td>1</td><td></td><td>1</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>25</td><td>20%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>4. Environment (E)</td><td></td><td>1</td><td>1</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>25</td><td>20%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>50%</td></tr></table>	1. Health & safety (I)	1		1	1	5	125	5	5	25	20%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)	4		4	1	5	125	5	5	100	80%	4. Environment (E)		1	1	1	5	125	5	5	25	20%	Total Average Risk Value										50%	Mandatory or as per requirement		1. Client to ensure that contractor is well aware of current scope definition as well as the requirements stipulated in the tender specifications. 2. Contractor to ensure compliance on set specifications from client	Principal Contractor
1. Health & safety (I)	1		1	1	5	125	5	5	25	20%																																																				
2. Cost (C)		4	4	1	5	125	5	5	100	80%																																																				
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4. Environment (E)		1	1	1	5	125	5	5	25	20%																																																				
Total Average Risk Value										50%																																																				
9	• Repair Roof, Ground and First Floor repairs	1. Working on height 2. Fall from height 3. Pinch Points when lifting pannels and assembly of pannels 4. Environmental contamination from spillages 5. Unauthorised entry 6. Poor waste removal 7.	<table><tr><td>1. Health & safety (I)</td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>2. Cost (C)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>3. Productivity (P)</td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td>4. Environment (E)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>55%</td></tr></table>	1. Health & safety (I)	3		3	1	5	125	5	5	75	60%	2. Cost (C)		3	3	1	5	125	5	5	75	60%	3. Productivity (P)	2		2	1	5	125	5	5	50	40%	4. Environment (E)		3	3	1	5	125	5	5	75	60%	Total Average Risk Value										55%	Mandatory or as per requirement	Signage Posted at Designated Storage area - Unauthorised entry prohibited	1. Appoint fall protectioner planer as per construction reguation 10 2. Prepare risk assesment for working at height. 3. Train employees that will be working at height. 4. All employees shall under go medicals prior to commencement of work. 5. Prepare fall protection plan and communicate it with employees.	Principal Contractor
1. Health & safety (I)	3		3	1	5	125	5	5	75	60%																																																				
2. Cost (C)		3	3	1	5	125	5	5	75	60%																																																				
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4. Environment (E)		3	3	1	5	125	5	5	75	60%																																																				
Total Average Risk Value										55%																																																				

10	*repair work to existing plaster surfaces - Making good cement plaster	1. Dust from cement. 2. Body cut from material 3. Man machine interaction, 4. Ergonomics 5. Fall from height 6. Use of eletrical powered tools 7. Fall from height	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>60%</td></tr></table>	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		3	3	1	5	125	5	5	75	60%	3. Productivity (P)		3		3	1	5	125	5	75	60%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										60%	Mandatory or as per requirement	1. Issue PPE. 2. Conduct training, Toolbox talks and Risk assesements. 3. Prepare traffic accomodation/plan. 4. Flag Person to be available to direct traffic onsite. 5. Correct Plant to be used to offload different materials 6. Plant operator to be appointed with valid competencies to be available on site 7. Suppliers of materials must be authorised to offload materials, All workers, visitors or suppliers must be INDUCTED for the specific site. 8. Issue PPE for working at height.	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																			
2. Cost (C)		3	3	1	5	125	5	5	75	60%																																																			
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4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																			
Total Average Risk Value										60%																																																			
11	Working near overhead powerline	1. Sagging KV line 2. Roof inclining near the KV LINE 3. Scaffolding erected close to the KV Line 4. Untrained employees working near the KV line 5. Construction Vehicles or plant operations near overhead powerlines	<table><tr><td>1. Health & safety (I)</td><td>5</td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>2. Cost (C)</td><td></td><td>5</td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>80%</td></tr></table>	1. Health & safety (I)	5		5	1	5	125	5	5	125	100%	2. Cost (C)		5	5	1	5	125	5	5	125	100%	3. Productivity (P)		4		4	1	5	125	5	100	80%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										80%	Mandatory or as per requirement	1. Only approved authaurity employees to work near overhead power line. 2. Allowed distance to work near overhead powerline to be determined by relevant authorities including Eskom thereafter employees to be made aware of the hazards and risks associated 3. No scaffolding to be erected close to the overhead powerline 4. No Construction vehicles to be operated within 10m of overhead powerlines, unless declared safe by Competent Authority 5. Safe working Procedure and Risk Assessment must be communicated to those employees exposed to working near overhead powerlines 6. Trained and CompetentSpotters / Flagperson must be present at ALL times when plant is operational near overhead powerlines.	Principal Contractor
1. Health & safety (I)	5		5	1	5	125	5	5	125	100%																																																			
2. Cost (C)		5	5	1	5	125	5	5	125	100%																																																			
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4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																			
Total Average Risk Value										80%																																																			
12	Use of portable electrical tools and hand tools (Including use of Portable lights)	1. Unsafe, sub-standard and/or defective equipment used 2. Untrained employees using portable electrical tools	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>60%</td></tr></table>	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		3	3	1	5	125	5	5	75	60%	3. Productivity (P)		3		3	1	5	125	5	75	60%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										60%	Mandatory or as per requirement	1. 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. 2. The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following: - Regular inspections by a competent person appointed in writing; - Inspection results must be recorded in a register; - Only competent authorised persons are allowed to use portable electrical tools and equipment; and - The correct protective equipment is worn/used whilst operating portable electrical tools and equipment. 3. These equipment - - Must be maintained in good condition at all times to prevent an electrical shock to the user; - 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 - All equipment must be fitted with a switch to allow for safe and easy starting and stopping. 4. The following requirements to be applied with when portable lights are utilised (such as for illumination at stop-go points at night): - Must be fitted with a robust non-hygroscopic non-conducting handle; - Metal parts which may become live must be protected against contact; - The lamp must be protected by a strong guard; - The cable lead-in must withstand rough handling; - A register be kept for each piece of equipment with findings of regular inspections undertaken to evaluate the condition of these lights; - Inspections must be undertaken that concentrate on at least the plug, cord, switch, guard and any obvious faults; and - When used in wet/damp/metal container conditions, it must be protected. 5. Risk Assessment and Safe working Procedure for the operation of task specific Portable electrical tools must be communicated to those operating and exposed to hazards when using portable electrical tools	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																			
2. Cost (C)		3	3	1	5	125	5	5	75	60%																																																			
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4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																			
Total Average Risk Value										60%																																																			

13	Illumination during night works	1. Personal injury due to poor illumination at night 2. Damage to equipment 3. Unauthorised Work at Night	<div> <div>1. Health & safety (I)</div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div> <div>2. Cost (C)</div> <div></div> <div>2</div> <div>2</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>50</div> <div>40%</div> </div> <div> <div>3. Productivity (P)</div> <div>2</div> <div>2</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>50</div> <div>40%</div> </div> <div> <div>4. Environment (E)</div> <div></div> <div>1</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>25</div> <div>20%</div> </div> <div>Total Average Risk Value</div> <div>40%</div>	Mandatory or as per requirement	1. Proper illumination to be available during night works 2. If any Work requires to be conducted at night sufficient lighting should be supplied. 3. All activities to be conducted at night must be approved by Construction Manager with guidance from competent Safety Professional	Principal Contractor
14	Use and Storage of flammables	1. Unsafe use and/or storage of flammables could result in fires or explosions 2. Unsafe stacking and Storage of flammable could result in spillages	<div> <div>1. Health & safety (I)</div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div> <div>2. Cost (C)</div> <div></div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div> <div>3. Productivity (P)</div> <div>2</div> <div>2</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>50</div> <div>40%</div> </div> <div> <div>4. Environment (E)</div> <div></div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div>Total Average Risk Value</div> <div>55%</div>	Mandatory or as per requirement	Flammable material storage area must have warning signs (No Smoking, Flammable materials) 1. The principal contractor to ensure that: - No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapors being present unless adequate precautions is taken - 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; - Containers (including empty containers) to be kept closed to prevent fumes/vapors from escaping and accumulating in low lying areas - Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders 2. All flammable materials / containers must be clearly marked/labelled	Principal Contractor
15	Hazardous Chemical Substances	1.Improper storage of chemicals, transportation and handling 2. Unsafe use and/or storage of flammables could result in fires 3. Spilled chemical substances may also impact negatively on the health of employees and negative implications for the environment including legal and claim exposures. 4. Health hazards when ingesting, inhaling or skin contact with HCS	<div> <div>1. Health & safety (I)</div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div> <div>2. Cost (C)</div> <div></div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div> <div>3. Productivity (P)</div> <div>2</div> <div>2</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>50</div> <div>40%</div> </div> <div> <div>4. Environment (E)</div> <div></div> <div>3</div> <div>3</div> <div>1</div> <div>5</div> <div>125</div> <div>5</div> <div>5</div> <div>75</div> <div>60%</div> </div> <div>Total Average Risk Value</div> <div>55%</div>	Mandatory or as per requirement	Hazardous Chemical Substance storage area must have warning signs (No Smoking, Hazardous or Flammable materials) 1. The principal contractor to ensure that: - Employees receive the necessary information and training to be able to use, handle and store hazardous chemical substances safely - The risk assessments required in terms of Construction Regulation 9 include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace, This Risk Assessment must be communicated to all employees exposed to HCS. - Suppliers provide the necessary information in the form of material safety data sheets regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances, This MSDS must be available on site and communicated to employees exposed to the HCS. - An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the said hazardous chemical substances - Hazardous chemical substances containers be clearly marked as to the contents and main hazardous category e.g. "Flammable" or "Corrosive" - No person eats or drinks in a hazardous chemical substances workplace; - Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements at a registered facility. 2. HCS to be properly stored in a cool locked store room or storage area 3. Employees handling hazardous chemical substance to be trained. Possible preventive measures to be put in place in order to prevent harm to employees. PPE to be used when necessary.	Principal Contractor

16	Temporary structure (Temporary works)	<div>1. Inadequate designs</div> <div>2. Incompetent formwork erectors and inspectors</div> <div>3. Temporary structure collapse due to poor design</div> <div>4. Unsafe access to elevated areas</div> <div>5. Poor stacking and storage of Form work materials</div> <div>6. Manual handling</div> <div>7. Pinch points</div> <div>8. Work at Fall Positions</div>	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr></table> <div>Total Average Risk Value</div> <div>70%</div>	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)		3		3	1	5	125	5	5	75	60%	Mandatory or as per requirement	<div>Areas where temporary structures are erected or demolished must be barricaded with warning signage posted</div> <div>1. A contractor to appoint a temporary works designer in writing, to design, inspect and approve the erected temporary works.</div> <div>2. Temporary works to be carried out under the supervision of a competent person appointed in writing.</div> <div>3. To be erected by competent persons.</div> <div>4. Temporary structure to be inspected by a competent person immediately, before, during and after the placement of concrete. After inclement weather or any other imposed load and at least on a daily basis until the temporary works has been removed and results recorded in a register.</div> <div>5. All temporary works to be carried out as per Construction regulations 12.</div> <div>6. 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.</div> <div>7. No load to be imposed onto a structure that the structure is not designed to carry.</div> <div>8. 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.</div> <div>9. The foundation or base upon which the temporary work is erected to be able to bear the weight and keep the structure stable.</div> <div>10. Employees erecting temporary work to be trained in the safe work procedures for the erection, moving and dismantling of the temporary work.</div> <div>11. Safe access and emergency escape to be provided for employees.</div> <div>12. Only employees trained to work at height with a valid medical fitness to work allowed to erect temporary works</div>	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
3. Productivity (P)		3		3	1	5	125	5	5	75	60%																																											
4. Environment (E)		3		3	1	5	125	5	5	75	60%																																											
17	Working on Heights (Work in fall risk positions)	<div>1. Inadequate fall protection</div> <div>2. Employees not medically fit to work at height</div> <div>3. Workers not trained to work at height</div> <div>4. Falling objects</div> <div>5. Workers falling</div> <div>6. Inadequite / unsafe or damaged fall prevention equipment used</div> <div>7. Inclement Weather</div>	<table><tr><td>1. Health & safety (I)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>5</td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> <div>Total Average Risk Value</div> <div>75%</div>	1. Health & safety (I)	5			5	1	5	125	5	5	125	100%	2. Cost (C)			5	5	1	5	125	5	5	125	100%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	Mandatory or as per requirement	<div>1. Designate a competent person to be responsible for the preparation of a fall protection plan.</div> <div>2. Ensure that the Fall protection plan is implemented, amended and maintained. - FPP must be developed by a competent / appointed person, proof of competency must be available on site.</div> <div>3. Take steps to ensure continued adherence to the fall protection plan.</div> <div>4. The fall protection plan must include but not limited: A Risk assessment of all work carried out from a fall risk position, procedures and methods used to address all the risks identified.</div> <div>5. Appointed 16 (2) to ensure that employees comply with Construction regulations 10 Fall protection.</div> <div>6. As far as is practicable, any person working in a fall risk position will work from a stable ladder 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 ladder. This fall arrest equipment will be, as far as is possible, secured to a point above the person.</div> <div>7. Employees working at height must be provided with a full body harness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device or the person must be attached to a fall arrest system that is approved by the Client.</div> <div>8. If no edge protection is not practicable or employee does not have a secured / approved anchor point for a lifeline 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</div> <div>9. 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. Proof of competency must be available in safety file</div> <div>10. 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.</div> <div>11. physical and psychological fitness of employees working fall risk positions (Medical fitness to work at height) must be valid and available on site.</div> <div>12. FPP, Risk Assessment and Safe working Procedures must be communicated to all workers working in a fall risk position.</div>	Principal Contractor
1. Health & safety (I)	5			5	1	5	125	5	5	125	100%																																											
2. Cost (C)			5	5	1	5	125	5	5	125	100%																																											
3. Productivity (P)		3		3	1	5	125	5	5	75	60%																																											
4. Environment (E)		2		2	1	5	125	5	5	50	40%																																											

18	Exposure to poisonous / Venomous or other dangerous animals, reptiles or insects	1. Venomous snakes, insects / spiders in bushes, stacking areas and other confined spaces 2. Poisonous insects 3. Insects, reptiles and other animal bites, stings that causes allergic reactions	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td>4. Environment (E)</td><td></td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> <div>Total Average Risk Value</div> <div>60%</div>	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)		2		2	1	5	125	5	5	50	40%	4. Environment (E)			2	2	1	5	125	5	5	50	40%	Mandatory or as per requirement	1. The principal contractor to ensure that the following are duly adhered to: - 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; - confirmation to be obtained or made available from the nearest 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; - competent / appointed first aiders to be available to facilitate the treatment of employees or other persons visiting exposed to stings or bites; - the potential exposure posed by poisonous or venomous 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 2. If Snakes are located on site contact nearest snake handler to assist with removal of the snake. Do not attempt to remove snake if not trained. 3. Emergency contacts to be freely available on site and in safety file.	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
3. Productivity (P)		2		2	1	5	125	5	5	50	40%																																											
4. Environment (E)			2	2	1	5	125	5	5	50	40%																																											
19	Working in Inclement Weather	1. Exposed to thunder storms / lightning 2. Strong winds 3. Rain 4. Sand / dust storms 5. Extreme hot conditions	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> <div>Total Average Risk Value</div> <div>65%</div>	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)		3		3	1	5	125	5	5	75	60%	4. Environment (E)			2	2	1	5	125	5	5	50	40%	Mandatory or as per requirement	1. 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 2. The early warning system to, as a minimum, provide for the following: - Construction work done during electrical storms 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. b) No work to be allowed on the construction site during electric storms where employees cannot be protected from it. Protection involves: - eating area fitted with a lightning mast - workshops - inside buildings c) No work to be allowed in electrical storms on top of open structural steel, even when earthed. d) No work to be allowed on height where the lightning is within a 10 kilometre radius. e) After inclement weather on-site risk assessments to be reviewed to include wet conditions. - Crane operations during inclement weather a) Crane operations to stop during lightning within a 10 kilometre radius and wind above 28 km/h, crane driver will not be allowed to leave the crane with the booms extended. b) Lifting operation to stop during rain, rigging and hand lifts. c) Booms on all cranes to be retracted. d) All rigging operations to stop and employees will be removed from site. - Construction work done during rain a) During rainy conditions all work on steel structures to stop. b) No electrical tools to be used during rainy weather in open areas. c) If necessary work only to be done in water proof areas where there is a zero risk for electrocution.	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
3. Productivity (P)		3		3	1	5	125	5	5	75	60%																																											
4. Environment (E)			2	2	1	5	125	5	5	50	40%																																											
20	Public health & safety and Pedestrians access to site	1. Unsafe pedestrian access 2. Injuries to bystanding public or pedestrians 3. Public personal belongings or property damages	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td>4. Environment (E)</td><td></td><td></td><td>1</td><td>1</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>25</td><td>20%</td></tr></table> <div>Total Average Risk Value</div> <div>55%</div>	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)		2		2	1	5	125	5	5	50	40%	4. Environment (E)			1	1	1	5	125	5	5	25	20%	Mandatory or as per requirement	1. The principal contractor will be 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: - Non- employees entering the site for whatever reason; - The surrounding community; - Public bystanders 2. 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. 3. All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these. 4. Safe demarcated walkway to be erected / conducted or displayed for visitors 5. Pedestrian crossings to be conducted and utilized 6. No Construction work near public vehicles. 7. Construction area must be barricaded (No Danger tape) or fenced to prevent Public from entering work area.	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
3. Productivity (P)		2		2	1	5	125	5	5	50	40%																																											
4. Environment (E)			1	1	1	5	125	5	5	25	20%																																											

21	Emergency Preparedness (Fire Prevention, First aid)	1. Inadequate emergency Planning could result in the inability to effectively respond to emergencies 2. 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. 3. Inadequate fire prevention and protection measures may impact negatively on the ability to fight fires	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>60%</td></tr></table>	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		3	3	1	5	125	5	5	75	60%	3. Productivity (P)		3	3	1	5	125	5	5	75	60%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										60%	Mandatory or as per requirement	Signage required for Location of First Aid Kit, First Aider on site, Location of Fire Fighting Equipment	Emergency Preparedness 1. The principal contractor to appoint a competent person to act as emergency controller and/or coordinator. 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. Contractor must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the project/site may have in place. 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. Emergency evacuation points must be available and signage displayed First - Aid 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. 2. The contingency plan of the principal contractor to include arrangements for the speedy 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. 3. The principal contractor to have firm arrangements with his contractors in place regarding the responsibility of these contractor's first-aid arrangements as well as treatment of injured and/or ill employees. Fire Prevention and Protection The principal contractor to ensure that a) Sufficient and suitable storage of flammables is provided; b) employees are trained in the use of the fire fighting equipment and know how to attempt to extinguish a fire; (these employees must be appointed and proof of competency to be available on site. c) A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies; d) Employees are informed regarding emergency evacuation procedures and escape routes this must be included in the induction of all workers and visitors. e) Emergency escape routes are kept clear at all times and clearly marked; f) 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; g) A clearly audible siren or alarm is fitted and regularly tested. if this is not practicable to the site , other method of warning employees must be used, for example whistles.	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																				
2. Cost (C)		3	3	1	5	125	5	5	75	60%																																																				
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4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																				
Total Average Risk Value										60%																																																				
22	Site security and public protection	1. Public gaining access to the construction site. 2. Theft 3. Vandalism	<table><tr><td>1. Health & safety (I)</td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>2. Cost (C)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>55%</td></tr></table>	1. Health & safety (I)	3		3	1	5	125	5	5	75	60%	2. Cost (C)		3	3	1	5	125	5	5	75	60%	3. Productivity (P)		3	3	1	5	125	5	5	75	60%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										55%	Mandatory or as per requirement	Construction Signage to be available at Site entrance / gate.	1. Principal contractor to ensure the project is secure at all times. Access control to be maintained and no unauthorised entry to be permitted to the project. 2. When there are no activities on site and no personnel conducting works. The Project has to be left in a safe manner that the public can't gain access and that all hazards are attended to prior vacating the site. 3. Security should be available due to valuable materials and equipment that might be stored on site.	Principal Contractor
1. Health & safety (I)	3		3	1	5	125	5	5	75	60%																																																				
2. Cost (C)		3	3	1	5	125	5	5	75	60%																																																				
3. Productivity (P)		3	3	1	5	125	5	5	75	60%																																																				
4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																				
Total Average Risk Value										55%																																																				
23	Ablution facilities	1. Inadequate provision of welfare facilities may have negative implications on the health of employees and other persons as well as the environment	<table><tr><td>1. Health & safety (I)</td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td>2. Cost (C)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>1</td><td>1</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>25</td><td>20%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>35%</td></tr></table>	1. Health & safety (I)	2		2	1	5	125	5	5	50	40%	2. Cost (C)		2	2	1	5	125	5	5	50	40%	3. Productivity (P)		1	1	1	5	125	5	5	25	20%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										35%	Mandatory or as per requirement	Signage required for Men / Ladies bathroom / Changeroom and designated sheltered eating area	Toilets a) Principal Contractor to provide toilets for each sex as required in terms of the National Building Regulations and Construction Regulation 30. b) Chemical toilets are allowed only if they are cleaned on a regular basis by registered contracted company. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees Eating facility / area Principal Contractor to provide some form of eating facility sheltered from the sun, wind and rain must be provided. Living accommodation 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	Principal Contractor
1. Health & safety (I)	2		2	1	5	125	5	5	50	40%																																																				
2. Cost (C)		2	2	1	5	125	5	5	50	40%																																																				
3. Productivity (P)		1	1	1	5	125	5	5	25	20%																																																				
4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																				
Total Average Risk Value										35%																																																				
24	Safe guarding / Dealing with existing Structures	1. Damage to existing services and structures.	<table><tr><td>1. Health & safety (I)</td><td>3</td><td></td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>2. Cost (C)</td><td></td><td>3</td><td>3</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>75</td><td>60%</td></tr><tr><td>3. Productivity (P)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>50%</td></tr></table>	1. Health & safety (I)	3		3	1	5	125	5	5	75	60%	2. Cost (C)		3	3	1	5	125	5	5	75	60%	3. Productivity (P)		2	2	1	5	125	5	5	50	40%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										50%	Mandatory or as per requirement		1. Ensure identification off all existing services and structures before commencing with site establishment.	Principal Contractor
1. Health & safety (I)	3		3	1	5	125	5	5	75	60%																																																				
2. Cost (C)		3	3	1	5	125	5	5	75	60%																																																				
3. Productivity (P)		2	2	1	5	125	5	5	50	40%																																																				
4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																				
Total Average Risk Value										50%																																																				

25	Temporary electrical equipment/ installations to mobile units	1. Illegal connections Unsafe electrical installations could result in employees and other persons being electrocuted with subsequent injuries or even fatalities as well as asset damage due to fire 2. Sub standard equipment 3. Poor cable management 4. Incompetent Installer 5. Unauthorised Access to DB's	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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