



public works & infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

PROCUREMENT DOCUMENTS

FOR

DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE

BI25/015 WELKOM: THABONG: SAPS TRAINING COLLEGE

**INSTALLATION AND CONNECTION TO A BACKUP GENERATOR,
PROVISION OF EMERGENCY WATER STORAGE, FIRE ESCAPES AND
COMPLETE REPAIR OF ROOF STRUCTURE**

VOLUME THREE OF THREE: CONTRACT

THE REGIONAL MANAGER
DEPARTMENT OF PUBLIC WORKS and INFRASTRUCTURE
PRIVATE BAG X20605
BLOEMFONTEIN
9300

ENQUIRIES: MR M. MNCWANGO
TEL: 051 408 7474
REF: 14/2/1/4/12/6835/1

SEPTEMBER 2025

NAME OF TENDERER: _____

CIDB NO.: _____

CSD NO.: _____

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DEPARTMENT OF PUBLIC WORKS AND INFRASTRUCTURE AT WELKOM: THABONG: SAPS TRAINING COLLEGE FOR THE INSTALLATION AND CONNECTION TO BACKUP GENERATOR, PROVISION OF EMERGENCY WATER STORAGE, FIRE ESCAPES AND COMPLETE REPAIR OF ROOF STRUCTURE

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C1.2 CONTRACT DATA

DPW-04 (EC): CONTRACT DATA: JBCC PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)

Project title:	THABONG SAPS: TRAINING COLLEGE: INSTALLATION AND CONNECTION TO A BACKUP GENERATOR: PROVISION OF EMERGENCY WATER STORAGE, FIRE ESCAPES AND COMPLETE REPAIR OF ROOF STRUCTURE
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Tender / Quotation no:	BL25/015	WCS no:		Reference no:	14/2/1/4/12/6835/1
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	The Conditions of Contract are clauses 1 to 30 of the JBCC® Principal Building Agreement (Edition 6.2 of May 2018) prepared by the Joint Building Contracts Committee. Contractors are cautioned to read the JBCC PBA and Contract Data (DPW-04 (EC)) together as some clauses in the JBCC PBA have been amended in the Contract Data (DPW-04 (EC)). Copies of these conditions of contract may be obtained through most regional offices of the Association of South African Quantity Surveyors, Master Builders Association, South African Association of Consulting Engineers, South African Institute of Architects, Association of Construction Project Managers, Building Industries Federation South Africa, South African Property Owners Association or Specialist Engineering Contractors Committee. Bidders to note that materials procured for the works should be from South African manufactures and suppliers. Imported materials shall only be considered under exceptional circumstances, based on compelling technical justifications, and subject to the approval by the NDPWI.
	CONTRACT VARIABLES THE SCHEDULE The schedule is the listed variables in this agreement and contains all variables referred to in this document including specific changes made to JBCC® documentation. It is divided into part 1: contract data completed by the employer and part 2: contract data completed by the tenderer. Part 1 must be completed in full and included in the tender documents. Both the part 1 and part 2 form part of this agreement. Spaces requiring information must be filled in, shown as 'not applicable' or deleted but not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross referenced to the applicable clause of the schedule. Reference to clause numbers in the JBCC Principal Building Agreement are shown in [square brackets] in this contract data e.g. [3.1].

PART 1: CONTRACT DATA COMPLETED BY THE EMPLOYER:

A PROJECT INFORMATION

A 1.0 Works [1.1]

Works description	Refer to document PG01.2 (EC) – Scope of Works for detailed description
In general the work includes all facets of building work which includes the following: Removal of roofs which includes roof covering, trusses, isolation, ceilings, rails, services, some cupboards and doors, electrical installation, mechanical work, removal of carports, paving, siteworks, etc. New work consists of new roof structure, sheeting, ceiling, paintwork internally and externally, new mechanical and electrical work, siteworks that includes walkways, tanks, paving, washbay, work to fire reticulation,	

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A 2.0 Site [1.1]

Erf / stand number	403443
Site address	Modikeng Road
Township / Suburb	Thabong
City / Town	Welkom
Province	Free State
Local authority	Matjhabeng
GPS Coordinates	-29.972312/26.77892

A 3.0 EMPLOYER AND ITS REPRESENTATIVE

A 3.1 Employer:

Official Name of Organ of State / Public Sector Body	Government of the Republic of South Africa in its Department of Public Works & Infrastructure		
Business registration number	Not applicable	VAT number	Not applicable
E-mail	Musawenkosi.Mncwango@dpw.gov.za	Telephone	0736486837
Postal address	Department Of Public Works Bloemfontein Regional Office 18 President Brand Street Bloemfontein		
Physical address	Department Of Public Works Bloemfontein Regional Office 18 President Brand Street Bloemfontein		

A 3.2 Employer's representative:

Name	Musawenkosi Mncwango	Telephone number	0514087474
E-mail	Musawenkosi.Mncwango@dpw.gov.za	Mobile number	0736486837
Postal address	Bloemfontein		
Physical address	Department Of Public Works Bloemfontein Regional Office 18 President Brand Street Bloemfontein		

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A 4.0	Principal Agent [1.1; 6.2]	Discipline	Architectural Engineer
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Name	Burger + Fourie		
Legal entity of above	Burger + Fourie	Contact person	Lukas Fourie
Practice number	CK 1987/003088/23	Telephone number	051 436 0110
Country	South Africa	Mobile number	083 279 1704
E-mail			
Postal address	8 Genl Klopper Street Bloemfontein		
Physical address	8 Genl Klopper Street Bloemfontein		

A 5.0	Agent [1.1; 6.2]	Discipline	Quantity Surveyors
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Name	BTKM Pty Ltd FS		
Legal entity of above	BTKM Pty Ltd FS	Contact person	Herman Brönnner
Practice number	51768728	Telephone number	051 444 0191
Country	South Africa	Mobile number	083 635 8027
E-mail	hermanb@btkmgroup.co.za		
Postal address	78 Victoria Road Willows Bloemfontein 9301		
Physical address	78 Victoria Road Willows Bloemfontein 9301		

A 6.0	Agent [1.1; 6.2]	Discipline	Civil and Structural Engineer
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Name	BVI Engineering		
Legal entity of above		Contact person	Johnnie Haefele
Practice number		Telephone number	
Country	South Africa	Mobile number	083 271 704
E-mail	Johnnieh@bvifs.co.za		
Postal address	17 Pres. Steyn Road Westdene Bloemfontein		
Physical address	17 Pres. Steyn Road Westdene Bloemfontein		

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A 7.0	Agent [1.1; 6.2]	Discipline	Mechanical Engineer
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Name	Department Public Works and Infrastructure		
Legal entity of above	DPWI	Contact person	Kabelo Chabalala
Practice number		Telephone number	060 986 3283
Country	South Africa	Mobile number	060 986 3283
E-mail	Kabelo.Chabalala@dpw.gov.za		
Postal address	National Department of Public Works Johannesburg Regional Office		
Physical address	insert physical address insert suburb insert town insert postal code		

A 8.0	Agent [1.1; 6.2]	Discipline	Electrical Engineer
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Name	PL Consultants		
Legal entity of above	PL Consultants	Contact person	Wim Pelser
Practice number		Telephone number	
Country	South Africa	Mobile number	082 920 3407
E-mail	wimpelser53@gmail.com		
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

A 9.0	Agent [1.1; 6.2]	Discipline	Health and Safety Agent
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Name	Safetyrise Consultants		
Legal entity of above	Safetyrise Consultants	Contact person	Rose Matete
Practice number		Telephone number	073 953 2173
Country	South Africa	Mobile number	073 953 2173
E-mail	Rose.safetyrise@gmail.com		
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

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A 10.0	Agent [1.1; 6.2]	Discipline	
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Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

A 11.0	Agent [1.1; 6.2]	Discipline	
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Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

A 12.0	Agent [1.1; 6.2]	Discipline	
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Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
Country		Mobile number	
E-mail			
Postal address	insert postal address insert suburb insert town insert postal code		
Physical address	insert physical address insert suburb insert town insert postal code		

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B CONTRACT INFORMATION

B 1.0 Definitions [1.1]

Bills of quantities: System/Method of measurement	Standard system of measurement of building works 7 th edition
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B 2.0 Law, regulations and notices [2.0]

Law applicable to the works, state country [2.1]	Law of the Republic of South Africa
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B 3.0 Offer and acceptance [3.0]

Currency applicable to this agreement [3.2]	South African Rand
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B 4.0 Documents [5.0]

The original signed agreement is to be held by the principal agent [5.2], if not, indicate by whom	Employer
Number of copies of construction information issued to the contractor at no cost [5.6]	3

Documents comprising the agreement	Page numbers
The JBCC® Principal Building Agreement, Edition 6.2 May 2018	1 to 30
DPW-04 (EC): CONTRACT DATA: JBCC PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)	1 to 31
The JBCC® General Preliminaries for use with the JBCC® Principal Building Agreement, Edition 6.2 May 2018	Yes
Drawings as per drawing register issued with the tender	Siteplan
Specifications issued with the tender	Yes
Schedules issued with the tender	Yes
Bills of Quantities issued with the tender	Yes
Addenda as issued during tender stage, if applicable	As issued

B 5.0 Employer's agents [6.0]

Authority is delegated to the following agents to issue contract instructions and perform duties for specific aspects of the works [6.2] [6.7 [CD]]

Principal Agent

Principal agent's and agents' interest or involvement in the works other than a professional interest [6.3]

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B 6.0 Insurances [10.0]

Insurances by contractor			Amount including VAT
NB: Insurances submitted must be issued by either an insurance company duly registered in terms of the Insurance Act [Long-Term Insurance Act, 1998 (Act 52 of 1998) or Short-Term Insurance Act, 1998 (Act 53 of 1998)] or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990).			
	New works [10.1.1] (contract sum or amount)	Not Applicable	R
Or	Works with practical completion in sections [10.2] (contract sum or amount)	Not Applicable	R
Or	Works with alterations and additions [10.3] (reinstatement value of existing structures with or including new works)	Applicable	R
	Direct contractors [10.1.1; 10.2] where applicable, to be included in the contract works insurance	Applicable	R
	Free issue [10.1.1; 10.2] where applicable, to be included in the contract works insurance	Applicable	R
	Escalation, professional fees and reinstatement costs if not included above	Applicable	R
Total of the above contract works insurance amount			R
Supplementary insurance [10.1.2; 10.2]		Applicable	R
Public liability insurance [10.1.3; 10.2]		Applicable	R
Removal of lateral support insurance [10.1.4; 10.2]		Applicable	R
Other insurances [10.1.5]			
Hi Risk Insurance Refer B18.0 [10.1.5.1]		Not Applicable	R
Other insurances: If applicable, description 1:		Not Applicable	R
Other insurances; If applicable, description 2:		Not Applicable	R

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B 7.0 Obligations of the employer [12.1]

Existing premises will be in use and occupied [12.1.2]	Applicable
If applicable, description: Client on site in one building. To be relocated when renovation to the existing block begins. Coordination needed between User Client, Architect, etc. Moving of furniture, etc. to be done by the contractor	
Restriction of working hours [12.1.2]	Applicable
If applicable, description: 08H00 till 17H00 or as arrangement with the User Client	
Natural features and known services to be preserved by the contractor [12.1.3]	Applicable
If applicable, description:	
Restrictions to the site or areas that the contractor may not occupy [12.1.4]	Not Applicable
If applicable, description:	
Supply of free issue of material and goods [12.1.10]	Not Applicable
If applicable, description:	

B 8.0 Appointment of Nominated Subcontractors [14.0]

Not Applicable	If applicable, description of specialisation
Specialisation 1	
Specialisation 2	
Specialisation 3	
Specialisation 4	
Specialisation 5	

B 9.0 Appointment of Selected Subcontractors [15.0]

Not Applicable	If applicable, description of specialisation
Specialisation 1	
Specialisation 2	
Specialisation 3	
Specialisation 4	
Specialisation 5	

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B 10.0 Appointment of Direct Contractors [16.0]

Not Applicable	If applicable, description of extent of work [12.1.11]
Extent of work	
Extent of work	
Extent of work	
Extent of work	
Extent of work	

B 11.0 Works to be completed in sections [20.1]

Applicable	If applicable, description of sections
Section 1	At least 3 sections, but to be determined and discussed with the User Client
Section 2	
Section 3	
Section 4	
Section 5	
Section 6	
Remainder of the works.	

B 12.0 Contract period [B18: 1.2], Construction period [B18: 1.1], Possession of site [12.1.5], Practical Completion [19.0; 20.0], Works Completion Refer B18.0 [19.8], Final Completion [21] and Penalties [24.0]

B12.1 Contract Period

Contract period [B18: 1.2]: Period in months as indicated, include time for submitting contractual obligatory documents, submission of Health & Safety Plan and approval, period for obtaining the Construction Permit (if applicable), the Construction Period and the Defect Liability Period up to and including Final Completion	
The contract period is determined as follows (Period/s indicated in months):	
Period to submit contractual obligatory documents including submission and approval of health and safety plan by the appointed Health & Safety Agent	Refer to contract

Any reference to words "Bid" or Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

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Period to obtain Construction Permit from Department of Labour upon approval of the Health & Safety Plan by the appointed Health & Safety Agent	As specified
Total construction period for the Works as a whole up to and including Practical Completion, as indicated below [24.1]	26 Months 26 Months
Period to achieve Works Completion Refer B18.0 [19.8]	26 months
Defect liability period up to and including Final Completion	12
Total Contract period [B18: 1.2]	26 Months
Penalty amount per calendar day for late submission of contractual obligatory documents: Ten percent (10%) of the penalty amount per calendar day for late Practical Completion, excluding VAT. [24.1]	R Based on Tender Amount

B12.2 Construction Period for completion of the Works as a whole

Construction period [B18: 1.2] and Practical Completion for the Works as a whole [19.0] The time for achieving Practical Completion of the whole of the Works is measured from the date of possession of the site by the contractor inclusive of all public holidays, special non-working days and builders' holiday shut down periods.	Applicable
The date for practical completion for the works as a whole shall be the period in months as indicated, starting from the date of possession of the site by the contractor inclusive of all special non-working days and builders' holiday shut down periods [12.2.7; 24.1]	26 Months
Period for inspection in working days by the principal agent [19.3]	As per contract
Penalty amount per calendar day for late Practical Completion , excluding VAT. [24.1]	Based on Tender Amount
Penalty amount per calendar day for late Works Completion Refer B18.0 [19.8]: Thirty percent (30%) of penalty amount per calendar day for late Practical Completion, excluding VAT.	R Based on tender amount
Penalty amount per calendar day for late Final Completion [21]: Fifteen percent (15%) of penalty amount per calendar day for late Practical Completion, excluding VAT.	R Based on final contract amount

B12.3 Construction Period for completion of the Works in portions

Construction period [B18: 1.1] and Practical completion for portions of the Works [20.0]	Applicable					
Portions of the Works in sections:	1	2	3	4	5	6
Period for inspection by the principal agent in working days [19.3]						
The date for practical completion shall be the period in months as indicated from the date of possession of the site by the contractor [12.2.7; 24.1]						

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The date for practical completion for the whole of the Works, if applicable shall be the period in months as indicated from the date of possession of the site by the contractor inclusive of all public holidays, special non-working days and builders' holiday shut down periods [12.2.7; 24.1]	26 Months
Penalty for late Practical Completion, <i>if completion in sections is required</i> , excluding VAT	
The penalty amount per day for failing to complete section 1 of the Works is:	R
The penalty amount per day for failing to complete section 2 of the Works is:	R
The penalty amount per day for failing to complete section 3 of the Works is:	R
The penalty amount per day for failing to complete section 4 of the Works is:	R
The penalty amount per day for failing to complete section 5 of the Works is:	R
The penalty amount per day for failing to complete section 6 of the Works is:	R
The penalty amount per day for failing to complete the whole of the Works, if applicable, is:	R
Penalty amount per calendar day for late Works Completion Refer B18.0 [19.8]: To be calculated at Thirty percent (30%) of penalty / calendar day to complete Select , excluding VAT	
Penalty amount per calendar day for late Final Completion [21]: To be calculated at Fifteen percent (15%) of penalty / calendar day to complete Select , excluding VAT	

B 13.0 Criteria to achieve Practical Completion [19.0; 20.0]

Criteria to achieve Practical Completion not covered in the definition of practical completion	
13.1	Obtain Occupation Certificate from the relevant authority prior to issuing the Practical Completion certificate
13.2	All relevant CoCs
13.3	All guarantees
13.4	Training on electrical, security and mechanical installations if contractually required
13.5	Maintenance / operating manuals
13.6	CPG and cidb BUILD programme achievement certificates submitted with substantiating documentation
13.7	
13.8	
13.9	
13.10	

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B 14.0 Defects liability period [21.0]

Extended defects liability period: Refer B18.0 [21.13]

Applicable	If applicable, description of applicable elements
14.1	Emergency generator/s
14.2	Air conditioning system and plant
14.3	Security system/s (e.g. Access control, Intruder alarm, etc.)
14.4	Electrical equipment (e.g. Electric operated doors, Electric motors, etc.)
14.5	Staircases
14.6	Mechanical equipment (e.g. Fire detection, Fire suppression system, Kitchen equipment, etc.)
14.7	Civil works
14.8	Landscaping
14.9	Roofing and structure
14.10	

B 15.0 Payment [25.0]

Date of month for issue of regular payment certificates Refer B18.0 [25.2]	25th
Contract price adjustment / Cost fluctuations Refer [25.3.4; 26.9.5]	Applicable
If applicable, method to calculate	CPAP
Employer shall pay the contractor within: Refer B18.0 [25.10]	Thirty (30) calendar days

B 16.0 Dispute resolution [30.0]

Mediation	Applicable
Name of nominating body	Association of Arbitrators (Southern Africa)
Appointment of Mediator	State Attorney
Litigation	Court with Jurisdiction

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B 17.0 JBCC® General Preliminaries - selections

Provisional bills of quantities [P2.2]		Applicable
Availability of construction information [P2.3]		Applicable
Previous work - dimensional accuracy - details of previous contract(s) [P3.1]		Not Applicable
Previous work - defects - details of previous contract(s) [P3.2]		Applicable
Inspection of adjoining properties - details [P3.3]		Applicable
Handover of site in stages - specific requirements [P4.1]		Applicable
Enclosure of the works - specific requirements [P4.2]		Applicable
Geotechnical and other investigations - specific requirements [P4.3]		Applicable
Existing premises occupied - details [P4.5]		Applicable
Services - known - specific requirements [P4.6]		Applicable
Water [P8.1]	By contractor	Applicable
	By employer	Not Applicable
	By employer – metered	Applicable
Electricity [P8.2]	By contractor	Applicable
	By employer	Not Applicable
	By employer – metered	Applicable
Ablution and welfare facilities [P8.3]	By contractor	Applicable
	By employer	Not Applicable
Communication facilities - specific requirements [P8.4]		Applicable
Protection of the works - specific requirements [P11.1]		Applicable
Protection / isolation of existing works and works occupied in sections - specific requirements [P11.2]		Applicable
Disturbance - specific requirements [P11.5]		Applicable
Environmental disturbance - specific requirements [P11.6]		Not Applicable

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B 18.0 SPECIFIC CHANGES MADE TO JBCC® DOCUMENTATION

[Details of changes made to the provisions of JBCC standard documentation]

1.2 Definitions

The following definitions replace corresponding definitions or are added to the definitions in the JBCC PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018), whatever the case may be.

ADVERSE WEATHER CONDITIONS: Adverse weather and inclement weather has the same meaning and used interchangeably and means any weather conditions i.e.: Rain, wind, snow, frost, temperature (cold or heat) that are not in the norm for the area where the construction takes place and during which no work is possible on site.

AGREEMENT: The completed Form of Offer and Acceptance, the completed JBCC® Principal Building Agreement and contract data for organs of state and other public sector bodies, the contract drawings, the priced document and any other documents reduced to writing and signed by the authorised representative or representatives of the parties.

CONSTRUCTION PERIOD: The period commencing on the date of possession of the **site** by the **contractor** and ending on the date of **practical completion**.

CONTRACT PERIOD: The period commencing on the date of the letter of acceptance and ending on the date of final completion.

COST FLUCTUATION shall mean contract price adjustment provision (CPAP) for the adjustment of fluctuation in the cost of labour, plant, material and goods as stated in the schedule.

DEFAULT INTEREST: No clause.

GUARANTEE FOR CONSTRUCTION: A security in terms of the DPWI's Guarantee for Construction form/s, obtained by the contractor from an institution approved by the employer [CD].

INTEREST: The interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate as determined by the Minister of Finance from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No 1 of 1999) as amended, calculated as simple interest, in respect of debts owing to the State, and will be the rate as published by the Minister of Justice and Correctional Services from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No 55 of 1975) as amended, calculated as simple interest, in respect of debts owing by the State.

LETTER OF ACCEPTANCE: The letter of formal acceptance of the Contractor's or Service Provider's Tender / Bid, issued and signed by the Employer.

PAYMENT CERTIFICATE: A certificate issued at regular agreed intervals [CD] by the principal agent to the parties certifying the amount due and payable in terms of clause 25.3.

PRINCIPAL AGENT: The person or entity appointed by the **employer** and named in the **contract data for organs of state and other public sector bodies**. In the event of a **principal agent** not being appointed, then all the duties and obligations of a **principal agent** as detailed in the **agreement** shall be fulfilled by the employer's representative as named in the **contract data for organs of state and other public sector bodies**.

TARGETED SUBCONTRACTORS: Subcontractors that must be appointed to a total of 30% or more of the contract sum, by the contractor, projects with a contract sum of the amount determined by the Minister in terms of the latest Preferential Procurement regulations, as may be amended from time to time.



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CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, JBCC PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018), are applicable to this Contract:

3.3	Replace clause with the following: This agreement shall come into force on the date of letter of acceptance and continue to be of force and effect until the end of the latent defects liability period [22.0] notwithstanding termination [29.0] or the certification of final completion [21.0] and final payment [25.0].
4.2	Refer to clause 6.7 [CD].
4.3	Replace clause with the following: Where a contractor cedes any right or any monies due to or to become due under this agreement as security in favour of a financial institution, the prior written consent of the employer, which consent shall not be unreasonably withheld, must be obtained.
5.2	Replace last sentence with the following: The original signed agreement shall be held by the Employer.
5.4	Replace clause with the following: The Bills of Quantities shall not be used as a specification of material and goods or methods unless so instructed by the Principal Agent. The contractor may not use the Bills of Quantities for purpose of ordering material. All dimensions and quantities must be determined on site before ordering. In the event of discrepancy between the drawings and Bills of Quantity, the drawings shall take preference.
5.5	Replace clause with the following: The parties may publish or disclose on any platform only the contract scope and contract amount.
6.5	Replace clause with the following: Where the principal agent and/or an agent fails to act or is unable to act or ceases to be the principal agent or an agent in terms of this agreement, the employer may appoint another principal agent and/or an agent, be it temporary or permanently.
6.7	Add the following as clause 6.7: In terms of the clauses listed hereunder, the employer has retained its authority and has not given a mandate to the principal agent, notwithstanding other provisions in the contract. The employer shall sign all documents in relation to clauses 4.2, 14.1.4, 14.4.1, 14.6, 15.1.4, 15.4.1, 23.1, 23.2, 23.3, 23.7, 23.8, 26.1, 26.7, 26.12.
7.2	Replace first sentence with the following: Any design responsibility undertaken by a subcontractor shall not devolve on the contractor except for items that require specific component design and or compatibility design and or shop drawings and or the assembly thereof.
8.4	Replace clause with the following: The contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary.
9.2.7	Add the following to the end of the first sentence: "... due to no fault of the contractor".

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9.2.9	No clause.
9.2.10	No clause.
9.3	Add the following as clause 9.3: The employer's rights to claim damages for the contractor's omissions and actions will not be affected.
10.1	Replace clause with the following: The party responsible shall effect and keep the respective insurances [CD] in force, in favour of the employer as beneficiary, from the date of possession of the site until the issue of the certificate of practical completion and with an extension to cover the contractor's obligations after the date of practical completion [8.2.2].
10.1.5.1	Add the following as clause 10.1.5.1: Hi Risk Insurance In the event of the project being executed in a geological area classified as a "High Risk Area", that is an area which is subject to highly unstable sub-surface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:
10.1.5.1.1	Add the following as clause 10.1.5.1.1: Damage to the works The contractor shall, from the date of possession of the site until the date of the certificate of practical completion, bear the full risk of and hereby indemnifies and holds harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary. When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works, at the contractor's own costs.
10.1.5.1.2	Add the following as clause 10.1.5.1.2: Injury to persons or loss of or damage to property The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground movement as mentioned above. The contractor shall be liable for and hereby indemnifies the employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable property, or personal property, or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract.
10.1.5.1.3	Add the following as clause 10.1.5.1.3: It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.1.5.1.1 and 10.1.5.1.2. Without limiting the contractor's obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the date of letter of acceptance, but before commencement of the works, submit to the employer proof of such insurance policy.

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10.1.5.1.4	Add the following as clause 10.1.5.1.4: The employer shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the contractor's default of his obligations as set out in 10.1.5.1.1; 10.1.5.1.2 and 10.1.5.1.3. Such losses or damages may be recovered from the contractor or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the employer and the contractor and for this purpose all these contracts shall be considered one indivisible whole.
10.2	Replace clause with the following: Where practical completion in sections is required [20.0], or where the works is for alterations and additions, the contractor shall effect and keep in force contract works insurance [10.1.1], supplementary insurance [10.1.2], public liability insurance [10.1.3] and where applicable, removal of lateral support insurance [10.1.4] and other insurances [10.1.5] in favour of the employer as beneficiary.
10.6	No clause.
10.11	Add the following as clause 10.11 In the event that an insurer dispute the amount of the claim to be paid to the employer, the contractor shall be liable to the employer for the difference between the claim (as determined by the employers QS appointed on the project) made by the employer and the amount that the insurer is willing to pay.
11.1	Add the following to clause 11.1. In respect of contracts with a contract sum up to R1 million, the security to be provided by the contractor to the employer will be a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT). In respect of contracts with a contract sum above R1 million, the contractor shall have the right to select the security to be provided in terms of C 1.0 Securities, as stated in the schedule. Such security shall be provided to the employer within fifteen (15) working days from contract commencement date. Should the contractor fail to select the security to be provided or should the contractor fail to provide the employer with the selected security within fifteen (15) working days from the contract commencement date, the security in terms of C 1.0 Option C shall be deemed to have been selected. The payment reduction of the value certified in a payment certificate shall be <i>mutatis mutandis</i> in terms of 25.12.1 - 25.12.5.
11.1.1	No clause.
11.1.2	No clause.
11.2.2	No clause.
11.3	No clause.
11.4.1	Replace clause 11.4.1 with the following: Hand over the site to the contractor and withhold an amount equal to ten per cent (10%) of each interim payment certificate until practical completion is achieved. The value certified shall be subject to the adjustments in terms of 25.12.6 to 25.12.10.
11.5	No clause.
11.6	No clause.

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11.7	No clause.
11.8	No clause.
11.9	No clause.
11.10	No clause.
11.11	Add the following as clause 11.11 Where the security as a cash deposit of ten per cent (10%) of the contract sum (excluding VAT) has been selected:
11.11.1	Add the following as clause 11.11.1 The contractor shall furnish the employer with a cash deposit equal in value to ten percent (10%) of the contract sum (excluding VAT) within fifteen (15) working days from the contract commencement date. Failure to furnish the employer with a cash deposit within fifteen (15) working days clause 11.4 will apply <i>mutatis mutandis</i> .
11.11.2	Add the following as clause 11.11.2 The employer shall be entitled to recover expense and loss from the cash deposit in terms of 27.0 provided that the employer notifies the Contractor in which event the employer's entitlement shall take precedence over his obligations to refund the cash deposit security or portions thereof to the contractor.
11.11.3.	Add the following as clause 11.11.3 Within fifteen (15) working days of the date of practical completion of the works the employer shall reduce the cash deposit to an amount equal to three per cent (3%) of the contract value (excluding VAT).
11.11.4	Add the following as clause 11.11.4 Within fifteen (15) working days of the date of final completion of the works the employer shall reduce the cash deposit to an amount equal to one per cent (1%) of the contract value (excluding VAT).
11.11.5	Add the following as clause 11.11.5 On the date of payment of the amount in the final payment certificate, the employer shall refund the remainder of the cash deposit to the contractor.
11.11.6	Add the following as clause 11.11.6 The parties expressly agree that neither the employer nor the contractor shall be entitled to cede the rights to the deposit to any third party.
11.12	Add the following as clause 11.12 Where security as a variable construction guarantee of ten percent (10%) of the contract sum (excluding VAT) has been selected:
11.12.1	Add the following as clause 11.12.1 The contractor shall furnish the employer with an acceptable variable construction guarantee equal in value to ten per cent (10%) of the contract sum (excluding VAT) within fifteen (15) working days after issuance of the letter of acceptance. Failure to submit an acceptable variable construction guarantee within fifteen (15) working days clause 11.4 will apply <i>mutatis mutandis</i> .
11.12.2	Add the following as clause 11.12.2 The variable construction guarantee shall reduce and expire in terms of the Variable Construction Guarantee form included in the invitation to tender.



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11.12.3	Add the following as clause 11.12.3 The employer shall return the variable construction guarantee to the contractor within fourteen (14) calendar days of it expiring.
11.12.4	Add the following as clause 11.12.4 Where the employer has a right of recovery against the contractor in terms of 27.0, the employer shall issue a written demand in terms of the variable construction guarantee.
11.13	Add the following as clause 11.13 Where security is a fixed construction guarantee of five per cent (5%) of the contract sum (excluding VAT) and a five per cent (5%) payment reduction of the value certified in the payment certificate (excluding VAT) has been selected:
11.13.1	Add the following as clause 11.13.1 The contractor shall furnish a fixed construction guarantee to the employer equal in value to five per cent (5%) of the contract sum (excluding VAT).
11.13.2	Add the following as clause 11.13.2 The fixed construction guarantee shall come into force on the date of issue and shall expire on the date of the last certificate of practical completion.
11.13.3	Add the following as clause 11.13.3 The employer shall return the fixed construction guarantee to the contractor within fourteen (14) calendar days of it expiring.
11.13.4	Add the following as clause 11.13.4 The payment reduction of the value certified in a payment certificate shall be <i>mutatis mutandis</i> in terms of 25.12.1 - 25.12.5.
11.13.5	Add the following as clause 11.13.5 Where the employer has a right of recovery against the contractor in terms of 27.0, the employer shall be entitled to issue a written demand in terms of the fixed construction guarantee or may recover from the payment reduction or from both.
11.14.1	Add the following as clause 11.14.1 Where security as a cash deposit of five per cent (5%) of the contract sum (excluding VAT) and a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT) has been selected:
11.14.2	Add the following as clause 11.14.2 The contractor shall furnish the employer with a cash deposit equal in value to five per cent (5%) of the contract sum (excluding VAT) within fifteen (15) working days from the contract commencement date. Failure to submit a cash deposit within fifteen (15) working days clause 11.4 will apply <i>mutatis mutandis</i> .
11.14.3	Add the following as clause 11.14.3 Within fifteen (15) working days of the date of practical completion of the works the employer shall refund the cash deposit in total to the contractor.
11.14.4	Add the following as clause 11.14.4 The payment reduction of the value certified in a payment certificate shall be <i>mutatis mutandis</i> in terms of 25.12.1 - 25.12.5.
11.14.5	Add the following as clause 11.14.5 Where the employer has a right of recovery against the contractor in terms of 27, the employer may recover from the payment reduction or cash deposit or from both.

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11.15	Add the following as clause 11.15 Where security as a payment reduction of ten per cent (10%) of the value certified in the payment certificate (excluding VAT) has been selected:
11.15.1	Add the following as clause 11.15.1 The payment reduction of the value certified in a payment certificate shall be <i>mutatis mutandis</i> in terms of 25.12.6 to 25.12.10.
11.15.2	Add the following as clause 11.15.2 The employer shall be entitled to recover expense and loss from the cash deposit in terms of 27.0 provided that the employer notifies the Contractor in which event the employer's entitlement shall take precedence over his obligations to refund the cash deposit security or portions thereof to the contractor.
11.16	Add the following as clause 11.16 Payments made by the guarantor to the employer in terms of the fixed or variable construction guarantee shall not prejudice the rights of the employer or contractor in terms of this agreement.
11.17	Add the following as clause 11.17 Should the contractor fail to furnish the security in terms of 11.2 the employer, in his sole discretion, and without notification to the contractor, is entitled to change the contractor's selected form of security to that of a ten per cent (10%) payment reduction of the value certified in the payment certificate (excluding VAT).
12.1.1	No Clause.
12.1.5	Replace clause with the following: Give possession of the site to the contractor within ten (10) working days after approval of the Health and Safety Plan or the issue of a construction permit by the Department of Labour, if applicable, after the contractor complied with the terms of 12.2.22.
12.1.6	No clause.
12.1.8	No clause.
12.2.2	Replace clause with the following: The priced Bills must be submitted to the Employer within fourteen (14) calendar days from date of request. Where the priced document contains errors or discrepancies and/or prices considered by the employer or principal agent to be imbalanced or unreasonable the employer or principal agent and the contractor shall adjust such prices without any change to the contract sum .
12.2.5	Replace clause with the following: Effect and keep in force insurances in favour of the employer as beneficiary where the contractor is responsible for providing insurances [10.0] [CD].
12.2.13	Replace clause with the following: Designate a competent person full time on site to continuously administer and control the works on site and to receive and implement notices and contract instructions on behalf of the contractor.
12.2.22	Insert the following clause as 12.2.22: Within fourteen (14) working days of the date of the letter of acceptance submit to the principal agent an acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993).

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12.2.23	Insert the following clause as 12.2.23: The contractor shall within reasonable time inform the agents regarding inspection of the works before covering / closing [B 12.0].
14.1.4	Refer to clause 6.7 [CD].
14.1.5	No clause.
14.4.1	Replace "principal agent "with "employer" [6.7 [CD]].
14.6	Refer to clause 6.7 [CD].
15.0	See clause 6.7 above for clauses, 15.5.
15.1.2	Replace clause with the following: The principal agent shall call for tenders from a list of tenderers agreed between the contractor and the employer.
15.1.4	Refer to clause 6.7 [CD].
15.1.5	No clause.
15.4.1	Replace "principal agent" with "employer" [6.7 [CD]].
17.4	Replace clause with the following: The contractor shall comply with and duly execute all contract instructions except any contract instruction for additional work issued after the date of practical completion other than making good physical loss and repairing damage to the works in terms of 8.0 and 21.
17.6	Add the following as clause 17.6: Minutes of meetings shall not constitute a site instruction unless reduced to a written contract instruction issued by the principal agent in terms of this contract / agreement.
19.5	Replace clause with the following: On issue of the only or last certificate of practical completion the employer shall be entitled to possession of the works and the site. On issue of the certificate of practical completion for a section, the employer shall be entitled to possession of such section.
19.8	Add the following as: 19.8 WORKS COMPLETION (1) Within seven (7) working days of the date of practical completion the principal agent shall issue to the contractor a works completion list defining the outstanding work and defects apparent at the date of practical completion to be completed or rectified to achieve works completion. (2) Where, in the opinion of the contractor, the works completion list has been completed the contractor shall notify the principal agent who shall inspect within seven (7) working days of receipt of such a notice. Where, in the opinion of the principal agent, the works completion list: (2)(a) Has been satisfactorily completed, the principal agent shall forthwith issue a certificate of works completion to the contractor with a copy to the employer.

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19.8 Continued	(2)(b) Has not been satisfactorily completed, the principal agent shall forthwith identify the works completion list items that are not yet complete and inform the contractor thereof. The contractor shall repeat the procedure in terms of 19.8.2. (3) Within seven (7) working days of the date of practical completion the principal agent shall issue to the contractor a works completion list defining the outstanding work and defects apparent at the date of practical completion to be completed or rectified to achieve works completion. (4) Where, in the opinion of the contractor, the works completion list has been completed the contractor shall notify the principal agent who shall inspect within seven (7) working days of receipt of such a notice. Where, in the opinion of the principal agent, the works completion list: (5) The defects liability period in terms of 21.1 shall commence with the issue or deemed issue of the certificate of works completion in terms of 19.8.2. (a) or 19.8.3.
20.2.1.A	Add the following as: 20.2.1.A A certificate of Works Completion [19.8]
21.1	Replace clause 21.1 with the following: The defects liability period for the works shall commence on the calendar day following the date of works completion and end at midnight (00:00) ninety (90) calendar days from the date of works completion [CD] or when work on the list for completion has been satisfactorily attended to [21.6), whichever is the later (if we use works completion).
21.6	Replace clause 21.6 with the following: On the expiry of the ninety (90) calendar days defects liability period [21.1] for items not indicated as items with an extended liability as indicated in B14 and on receipt of the contractor's notice to the principal agent. And/or On the expiry of the defects liability period as indicated in B14, for items indicated in B14 and on receipt of the contractor's notice to the principal agent, the principal agent shall: (1) inspect the works And within ten (10) working days either issue a list for final completion detailing all outstanding work or defects that must be attended to, or rectified to achieve final completion or (2) issue the certificate of final completion to the contractor with a copy to the employer for that part of the works where defects liability period has expired.
21.6.1.	Omit clause.
21.6.2	Omit clause.
21.13	Add the following as clause 21.13 The ninety (90) calendar days defects liability period for the works [21.1] is replaced with an extended defects liability period of three hundred and sixty-five (365) calendar days in respect of the listed applicable elements in B14.
21.14	Add the following as clause 21.14 Penalties will be applied if the items on the completion list have not been attended to within a period of ninety (90) calendar days [21.1]. If additional defect items have being added to the list during this period, then the Principal Agent and Contractor will agree on a revised completion date. Failing in achieving the revised date will result in penalties being applied [B12.0].

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22.3.2	No clause.
23.1	Refer to clause 6.7 [CD].
23.2	Refer to clause 6.7 [CD].
23.2.13	No clause.
23.3	Replace 23.3 with the following: Further circumstances that delays practical completion due to any other cause beyond the contractor's reasonable control that could not have reasonably been anticipated and provided for which the contractor may be entitled to a revision of the date for practical completion, with or without an adjustment of the contract value as determined by the Employer [6.7 CD].
23.7	Refer to clause 6.7 [CD].
23.8	Refer to clause 6.7 [CD].
24.1	Replace clause 24.1 with the following: Where the contractor fails to bring the works , or a section thereof, to practical-, works-, or final- completion by the applicable completion date [B10 CD], or the revised applicable completion date, the contractor shall be liable to the employer for the penalty [B10 CD].
24.2	Replace clause 24.2 with the following: Where the employer elects to levy such penalty the employer , or the principal agent on instruction from the employer , shall give notice thereof to the contractor . The principal agent shall determine the penalty due from the later of the date for practical- works-, or final- completion [B10 CD], or the revised date for practical- works-, or final- completion , up to and including the earlier of:
24.2.1	Replace clause 24.2.1 with the following: The actual or deemed date of practical-, works- or final- completion of the works , or a section thereof [23.7.1].
25.2	Replace clause 25.2 with the following: The principal agent shall issue at regular agreed intervals [CD] payment certificates, to the contractor with a copy to the employer, up to and including practical completion. Interim Payment certificates may be issued to the contractor between practical completion and the final payment certificate. A payment certificate may be for a nil or negative amount.
25.3	Add the following to clause 25.3: 25.3.12 Monthly Local content report. 25.3.13 EPWP / NYS payment register, labour reports and certified ID document of EPWP/ NYS beneficiaries, Contract between Contractor and EPWP/ NYS beneficiaries, attendance register (if applicable). 25.3.14 Tax Invoice. 25.3.15 Labour intensive report. 25.3.16 Contract participation goal reports.

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25.5	No Clause.
25.6	Replace clause 25.6 with the following: Materials and goods will only be certified and paid for upon providing proof of full payment to the supplier and proof of transfer of ownership from the supplier to the contractor by the contractor. Once paid, material and goods shall become the property of the employer and shall not be removed from site without the written authority of the Employer.
25.7.5	No clause.
25.10	Replace clause 25.10 with the following: The employer shall pay the contractor the amount stipulated in an issued payment certificate, correct in all material respects, within thirty (30) calendar days from the date of receiving the payment certificate and invoice including all other substantiating documentation for items certified in the payment certificate.
25.12	Replace clauses 25.12 to 25.12.3 with the following: The value certified shall be subject to the following percentage adjustments : (Clauses 25.12.1 to 25.12.5 shall be applicable to a contract sum up to R1 million. In the event of a contract sum more than R1 million for Options D & E (C 1.0 Securities [11.0]) Clauses 25.12.1 to 25.12.5 shall be applicable) 25.12.1 Where a security is selected in terms of C 1.0 Securities [11.0] the value of the works in terms of 25.1 and of the materials and goods in terms of 25.4 shall be certified in full. The value certified shall be subject to the following percentage adjustments: 25.12.2 Ninety-five per cent (95%) of such value in interim payment certificates issued up to the date of practical completion. 25.12.3 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of works completion and up to but excluding the date of final completion. 25.12.4 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 26. 25.12.5 One hundred per cent (100%) of such value in the final payment certificate in terms of 26 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate. (Clauses 25.12.6 to 25.12.10 shall be applicable to a contract sum more than R1 million for Option C (C 1.0 Securities [11.0]) 25.12.6 Where security is a payment reduction in term of Option C, the value of the works in terms of 25.1 and materials and goods in terms of 25.4 shall be certified in full. The value certified shall be subject to the following percentage adjustments: 25.12.7 Ninety per cent (90%) of such value in interim payment certificates issued up to the date of practical completion. 25.12.8 Ninety-seven per cent (97%) of such value in interim payment certificates issued on the date of practical completion and up to but excluding the date of final completion.

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25.12 Continued	25.12.9 Ninety-nine per cent (99%) of such value in interim payment certificates issued on the date of final completion and up to but excluding the final payment certificate in terms of 26. 25.12.10 One hundred per cent (100%) of such value in the final payment certificate in terms of 26 except where the amount certified is in favour of the employer. In such an event the payment reduction shall remain at the adjustment level applicable to the final payment certificate.
26.1	Refer to clause 6.7 [CD].
26.4.3	Omit clause.
26.7	Refer to clause 6.7 [CD].
26.10	Replace 26.10 with the following: The principal agent shall prepare the final account in consultation with the employer and issue the final account , to the contractor within sixty (60) working days of the date of practical completion .
26.12	Refer to clause 6.7 [CD].
27.1.2	Replace 27.1.2 with the following: Interest due to late payment only.
27.1.4	Replace 27.1.4 with the following: Interest due to late payment only.
27.1.5	No clause.
27.5	Add the following as clause 27.5: Where the employer decides to recover an amount due in terms of 27.2 from a construction guarantee, cash deposit or retention money held as security, the employer shall issue a written demand to the contractor before recovering the amount. Should such amount not be paid to the employer within fourteen (14) calendar days of the date-of notice by the employer, the employer may recover such an amount from the security.
27.6	Add the following as clause 27.6: Where a provisional sequestration or provisional liquidation order has been granted or where an order has been granted which commences sequestration, liquidation, bankruptcy, receivership, winding-up or any similar effect, against the contractor or this agreement is cancelled in terms of 29, the employer may issue a demand to the guarantor in terms of the construction guarantee or advance payment guarantee held as security.
28.0	No clause.
28.1	No clause.
28.1.1	No clause.
28.1.2	No clause.
28.1.3	No clause.
28.1.4	No clause.

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28.1.5	No clause.
28.2	No clause.
28.3	No clause.
28.4	No clause.
29.1.4	Add the following as clause 29.1.4: The contractor's estate has been sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa.
29.1.5	Add the following as clause 29.1.5: The contractor has engaged in corrupt or fraudulent practices in competing for or in executing the contract.
29.1.6	Add the following as clause 29.1.6: Honour his obligations in terms of clauses 10.1.5.1.3, 11.4.1 and 12.2. sub clauses 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 19, 20, 22.
29.7	Replace clause 29.7 with the following: The employer, on notice to the contractor, may recover damages from the contractor from the date of termination including, but not limited to, additional costs incurred in the completion, consultant cost, rental of alternative accommodation, invitation of completion tenders, salaries of officials and safeguarding the site, of the remaining work [25.3.7; 27.1.3].
29.9	Replace clause 29.9 with the following: The employer has the right of recovery against the contractor , where applicable, [CD] from: The guarantee for construction (variable) until the final payment has been made; or The guarantee for construction (fixed) until the date of practical completion; or The payment reduction until the final payment is made; or The cash deposit made as security until the final payment is made.
29.14.1	No clause.
29.14.3	No clause.
29.14.4	No clause.
29.14.5	No clause.
29.14.6	No clause.
29.14.7	No clause.
29.15	No clause.
29.16	No clause.
29.17.3	No clause.
29.17.6	No clause.
29.21.5	No clause.
29.22	No clause.

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29.23	No clause.
29.25.3	No clause.
29.25.4	No clause.
29.27	No clause.
30.2	Replace clause 30.2 with the following: Where such disagreement is not resolved within ten (10) working days of receipt of such notice it shall be deemed to be a dispute and shall be submitted to Mediation as a first method of dispute resolution failing which the parties will resort to Litigation.
30.3 to 30.7.7	No clauses.
30.8	Replace clause 30.8 with the following: The parties may, by agreement and at any time before Litigation, refer a dispute to mediation, in which event:
30.8.1	No clause.
30.8.2	Replace clause 30.8.2 with the following: The appointment of a mediator, the procedure, and the status of the outcome shall be agreed between the parties.
30.8.3	Replace clause 30.8.3 with the following: Regardless of the outcome of a mediation the parties shall bear their own costs concerning the Mediation and equally share the costs of the mediator and related expenses.
30.9	Replace clause 30.9 with the following: Institution of Litigation shall be commenced and process served within three (3) year from the date of existence of the dispute, failing which the dispute shall lapse.
30.10	No clause.
30.12	No clause.

B 19.0 CONTRACT PARTICIPATION GOAL TARGETS AND CIDB B.U.I.L.D. PROGRAMME

The contractor shall achieve in the performance of the contract the following Contract Participation Goals (CPGs) as described in PG-01.2 (EC): Scope of Work and PG-02.2 (EC): Pricing Assumptions and in accordance with the feasibility study, which forms part of the specifications in the CPG Section of the Specification of this contract.

(a)	Minimum 30% mandatory Subcontracting to SMMEs in accordance with the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017 as published in the Government Gazette Notice No. 40553 of 20 January 2017 – Condition of Tender. (Applicable to all projects above R30 Mil for all class of works categories)	Applicable
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(b)	Minimum Targeted Local Manufacturers of Material Contract Participation Goal, in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract. (Applicable to projects which require 7GB or 7CE cidb grading, i.e. R20 000 001 and above with minimum 6 month construction period)	Applicable
(c)	Minimum Targeted Local Building Material Suppliers Contract Participation Goal in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract. (Applicable to projects which require 7GB or 7CE cidb grading, i.e. R20 000 001 and above with minimum 6 month construction period)	Applicable
(d)	Minimum Targeted Local Labour Skills Development Contract Participation Goal in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract. (Applicable to projects which require Grade 7 to 9 cidb grading, i.e. R20 000 001 and above with minimum 12 month construction period)	Applicable
(e)	cidb BUILD Programme: Minimum Targeted Enterprise Development Contract Participation Goal in accordance with the cidb Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, No 36190 Government Gazette, 25 February 2013, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract. (Applicable to projects which require 7GB or 7CE cidb grading, i.e. R20 000 001 and above with minimum 6 month construction period)	Applicable
(f)	cidb BUILD Programme: Minimum Targeted Contract Skills Development Goal in accordance with the cidb Standard for Developing Skills through Infrastructure Contracts as published in the Government Gazette Notice No. 43495 of 3 July 2020, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract. (Applicable to projects which require cidb Grade 7 and above for all class of works categories, i.e. R20 000 001 and above with minimum 12 month construction period)	Applicable
(g)	DPWI National Youth Service training and development programme (NYS) – Condition of Contract. (Applicable to projects with a minimum contract value R2 Mil and minimum 12 month construction period.	Applicable
(h)	Labour Intensive Works – Condition of Contract. (Applicable to all CE projects and all GB projects ≥ R30 million)	Not applicable
(i)	CONTRACTOR PARTICIPATION GOALS - (Refer to separate section to be priced which for part of the Bills of Quantities)	Applicable
(j)		Select

Tender / Quotation no: BL25/015

PART 2: CONTRACT DATA COMPLETED BY THE TENDERER:

C TENDERER'S SELECTIONS

C 1.0 Securities [11.0]

In respect of contracts with a contract sum up to R1 million, the security to be provided by the contractor to the employer will be a payment reduction of five per cent (5%) of the value certified in the payment certificate (excluding VAT).

In respect of contracts with a contract sum more than R1 million, the security to be provided by the contractor to the employer will be selected by the Contractor as indicated below:

Guarantee for construction: Select Option A, B, C, D or E

Option A	cash deposit of 10 % of the contract sum (excluding VAT)
Option B	variable construction guarantee of 10 % of the contract sum (excluding VAT) (DPW-10.3 EC)
Option C	payment reduction of 10% of the value certified in the payment certificate (excluding VAT)
Option D	cash deposit of 5% of the contract sum (excluding VAT) and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT)
Option E	fixed construction guarantee of 5% of the contract sum (excluding VAT) and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT) (DPW-10.1 EC)

NB: Insurances submitted must be issued by either an insurance company duly registered in terms of the Insurance Act [Long-Term Insurance Act, 1998 (Act 52 of 1998) or Short-Term Insurance Act, 1998 (Act 53 of 1998)] or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

Guarantee for payment by employer [11.5.1; 11.10]	Not applicable
Advance payment, subject to a guarantee for advance payment [11.2.2; 11.3]	Not applicable

Tender / Quotation no: BL25/015

C 2.0 Payment of preliminaries [25.0]

Contractor's selection

Select Option A or B

Where the **contractor** does not select an option, Option A shall apply

Payment methods

Option A	The preliminaries shall be paid in accordance with an amount prorated to the value of the works executed in the same ratio as the amount of the preliminaries to the contract sum , which contract sum shall exclude the amount of preliminaries . Contingency sum(s) and any provision for cost fluctuations shall be excluded for the calculation of the aforesaid ratio
Option B	The preliminaries shall be paid in accordance with an amount agreed by the principal agent and the contractor in terms of the priced document to identify an initial establishment charge, a time-related charge and a final dis-establishment charge. Payment of the time-related charge shall be assessed by the principal agent and adjusted from time to time as may be necessary to take into account the rate of progress of the works

Lump sum contract

Where the amount of **preliminaries** is not provided it shall be taken as 7.5% (seven and a half per cent) of the **contract sum**, excluding contingency sum(s) and any provision for cost fluctuations.

C 3.0 Adjustment of preliminaries [26.9.4]

Contractor's selection

Select Option A or B

Where the **contractor** does not select an option, Option A shall apply.

Provision of particulars

The **contractor** shall provide the particulars for the purpose of the adjustment of **preliminaries** in terms of his selection. Where completion in **sections** is required, the **contractor** shall provide an apportionment of **preliminaries** per **section**.

Option A	An allocation of the preliminaries amounts into Fixed, Value-related and Time-related amounts as defined for adjustment method Option A below, within fifteen (15) working days of the date of acceptance of the tender
Option B	A detailed breakdown of the preliminaries amounts within fifteen (15) working days of possession of the site . Such breakdown shall include, inter alia, the administrative and supervisory staff, the use of construction equipment , establishment and dis-establishment charges, insurances and guarantees, all in terms of the programme

Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

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Adjustment methods

The amount of **preliminaries** shall be adjusted to take account of the effect which changes in time and/or value have on **preliminaries**. Such adjustment shall be based on the particulars provided by the **contractor** for this purpose in terms of Options A or B, shall preclude any further adjustment of the amount of **preliminaries** and shall apply notwithstanding the actual employment of resources by the **contractor** in the execution of the **works**.

Option A	The preliminaries shall be adjusted in accordance with the allocation of preliminaries amounts provided by the contractor, apportioned to sections where completion in sections is required Fixed - An amount which shall not be varied. Value-related - An amount varied in proportion to the contract value as compared to the contract sum. Both the contract sum and the contract value shall exclude the amount of preliminaries, contingency sum(s) and any provision for cost fluctuations. Time-related - An amount varied in proportion to the number of calendar days extension to the date of practical completion to which the contractor is entitled with an adjustment of the contract value [23.2; 23.3] as compared to the number of calendar days in the initial construction period [26.9.4].
Option B	The adjustment of preliminaries shall be based on the number of calendar days extension to the date of practical completion to which the contractor is entitled with an adjustment of the contract value [23.2; 23.3] as compared to the number of calendar days in the initial construction period [26.9.4]. The adjustment shall take into account the resources as set out in the detailed breakdown of the preliminaries for the period of construction during which the delay occurred.

Failure to provide particulars within the period stated

Option A	Where the allocation of preliminaries amounts for Option A is not provided, the following allocation of preliminaries amounts shall apply: Fixed - Ten per cent (10%) Value-related - Fifteen per cent (15%) Time-related - Seventy-five per cent (75%) Where the apportionment of the preliminaries per section is not provided, the categorised amounts shall be prorated to the cost of each section within the contract sum as determined by the principal agent
Option B	Where the detailed breakdown of preliminaries amounts for Option B is not provided, Option A shall apply

Lump sum contract

Where the amount of **preliminaries** is not provided it shall be taken as 7.5% (seven and a half per cent) of the **contract sum**, excluding contingency sum(s) and any provision for cost fluctuations.

Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be construed to have the same meaning as the words "Tender" or "Tenderer".

C1.3 FORM OF GUARANTEE

DPW-10.1 (EC): FIXED CONSTRUCTION GUARANTEE - JBCC 2000 PRINCIPAL BUILDING AGREEMENT (EDITION 6.2 OF MAY 2018)

Director-General
Department of Public Works and Infrastructure
Government of the Republic of South Africa

FOR ATTENTION

Insert name
Private Bag **insert no**
insert town
insert postal code

Sir,

FIXED CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF JBCC 2000 (EDITION 6.2 OF MAY 2018)

1. With reference to the contract between _____
_____ (hereinafter referred to as the "**contractor**") and the Government of the Republic of South Africa in its Department of Public Works and Infrastructure (hereinafter referred to as the "**employer**"), Contract/Tender No: BL25/015, for the _____ (hereinafter referred to as the "contract") in the amount of R **insert amount, (insert amount in words)**, (hereinafter referred to as the **contract sum**),
I / We, _____
in my/our capacity as _____ and hereby
representing _____ (hereinafter referred to as the "**guarantor**") advise that the **guarantor** holds at the **employer's** disposal the sum of R **insert amount, (insert amount in words)** being 5% of the **contract sum** (excluding VAT), for the due fulfillment of the contract.
2. The **guarantor** hereby renounces the benefits of the exceptions *non numeratae pecunia; non causa debiti; excussionis et divisionis; and de duobus vel pluribus reis debendi* which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to pay the **employer** the amount guaranteed, on receipt of a written demand from the **employer** to do so, stating that the **employer** has a right of recovery against the **contractor** in terms of 33.0 of the contract.
3. Subject to the above, but without in any way detracting from the **employer's** rights to adopt any of the procedures provided for in the contract, the said demand can be made by the **employer**, at any stage prior to the expiry of this guarantee.
4. The amount paid by the **guarantor** in terms of this guarantee may be retained by the **employer** on condition that upon the issue of the last final **payment certificate**, the **employer** shall account to the **guarantor** showing how this amount has been expended and refund any balance due to the **guarantor**.

Tender no: (Insert Tender Number)

5. The **employer** shall have the absolute right to arrange his affairs with the **contractor** in any manner which the **employer** deems fit and the **guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **guarantor**. Without derogating from the foregoing, any compromise, extension of the **construction period**, indulgence, release or variation of the **contractor's** obligation shall not affect the validity of this guarantee.
6. The **guarantor** reserves the right to withdraw from this guarantee at any time by depositing the guaranteed amount with the **employer**, whereupon the guarantor's liability ceases.
7. This guarantee is neither negotiable nor transferable, and
 - (a) must be surrendered to the **guarantor** at the time when the **employer** accounts to the **guarantor** in terms of clause 4 above, or
 - (b) shall lapse on the date of the last **certificate of practical completion**.
8. This guarantee shall not be interpreted as extending the **guarantor's** liability to anything more than payment of the amount guaranteed.

SIGNED AT _____ **ON THIS** _____ **DAY OF**
_____ **20**__

AS WITNESS

1. _____
2. _____

By and on behalf of

(insert the name and physical address of the guarantor)

NAME: _____

CAPACITY: _____
(duly authorised thereto by resolution attached marked Annexure A)

DATE: _____

- A. No alterations and/or additions of the wording of this form will be accepted.
- B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's *domicilium citandi et executandi*, for all purposes arising from this guarantee.
- C. This GUARANTEE must be returned to: _____

DPW-10.3 (EC): VARIABLE CONSTRUCTION GUARANTEE - JBCC 2000 PRINCIPAL BUILDING AGREEMENT (EDITION 6.2 OF MAY 2018)

Director-General
Department of Public Works and Infrastructure
Government of the Republic of South Africa

FOR ATTENTION

Insert name
Private Bag *insert no*
insert town
insert postal code

Sir,

VARIABLE CONSTRUCTION GUARANTEE FOR THE EXECUTION OF A CONTRACT IN TERMS OF JBCC 2000 (EDITION 6.2 OF MAY 2018)

1. With reference to the contract between _____
_____ (hereinafter referred to as the "**contractor**") and the Government of the Republic of South Africa, in its Department of Public Works and Infrastructure, (hereinafter referred to as the "**employer**"), Contract/Tender No: *insert Contract / Tender No*, for the *Welkom: Thabong for the installation and connection to backup generator, provision of emergency water storage, fire escapes and complete repair of roof structure at the SAPS College* (hereinafter referred to as the "**contract**" in the amount of R*insert amount, (insert amount in words)* (hereinafter referred as the **contract sum**),
I / We, _____
in my/our capacity as _____ and hereby
representing _____ (hereinafter referred to as the "**guarantor**") advise that the **guarantor** holds at the **employer's** disposal the sum of R
.....
(*insert amount in words*) being 10% of the **contract sum** (excluding VAT), for the due fulfillment of the contract.
2. I / We advise that the **guarantor's** liability in terms of this guarantee shall be as follows:
 - (a) From and including the date on which this guarantee is issued and up to and including the date of payment of the amount in the last final **payment certificate**, the **guarantor** will be liable in terms of this guarantee to the maximum amount of 10% of the **contract sum** (excluding VAT);
 - (b) The **guarantor's** liability shall reduce to 3 % of the **contract value** (excluding VAT) as determined at the date of the last **certificate of practical completion**, subject to such amount not exceeding 10% of the **contract sum** (excluding VAT).
 - (c) The **guarantor's** liability shall reduce to 1 % of the **contract value** (excluding VAT) as determined at the date of the last **certificate of final completion**, subject to such amount not exceeding 10 % of the **contract sum** (excluding VAT).
 - (d) This guarantee shall expire on the date of the last **final payment certificate**.
 - (e) The **practical completion certificate** and the **final completion certificate** referred to in this guarantee shall mean the certificates issued in terms of the contract.

Tender no: **BL25/015**

3. The **guarantor** hereby renounces the benefits of the exceptions *non numeratae pecunia; non causa debiti; excussionis et divisionis; and de duobus vel pluribus reis debendi* which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof I/we declare myself/ourselves to be conversant, and undertake to pay the **employer** the amount guaranteed on receipt of a written demand from the **employer** to do so, stating that the **employer** has a right of recovery against the **contractor** in terms of 33.0 of the contract.
4. Subject to the above, but without in any way detracting from the **employer's** rights to adopt any of the procedures provided for in the contract, the said demand can be made by the **employer** at any stage prior to the expiry of this guarantee.
5. The amount paid by the **guarantor** in terms of this guarantee may be retained by the **employer** on condition that upon the issue of the last **final payment certificate**, the **employer** shall account to the **guarantor** showing how this amount has been expended and refund any balance due to the **guarantor**.
6. The **employer** shall have the absolute right to arrange his affairs with the **contractor** in any manner which the **employer** deems fit and the **guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **guarantor**. Without derogating from the foregoing, any compromise, extension of the construction period, indulgence, release or variation of the **contractor's** obligation shall not affect the validity of this guarantee.
7. The **guarantor** reserves the right to withdraw from this guarantee at any time by depositing the amount guaranteed with the **employer**, whereupon the **guarantor's** liability ceases.
8. This guarantee is neither negotiable nor transferable, and
 - (a) must be surrendered to the **guarantor** at the time when the **employer** accounts to the **guarantor** in terms of clause 5 above, or
 - (b) shall lapse in accordance with clause 2(d) above.
9. This guarantee shall not be interpreted as extending the **guarantor's** liability to anything more than the payment of the amount guaranteed.

SIGNED AT _____ ON THIS _____ DAY OF _____ 20__

AS WITNESS

1. _____
2. _____

Tender no: **BL25/015**

By and on behalf of

(insert the name and physical address of the guarantor)

NAME: _____

CAPACITY: _____
(duly authorised thereto by resolution attached marked
Annexure A)

DATE: _____

- A. No alterations and/or additions of the wording of this form will be accepted.
- B. The physical address of the guarantor must be clearly indicated and will be regarded as the guarantor's *domicilium citandi et executandi*, for all purposes arising from this guarantee.
- C. This guarantee must be returned to: _____

PART C2: PRICING DATA

C2.1 PRICING INSTRUCTIONS

PG-02.2 (EC) PRICING ASSUMPTIONS - JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)

Project title:		INSTALLATION AND CONNECTION TO A BACKUP GENERATOR, PROVISION OF EMERGENCY WATER STORAGE, FIRE ESCAPES AND COMPLETE REPAIR OF ROOF STRUCTURE			
Tender no:	BL25/015	WCS no:		Reference no:	14/2/1/4/12/6835/1

C2.1 Pricing Assumptions

C2.1.1 BILLS OF QUANTITIES

The **bills of quantities document** forms part of and must be read and priced in conjunction with all the other documents forming part of the **contract documents**, the Standard Conditions of Tender, Conditions of Contract, Specifications, Drawings and all other relevant documentation.

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all cost and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

No alterations, erasures, omissions or additions is to be made in the text and/or conditions of these Bills of Quantities. Should any such alterations, amendments, note/s or additions be made, the same will not be recognized, but reading of these Bills of Quantities as originally prepared by the Quantity Surveyor will be adhered to.

The contractor is cautioned that the use of any quantities appearing in these Bills of Quantities for the purpose of ordering material, it is done at own risk, and no liability whatsoever will be admitted by the Employer or Quantity Surveyor for the correctness of such Quantities. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

The prices and rates to be inserted by the Tenderer in the Bills of Quantities shall be the full inclusive prices to be paid by the Employer for the work described. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Market related prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out. The Employer reserves the right to balance the Bill rates where deemed necessary within the Tendered Amount.

A price or rate is to be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item. The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the Employer may also perform a risk analysis with regard to the reasonableness of such rates.

Should the full intent and meaning of any description not be clear, the bidder shall, before submission of his tender, call for a written directive from the principal agent, failing which it shall be assumed that

**PG-02.2 (EC) PRICING ASSUMPTIONS - JBCC 2000
PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)**

the contractor has allowed in his pricing for materials and workmanship in terms of National Best Practice.

All items for which terminology such as “inclusive” or “not applicable” have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

The Tenderer is required to check the Bills of Quantities and the numbers of the pages and should any be found to be missing or in duplicate, or should any of the typing be indistinct, or any doubt of obscurity arise as to the meaning of any description or particulars of any item, or if this Tender Enquiry contains any obvious errors, then the Tenderer must immediately inform the Principal Agent and have them rectified or explained in writing as the case may be. No liability whatsoever will be admitted by reason of the Contractor having failed to comply with the foregoing instruction.

The contractor is cautioned that the use of any quantities appearing in these Bills of Quantities for the purpose of ordering material, it is done at own risk and no liability whatsoever will be admitted by the Employer or Quantity Surveyor for the correctness of such Quantities. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

No alterations, erasures, omissions, or additions are allowed to be made to the text and/or conditions contained in these Bills of Quantities. If any such alteration, amendment, note or addition is made, it will not be recognised and the Bills of Quantities will be deemed to be as originally drawn up by the Quantity Surveyor.

A price or rate is to be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no rate is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word “included” or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item. The Tenderer may be requested to clarify nil rates, or items regarded as having nil rates; and the Employer may also perform a risk analysis with regard to the reasonableness of such rates.

All items for which terminology such as “inclusive” or “not applicable” have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

The Tenderer shall fill in rates for all items where the words “rate only” appear in the “Total” column. “Rate Only” items have been included where:

- (a) variations of specified components in the make-up of a pay item may be expected; and
- (b) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For ‘Rate Only’ items no quantities are given in the “Quantity” column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall however note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the “PW 371” and the principles contained in the latest version of the Standard System for Measuring Builders’ Work in South Africa. It is the intention that the abbreviated descriptions be fully described when read with the applicable measuring system and the relevant preambles and/or specifications. However, should the full intent and meaning of any description not be clear, the bidder shall, before submission of his tender, call for a written directive from the principal agent, failing which it shall be assumed that the contractor has allowed in his pricing for materials and workmanship in terms of National Best Practice.

The price quoted against each item of this Bills of Quantities shall cover the full inclusive cost of the complete work to which it refers, as described in the Conditions of Contract and Specifications and as

**PG-02.2 (EC) PRICING ASSUMPTIONS - JBCC 2000
PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)**

shown on the Drawings and shall allow for labour, material, transporting, loading, storage, supervision, commissioning, wastage, as well as the builders profit and attendance.

The Tenderer must ensure that he fully completes all columns of the Bill of Quantities including the Final Summary. The fully priced bill of quantities must be submitted with the tender or The Final Summary and the Section Summary pages MUST be returned with the tender document as indicated the PA-03 Notice and Invitation to Tender / PA-04 Notice and Invitation for quotation.

The tenderers are to ensure that they have read and understood the project specifications included in C3: Scope of Work. All the information provided in the Scope of Works form part of the work and must be included in the rates.

"The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender (as far as is practicable) as to:

- (a) the form and nature of the Site and its surroundings, including subsurface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works,
- (d) the means of access to the Site and the accommodation he may require

and, in general, shall be deemed to have obtained all information (as far as is practicable) as to risks, contingencies and all other circumstances which may influence or affect his Tender"

C2.1.2 VALUE ADDED TAX

The contract sum must include for Value Added Tax (VAT). All rates, provisional sums, etc. in the bills of quantities / lump sum document shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Bill of Quantities. The rates must however be net (exclusive of VAT) with VAT calculated and added to the total value thereof in the Final Summary. All rates and amounts quoted in the Bill of Quantities

C2.1.3 CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

C2.1.4 ARITHMETICAL ERRORS

Arithmetical errors found in the Bill of Quantities as a result of faulty multiplication of addition, will be corrected by the Engineer at the tender evaluation stage, as set out in the Tender Data.

C2.1.5 TRADE NAMES

Tenderers attention is drawn to the fact that wherever trade names or references to any catalogue have been made in these Bills of Quantities, it is purely to establish a standard for the required material. If use is made of any other equally approved material in lieu of the prescribed trade name or catalogue, the necessary price adjustments will be made.

C2.1.6 CONTRACT DOCUMENTS

**PG-02.2 (EC) PRICING ASSUMPTIONS - JBCC 2000
PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)**

The Tenderers are advised to examine the bills of quantities, drawings and specifications including all other contract documents and make themselves thoroughly acquainted with the nature and requirements of the work, as no claim for extra payment in this regard will be entertained. Should any parts of the drawings not be clearly intelligible to the Tender, he must, before submitting his tender, obtain clarification from the Principal Agent.

C2.1.7 FIXED PRICE CONTRACT

- (a) The Bills of Quantities document is not a fixed price contract and the Tenderers are to take note that contract price adjustments (CPAP) are applicable to this contract.

C2.1.8 PAYMENTS

Interim valuations and payments will be prepared on a monthly basis, all in terms of the conditions of contract.

The contractor is to note that no payment will be made for materials stored off site and in the case of materials being stored on site, payment will only be made for such materials on condition that they have not been delivered to the site prematurely, a tax invoice and proof of payment (ownership) is submitted by the Contractor.

C2.1.9 ACCOMMODATION ON SITE

It is imperative to note that no living quarters for construction workers on site will not be permitted for the full duration of the contract unless otherwise stated in the contract data or permission be granted by the Employer.

C2.1.10 LOCAL MATERIAL UTILISATION REPORT (LOCAL CONTENT)

Bidders to note that materials procured for the works should be from South African manufactures and suppliers. Imported materials shall only be considered under exceptional circumstances, based on compelling technical justifications, and subject to the approval by the NDPWI.

The contractor shall achieve in the performance of this contract the prescribed local content deliverables as listed in PA36 and annexures C thereto in the respective designated sectors as published by Department Trade Industry and Competition (DTIC). The Service Provider shall submit an accumulative monthly report to the Employer's representative indicating the percentage targets achieved which must be reconciled upon completion of the project and to form part of the final account.

The contractor shall be responsible for record keeping, documenting and submission of monthly local material utilization report with supporting documentation to the Employer's representative within 7 working days of the beginning of the successive month, in terms of DTI&C designated industry/sector/sub-sector schedule as per the PA36 and Annexures C attached to the tender document. The final percentage achievement to be reconciled upon completion of the project and form part of the final account.

Failure by the contractors to achieve the specified percentage of local content per designated industry/sector/sub-sector as listed will result in a thirty percent thirty percent (30%) penalty of the value not achieved, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control. Allowance must be made for submitting monthly reports illustrating the value of local material utilisation report.

C2.1.11 CONTRACT PARTICIPATION GOALS AND CIDB BUILD PROGRAMME

**PG-02.2 (EC) PRICING ASSUMPTIONS - JBCC 2000
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The contractor shall achieve in the performance of this contract the following Contract Participation Goals (CPGs) as indicated below:

Provision for pricing of compliance with the achieving the CPGs is made in the Contract Participation Goal Section of the Bills of Quantities and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced thereunder and no additional claims in this regard shall be entertained

Monthly progressive reports to be submitted to the Employer's representative indicating the percentage targets achieved which must be reconciled upon completion of the project and to form part of the final account.

C2.1.11.1 MINIMUM THIRTY PERCENT 30% SUB-CONTRACTING CONTRACT PARTICIPATION GOAL

**MINIMUM THIRTY PERCENT (30%) MANDATORY SUBCONTRACTING TO SMMEs:
IMPLEMENTATION OF PREFERENTIAL PROCUREMENT REGULATIONS 2017**

30% Mandatory subcontracting is applicable to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for thirty percent (30%) subcontracting to SMMEs in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.1. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.11.2 MINIMUM TARGETED LOCAL BUILDING MATERIAL MANUFACTURERS CONTRACT PARTICIPATION GOAL

The Minimum Targeted Local Building Material Manufacturers CPG is applicable to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Local Building Material Manufacturers CPG in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.2. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.11.3 MINIMUM TARGETED LOCAL BUILDING MATERIAL SUPPLIERS CONTRACT PARTICIPATION GOAL

The Minimum Targeted Local Building Material Suppliers CPG is applicable to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Local Building Material Suppliers CPG in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.3. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.11.4 MINIMUM TARGETED LOCAL LABOUR SKILLS DEVELOPMENT CONTRACT PARTICIPATION GOAL

The Minimum Targeted Local Labour Skills Development CPG is applicable to this project.

Provision is made within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Local Labour Skills Development CPG in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.4. The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

C2.1.11.5 CIDB BUILD PROGRAMME: MINIMUM TARGETED ENTERPRISE DEVELOPMENT: CONTRACT PARTICIPATION GOALS (CPG)

The Minimum Targeted Enterprise Development CPG is applicable to this project.

A provisional amount has been allowed for within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Enterprise Development CPG in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.5. The provisional amount allowed is for the appointment of training coordinator, mentor, training service providers and training of the beneficiary enterprises.

The contractor shall price his Profit and Attendance, all inclusive of associated costs to the contractor for implementation. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

The contractor shall complete a separate bill of quantities upon the award of the project and identification of the respective beneficiaries and the appointment of the training coordinator, mentor, training service providers of which the cost will be offset against the provisional amount allowed in the Bills of Quantities.

C2.1.11.6 CIDB BUILD PROGRAMME: MINIMUM TARGETED CONTRACT SKILLS DEVELOPMENT GOALS (CSDG)

The Minimum Targeted Contract Skills Development CPG is not applicable to this project.

A provisional amount has been allowed for within the Contract Participation Goal section in the Bill of Quantities for the Minimum Targeted Skills Development CPG in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.6. The provisional amount allowed is for:

- stipends payable to the beneficiaries
- appointment of training coordinator
- appointment of mentor (where applicable)
- appointment of training service providers
- other additional costs as per table 3 of the Standard

The contractor shall price his Profit and Attendance (all inclusive of associated costs to the contractor for implementation and reporting), based on the provisional amount in the Contract Participation Goal section in the Bill of Quantities. The contractor shall complete a separate bill of quantities upon the

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award of the project and identification of the respective beneficiaries. The CPG value to be achieved will be based on the actual contract amount which will be offset against the provisional amount allowed for within the Contract Participation Goal section in the Bill of Quantities.

Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

Payment

The contractor shall upon the appointment of beneficiaries, provide a breakdown of all the associated costs. The contractor shall provide a payment schedule as to how the CPG costs will be claimed against for inclusion in the monthly payment certificates.

(a) Payment to the contractor to accommodate Part/Full Occupational qualification and Trade qualifications:

Should the contractor select Part/Full Occupational qualification and Trade qualifications learners, then the employer shall make provision for payment to the contractor as indicated in Table 3 of the Standard.

The contract skills participation goal, expressed in Rand, shall not be less than the contract amount multiplied by a percentage (%) factor given in Table 2 in the Standard for the applicable class of construction works. Should the contractor select Part/Full Occupational qualification and Trade qualifications learners, then the employer shall make provision for payment to the contractor as indicated in Table 3 of the Standard.

No provision for an additional payment item for the payment of the supervisor and/or mentors for the provision of training as provided for in the Contract Participation Goal section in the Bill of Quantities for the training of part/full time occupational learners and/or trade qualification learners. The associated cost is deemed to be included in general supervision on site.

The contractor shall complete a separate bill of quantities upon award, indicating the type and number of beneficiaries as well as the associated Notional Cost of Training to be provided, on which payment will be based.

(b) Payment to the contractor to accommodate Work Integrated Learners and Candidates for professional registration:

Should the contractor select Work Integrated Learners and/or Candidates for professional registration, then the employer shall make provision for payment to the contractor as indicated in Table 3 of the Standard.

Provisional amounts have been included in the Contract Participation Goal section in the Bill of Quantities for the training of Work Integrated Learners and Candidates for professional registration. The contractor shall price his Profit and Attendance (all inclusive of associated costs to the contractor for implementation and reporting), based on the provisional amount in the Contract Participation Goal section in the Bill of Quantities.

The contractor shall complete a separate bill of quantities upon award, indicating the type and number of beneficiaries as well as the associated Notional Cost of Training to be provided, on which payment will be based.

The CPG value to be achieved will be based on the contract amount as defined by the Standard, which will be offset against the provisional amount allowed for within the Contract Participation Goal section in the Bill of Quantities.

The contractor shall apportion the cost of accommodating work integrated learners (P1 and P2 learners) and candidates for professional registration by using Table 3 in the Standard and this

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cost will be used to determine the Rand value and will be used in determining the contract participation goal in the Bills of Quantities.

Table 3: Notional Cost of Training; Headcount

Source: cidb Standard for Skills Development

Type of Training Opportunity	Provision for stipends (Unemployed learners only)	Provisions for mentorship	Provisions for additional costs*	Total costs	
				Unemployed learners	Employed learners
Method 1					
Occupational qualification	R7 000	R0	R9 000	R16 000	R9 000
Method 2					
TVET College graduates	R14 000	R0	R9 000	R23 000	N/A
Apprenticeship	R14 000	R0	R12 000	R26 000	R12 000
Method 3					
P1 and P2 learners	R24 000	R20 000	R4 500	R48 500	N/A
Method 4					
Candidates with a 3 year diploma	R37 000	R20 000	R4 500	R61 500	R20 000
Candidates with 4 year qualification	R47 000	R20 000	R4 500	R71 500	R20 000

Note: the required CPG will be recalculated based on the awarded tender amount and "Contract amount" once the beneficiaries have been appointed and actual costs are known. The notional cost of providing training opportunities will increase by CPI on an annual basis based on April CPI. Should the rates increase after bid award or during construction the rates will be adjusted as a remeasuarble item.

Example: Training Target Calculation for a R65,7m GB contract

Contract amount R65 700 000

Contract duration 12 Months

CSDG factor 0,50%

Minimum CSDG target $0,50\% \times R65\ 700\ 000 = R328\ 500$ (Minimum requirement)

Table 4: Notional cost recalculation upon appointment of beneficiaries

Skills Types	Number of learners	Notional Cost / Learner / Quarter	Notional cost/learner/year	Total Notional Cost over 12 months Contract
Method 2: Workplace learning opportunities, with unemployed TVET graduates	1	R23 000	R92 000	R92 000
Method 3: Candidacy for an unemployed learner with a 3-year qualification	1	R61 500	R246 000	R246 000
Total	2			R338 000

C2.1.11.7 NATIONAL YOUTH SERVICE TRAINING AND DEVELOPMENT PROGRAMME

The National Youth Service Training and Development Programme is applicable to this project.

The programme shall be implemented in terms of the Implementation of the National Youth Service Programme under the Expanded Public Works (EPWP) and shall be priced in the CPG section of the Bills of Quantities.

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Provision has been made within the Contract Participation Goal section in the Bill of Quantities for the National Youth Service Training and Development Programme CPG in the execution of this project as described in PG-01.2 (EC) SCOPE OF WORKS C3.6.7. The contractor to price all elements of this section and allowance must be made for submitting monthly reports in the prescribed manner as per examples of reports bound in the specification document.

C2.1.11.8 LABOUR-INTENSIVE WORKS

Labour Intensive Works is applicable to this project.

Where labour intensive work is specified in the Bill of Quantities and indicated by "LI" the contractor must price for and include in rates. Contractors are expected to use their initiative to identify additional activities that can be done labour-intensively to comply with the set minimum labour intensity target. Allowance must be made for submitting monthly reports illustrating the value of the works executed under Labour Intensive Works.

C2.2 Submission of Accrual Reports

The Contractor shall submit accrual reports to the client representative at the end of March and September each year for the duration of the Service Contract period from the date of appointment up to and including project closeout. This is to ensure that PMTE complies with the accounting framework GRAP, which requires that PMTE disclose all its accruals as at the end of each reporting date. Allowance must be made for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

PART C3: SCOPE OF WORK

PG-01.2 (EC) SCOPE OF WORKS – JBCC 2000 PRINCIPAL BUILDING AGREEMENT (Edition 6.2 of May 2018)

Project title:	INSTALLATION AND CONNECTION TO A BACKUP GENERATOR, PROVISION OF EMERGENCY WATER STORAGE, FIRE ESCAPES AND COMPLETE REPAIR OF ROOF STRUCTURE		
Tender no:	BL25/015	Reference no:	14/2/1/4/12/6835/1

C3. Scope of Works

Building work:

In general the work consists of the replacement of all roofs of the existing buildings as well as internal finishings, windows, doors, cupboards, ceilings, floorcoverings, etc. as well as the construction of staircases as fire escapes at the ends of buildings, new guard house and replacement of carports.

Civil work:

The work consists of the replacement of tar road surfaces with paving, levelling of existing paving for stormwater drainage, and alterations to water supply, stormwater reticulation and the supply of a new water tank on a steel structure, pumphouse, wash bay, etc.

Structural work:

The erection of new carports, tank stand and staircases on piles, new canopy entrance and light steel roof construction. New walkways will also be added to the premises

Mechanical and electrical work:

Provision of new air-conditioning to buildings, water supply to buildings, changes to the fire reticulation, water tank, etc. A new generator will also be installed as well as kitchen equipment. All electrical installations will be replaced with new, New DB's plugs, lights, etc.

C3.1 EXTENT OF THE WORKS

The works in general entails alterations, renovations, refurbishments, new construction, site works, etc. The existing buildings are all constructed out of concrete walls and are standing on top of existing piles. A large quantity of scaffolding will be required as most of the buildings are double storeys..

C3.2 ORDER OF THE WORKS

At site handover the User Client, Project manager and Consultants will determine the workflow and schedule to be followed during the 24 month construction period.
Describe any procedure affecting the sequence of construction or other activities.

C3.3 BUILDINGS OCCUPIED

Some buildings may be occupied by personnel, especially the Administration building.

C3.4 ACCESS

Easy access to the site is available and the position of the site office, etc. will be determined on site handover.

Standard for Minimum Requirements for Engaging Contractors and Sub-

Contractors on Construction Works Contracts, Government Gazette No. 42021 of 9 November 2018.

C3.5 STANDARD MINIMUM REQUIREMENTS

In terms of section 5(2) of the Construction Industry Development Board Act, 2000 (Act no. 38 of 2000) (the Act), the Construction Industry Development Board is empowered to establish and promote best practice standards, Standard Requirements and Guidelines which includes the following but not limited to:

- C3.5.1 cidb Best Practice: Green Building Certification, No. 34158 Government Gazette, 1 April 2011
- C3.5.2 cidb Standard for Developing Skills through Infrastructure Contracts, No. 36760 Government Gazette, 23 August 2013
- C3.5.3 cidb Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, No 36190 Government Gazette, 25 February 2013
- C3.5.4 Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017, No. 40553 Government Gazette, 20 January 2017
- C3.5.5 cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts, No. 41237 Government Gazette, 10 November 2017
- C3.5.6 cidb Standard for Minimum Requirements for Engaging Contractors and Sub-Contractors on Construction Works Contracts, No. 41237 Government Gazette, 10 November 2017
- C3.5.7 cidb Standard for Minimum Requirements for Engaging Contractors and Sub- Contractors on Construction Works Contracts, No. 42021 Government Gazette, 9 November 2018
- C3.5.8 cidb Standard for Developing Skills through Infrastructure Contracts, No. 43495 Government Gazette, 3 July 2020

C3.6 CONTRACT PARTICIPATION GOALS AND CIDB BUILD PROGRAMME

The contractor shall achieve in the performance of the contract the following Contract Participation Goals (CPGs) as specified below. Provision for pricing of compliance with the achieving the CPGs is made in the Contract Participation Goal Section of the Bills of Quantities and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced thereunder and no additional claims in this regard shall be entertained:

C3.6.1 Minimum Thirty Percent (30%) Mandatory Sub-contracting Contract Participation Goal

MINIMUM THIRTY PERCENT (30%) MANDATORY SUBCONTRACTING TO SMMES: IMPLEMENTATION OF PREFERENTIAL PROCUREMENT REGULATIONS 2017

30% Mandatory subcontracting is applicable to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprises (SMME's) in executing this contract, irrespective whether the thirty percent (30%) Participation Goal is applicable or not.

The thirty percent (30%) mandatory Sub-contracting shall be achieved in the execution of the contract in accordance with the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017 as published in the Government Gazette Notice No. 40553 of 20 January 2017.

- (a) SMME's involvement of at least 30% (Thirty percent) of the tender amount at the time of tender to be sourced from within 200km radius of the project site with the intention to maximize use of local SMMEs within the FREE STATE Province,
- (b) SMME's involvement of at least 30% (Thirty percent) of the Tender Value to be sourced from within 200km radius of the project site.

Bidders are cautioned not to under-price items earmarked to be executed by SMMEs as adjustment to too low rates will not be entertained by the Employer.

Bidders to sub-contract a minimum of thirty percent (30%) of the tender amount including VAT at the time of tender (All inclusive, Including VAT). to any one or more of the following categories:

- a. An EME or QSE
- b. An EME or QSE which is at least 51% owned by black people
- c. An EME or QSE which is at least 51% owned by black people who are youth
- d. An EME or QSE which is at least 51% owned by black people who are women
- e. An EME or QSE which is at least 51% owned by black people with disabilities
- f. An EME or QSE which is at least 51% owned by black people living in rural or underdeveloped areas or townships
- g. A co-operative which is at least 51% owned by black people
- h. An EME or QSE which is at least 51% owned by black people who are Military veterans
- i. More than one of the categories referred to in paragraphs (a) to (h).

Bidders to refer to the CSD for a list of prospective sub-contractors provided with the tender. The bidder may refer to the CSD website should the list provided be insufficient.

Bidders must ensure that the sub-contractors conform to the following:

- a. Possess relevant accreditation where applicable;
- b. Be registered with relevant bodies (CIDB, various Councils, etc.) where applicable;
- c. Possess necessary capabilities to deliver the sub-contracted work;
- d. Meet the requirements in terms of the stipulated designated groups; and
- e. Geographical located at the place where the project will be delivered. Geographical location must be determined using the following criteria:
 - Relevant Ward. If not available;
 - Relevant neighbouring Wards. If not available;
 - Relevant Local Municipality. If not available;
 - Relevant District Municipality. If not available;
 - Relevant Metro. If not available;
 - Relevant Province. If not available;
 - Relevant Neighbouring Province. And If not available;
 - Anywhere within the borders of South Africa .

It is the bidder's responsibility to source alternative SMMEs should the parties with whom agreements were entered into at the time of tendering either no longer exist or do not perform or render work of an acceptable standard, subject to the approval by the Employer. Failure to achieve the **minimum thirty percent (30%)** SMME participation based on the tender amount including VAT, will result in a penalty on the amount of work on which there is no compliance (Excluding VAT), unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.6.2 Minimum Targeted Local Material Manufacturer Contract Participation Goal

The Minimum Targeted Local Building Material Manufacturers CPG is applicable to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprise Local Material Manufacturers (SMME's) in executing this contract, irrespective whether a minimum percentage Participation Goals is applicable or not.

The Minimum Targeted Local Manufacturers of Material Contract Participation Goal, in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020.

A Targeted Local Material Manufacturer is a targeted enterprise that operates or maintains a factory or establishment that produces on its premises materials or goods required by the principal contractor for the performance of the contract.

Note: Adapted from SANS 10845-7:2015, definition 2.13

Preference shall be given to the Targeted Local Material Manufacturer where feasible in applicable province, and provided that:

- (a) Such materials comply in all respects with the specific requirements of PW371 and SANS specifications,
- (b) The non-availability of such materials shall not adversely affect the desired progress of the specific works,
- (c) The use of such suppliers shall not constitute grounds for any claim for increased cost in respect thereof,
- (d) Materials of at least **eight percent (8%)** of the total value of materials purchased excluding VAT to be sourced from within **200km** radius of the project site,
- (e) Material of at least **eight percent (8%)** of the total value of materials purchased excluding VAT to be sourced from within **200km** radius of the project site.

Failure to achieve the minimum **eight percent (8%)** Targeted Local Material Manufacturer participation expressed as a percentage of the original tender amount, excluding allowances and VAT, will result in a **thirty percent (30%)** penalty of the prorated targeted value of materials not complied with unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.6.3 Minimum Targeted Local Building Material Suppliers Contract Participation Goal

The Minimum Targeted Local Building Material Suppliers CPG is *applicable* to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprise Local Material Suppliers (SMME's) in executing this contract, irrespective whether a minimum percentage Participation Goals is applicable or not.

The Minimum Targeted Local Manufacturers of Material Contract Participation Goal shall be achieved in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract..

A targeted supplier is a targeted enterprise that

- a) owns, operates or maintains a store, warehouse or other establishment in which goods are bought, kept in stock and regularly sold to wholesalers, retailers or the public in the usual course of business; and
 - b) engages, as its principal business and in its own name, in the purchase and sale of goods.
- Note: Adapted from SANS 10845-7:2015, definition 2.14

Preference shall be given to the local material suppliers where feasible in the Free State Province, and provided that:

- (a) Such materials comply in all respects with the specific requirements of PW371 and SANS specifications,
- (b) The none availability of such materials shall not adversely affect the desired progress of the specific works,
- (c) The use of such suppliers shall not constitute grounds for any claim for increased cost in respect thereof,
- (d) Materials of at least **eight percent (8%)** of the total value of materials purchased excluding VAT to be sourced from within **200km** of the project site,
- (e) Material of at least **eight percent (8%)** of the total value of materials purchased excluding VAT to be sourced from within **200km** of the project site.

Failure to achieve the minimum **eight percent (8%)** Targeted Local Material Manufacturer participation expressed as a percentage of the original tender amount, excluding allowances and VAT, will result in a **thirty percent (30%)** penalty of the prorate targeted value of materials not complied with, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.6.4 Minimum Targeted Local Labour Skills Development Contract Participation Goal

The Minimum Targeted Local Labour Skills Development CPG is applicable to this project.

It is the requirement of the employer that the contractor enhances the use of local labour in executing this contract. This is required to be done through the use of both traditional building techniques and labour-intensive construction techniques careful and considered construction planning and implemented in the project irrespective whether a minimum percentage Participation Goal is applicable or not.

The Minimum Targeted Local Skills Development Contract Participation Goal shall be achieved in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract..

Targeted labour: individuals who:

- a) are employed by the principal contractor, sub-contractor or targeted enterprises in the performance of the contract;
- b) are defined as the target group in the targeting data; and
- c) permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area.

Adapted from SANS 10845-7:2015, definition 2.12

Targeting of labour by skills categories is only permissible within categories of semi-skilled and unskilled labour.

Contract participation goals for semi-skilled and unskilled labour shall be limited to on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract and in a manner that does not

compromise worker health and safety. In the case of targeted labour, the certification of records shall be in accordance with SANS 10845-8.

Beneficiaries will be sourced from the Free State Province for the full duration of the Construction Period, employed by either the principal contractor, sub-contractors or targeted enterprises. The total number of working days to complete the Works amount to **180** working days. The minimum CPG participation for Targeted Local Labour Skills Development is **seven percent (7%)**, expressed as a percentage of the total number of working days required to complete the Works. The contractor shall attain or exceed the CPG in the performance of the contract. Failure to achieve the minimum Targeted Local Labour Skills Development CPG will result in a payment reduction of **R5 000** (Excluding VAT), per working day which training has not been provided to the workforce in attendance, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

C3.6.5 CIDB BUILD PROGRAMME: Minimum Targeted Enterprise Development Contract Participation Goal

The Minimum Targeted Enterprise Development Contract Participation Goal is applicable to this project.

The aim of this best practice standard for indirect targeting for enterprise development in accordance with the Standard for Indirect Targeting for Enterprise Development (published in Government Gazette 36190 of 25 February 2013), as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract, is to promote enterprise development by providing for a minimum contract participation goal (CPG) of **seven percent (7%)** of the contract amount as defined in the Standard (Tender amount, excluding allowances and VAT on selected contracts to be undertaken by joint-venture partners or to be sub-contracted to developing contractors that are also to be beneficiaries of enterprise development support from the main contractor.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

The lead partner or main contractor shall dedicate a **minimum seven percent (7%)** of the tender value at the time of award, excluding allowances and VAT, to provide developmental support to targeted subcontractor or joint venture partner applicable to contracts in Grades 7 to 9, General Building and Civil Engineering contracts. Preference will be given to insert type of enterprises, e.g. General Building, Electrical, Mechanical, Plumbing, etc. It could be either or any combination of all Enterprises.

The contractor shall attain or exceed the enterprise development goal in the performance of the contract. Failing to achieve the Participation Goal will result in A) a thirty percent (30%) penalty of the value not achieved, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

C3.6.5.1 Criteria

The main or lead partner of the successful bidder shall:

- (a) There must be a needs analysis for indirect targeting and development or skill standard and should be development in at least any two developmental areas namely;

- Administrative and cost control systems
 - construction management systems and plans
 - planning, tendering and programming
 - business; technical; procurement skills
 - legal compliance
 - credit rating/history; financial loan capacity/history
 - contractual knowledge
- (b) The above needs analysis shall be mutually agreed upon between contractor and targeted enterprise
- (c) The contractor shall appoint an enterprise development coordinator to:
- perform needs analysis on the targeted enterprise to identify developmental goals
 - develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas
 - provide internal mentorship support to improve the targeted enterprise/s performance
 - monitor and submit to the employer's representative a monthly enterprise development report thereby reporting on the progress of the agreed development areas with the targeted enterprise/s
 - submit a project completion report to the Employer's representative for each targeted enterprise.

C3.6.5.2 Management

The contractor shall provide a competent person/s to provide internal mentorship to the Targeted Enterprise/s in the two agreed developmental areas.

C3.6.5.3 Competence Criteria for an Enterprise Development Co-ordinator

The enterprise development co-ordinator shall have the following competencies:

- Minimum experience of 5 years in the construction industry at Managerial level as a Site Agent, Contracts Manager, Site Manager, Construction Manager, Business Development Manager or Enterprise Development Manager.
- Minimum experience of 2 years in training and development in Building or Construction; and
- National Diploma or B Degree in the Built Environment or Business Management

C3.6.5.4 Format of Communications

The contractor shall submit to the Employer's Representative:

- *Project interim reports* in the specified format (**ED105P**) detailing interim values of the CPG that was achieved together with an assessment of the enterprise development support provided should be tabled and discussed at least monthly at progress meetings between employer's representative and the contractor;
- *Project completion report* in the specified format (**ED101P**) to the Employer's Representative for acceptance within 15 days of achieving practical completion. The report shall include the value of the CPG that was certified in accordance with the contract, cidb registration numbers of each and every targeted enterprise, and the value of the subcontracted works or of the joint venture entered into; and the participation parameter
- *Enterprise development declaration* (**ED104P**).

C3.6.5.5 The Key Personal

The contractor shall appoint an Enterprise Development Co-ordinator and a competent person/s to provide internal mentorship.

C3.6.5.6 Management Meetings

The contractor shall report to the Employer's Representative on the implementation and progress of the targeted enterprise development and CPG at monthly progress site meetings.

C3.6.5.7 Forms for contract administration

The contractor shall submit to the Employer's Representative the following proformas:

- Form ED 105P Project Interim Report
- Form ED 104P Enterprise Development Declaration
- Form ED 101P Project Completion Report

C3.6.5.8 Records

The contractor shall:

- keep records of the targeted enterprise development
- keep records of the payments made to the targeted enterprises in relation to the CPG.
- ensure all the documentation required in terms of the Standard is provided with each monthly progress payment certificate and according to a prescribed format where applicable.

C3.6.5.9 Payment Certificates

The contractor shall:

- achieve the measurable CPG and providing enterprise development support to the targeted enterprise/s as per the Standard.
- submit payment certificates to the Employer Representative at intervals determined in the Contract.

C3.6.5.10 Compliance requirements

Non-compliance with the Best Practice Project Assessment Scheme

The wording of regulation 27A of the cidb regulations makes provision for the Board to enforce the cidb code of conduct in the event of clients being found to be in breach of the best practice project assessment scheme.

- Not including the requirements of the cidb standards in the conditions of tender
- Not registering the award of contract on the cidb Register of Projects (RoP)
- Not reporting practical completion on the cidb Register of Projects (RoP)

3.6.6 CIDB BUILD PROGRAMME: Minimum Targeted Contract Skills Development Goal (CSDG)

The Minimum Targeted Contract Skills Development CPG is applicable to this project.

The contractor shall achieve or exceed in the performance of the contract the Contract Skills Development Goal (CSDG) established in the Standard for Developing Skills through Infrastructure

Contracts (published in Government Gazette No 43495 of 3 July 2020, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.

Failing to achieve the targeted Contract Skills Development Goal will result in A) a thirty percent (30%) penalty of the value of the portion not achieved, excluding VAT, and B) the issuing of completion certificates only after the completion certificate of achieving the skills development goal, counter-signed by the relevant individuals has been submitted, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The contractor shall apportion the learners in the different construction activities based on the scope of work. The cost of accommodating learners will be determined by using Table 3 in the Standard and this cost will be used to determine the value in Rand and will be added to the provision for training as provided for in the Preliminary and General section in the Bill of Quantities/Pricing schedules/Activity schedule.

C3.6.6.1 Methodology

The contractor shall achieve the measurable contract skills development goal by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the following in relation to work directly related to the contract or order:

Method 1: structured workplace learning opportunities for learners towards the attainment of a part or a full occupational qualification;

Method 2: structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012) subject to at least sixty percent (60%) of the artisan learners being holders of public TVET college qualifications;

Method 3: work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas;

Method 4: structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 above.

The contract skills participation goals, expressed in Rand, shall not be less than the contract amount multiplied by a percentage (%) factor given in Table 2 in the Standard for the applicable class of construction works.

Table 2: Contracting skills development goals for different classes of engineering and construction works contracts

Class of construction works as identified in terms of Regulation 25 (3) of the Construction Industry Regulations 2004		Construction skills development goal (CSDG) (%)
Designation	Description	
CE	Civil Engineering	0.25
CE and GB	Civil engineering and General Building	0.375
EE	Electrical Engineering works (buildings)	0.25
EP	Electrical Engineering works (infrastructure)	0.25
GB	General Building	0.5
ME	Mechanical Engineering works	0.25
SB	Specialist	0.25

The contractor shall apportion the learners in the different construction activities based on the scope of work. The cost of accommodating learners will be determined by using Table 3 in the Standard and this cost will be used to determine the value in Rand and will be added to the provision for training as provided for in the Preliminary and General section in the Bill of Quantities/Pricing schedules/Activity schedule.

Table 3: Notional Cost of Training per Headcount

Source: cidb Standard for Skills Development

Type of Training Opportunity	Provision for stipends (Unemployed learners only)	Provisions for mentorship	Provisions for additional costs*	Total costs	
				Unemployed learners	Employed learners
Method 1					
Occupational qualification	R7 000	R0	R9 000	R16 000	R9 000
Method 2					
TVET College graduates	R14 000	R0	R9 000	R23 000	N/A
Apprenticeship	R14 000	R0	R12 000	R26 000	R12 000
Method 3					
P1 and P2 learners	R24 000	R20 000	R4 500	R48 500	N/A
Method 4					
Candidates with a 3 year diploma	R37 000	R20 000	R4 500	R61 500	R20 000
Candidates with 4 year qualification	R47 000	R20 000	R4 500	R71 500	R20 000

Note: the required CPG will be recalculated based on the awarded tender amount and "Contract amount" once the beneficiaries have been appointed and actual costs are known. The notional cost of providing training opportunities will increase by CPI on an annual basis based on April CPI. Should the rates increase after bid award or during construction the rates will be adjusted as a remeasuarble item.

- The successful contractor may employ part occupational qualification learners, trade qualification learners, work integrated learners or candidates directly or through a Skills Development Agency (SDA), (A1 - List of cidb accredited SDAs).
- The successful contractor must employ at least sixty percent (60%) of the learners from an FET / TVET college should the contractor select to have part/full occupational qualification learners and trade qualification learners contributing to the CSDG.
- The successful contractor shall ensure that no single method shall contribute more than seventy five percent (75%) of the CSDG for the contract.
- The successful contractor may only place thirty three percent (33%) employed employees or that of his subcontractors contributing to the CSDG.
- The contractor shall employ at least sixty percent (60%) of the learners from a Public FET / TVET college should the contractor select to have trade qualification learners (Method 2) contributing to the CSDG.
- One of the objectives of the project is to train integrated learners – P1 and P2 learners, professional candidates.

C3.6.6.2 Management

- (a) The successful contractor must keep site records regarding the part occupational qualification learners', trade qualification learners', work integrated learners' or candidates' progress, site attendance, hours worked and other relevant information as required by the Standard.
- (b) The successful contractor shall provide the required number of appropriately qualified mentors to the maximum number of part occupational qualification learners, trade qualification learners, work integrated learners in the proportion as specified in the Standard.
- (c) The successful contractor shall provide a supervisor to manage the training of the part occupational qualification learners, trade qualification learners, work integrated learners, candidates.
- (d) The successful contractor shall submit to the employer's representative a baseline training plan in the specified format (Pro-forma A2) for the part occupational qualification learners, trade qualification learners, work integrated learners, candidates within 30 days of start of the contract.
- (e) The successful contractor shall submit to the employer's representative project interim report in the specified format (Pro-forma A3) on the progress of each of part occupational qualification learner, trade qualification learner, work integrated learner, candidate every three months.
- (f) The successful contractor shall submit to the employer's representative the names and particulars in the specified format (Pro-forma A4) of the supervisor, mentors for the part occupational qualification learners, trade qualification learners, work integrated learners or candidates within 30 days of start of the contract.
- (g) The successful contractor shall keep a daily record of all the part occupational qualification learners, trade qualification learners, work integrated learners, candidates on site and their daily activities and shall be made available to the employer's representative on request.
- (h) The successful contractor shall submit to the employer's representative the reports on the progress and status of the part occupational qualification learners, trade qualification learners, work integrated learners or candidates with the monthly invoice for the payment certificate.
- (i) The successful contractor shall have health and safety inductions for all part occupational qualification learners, trade qualification learners, work integrated learners or candidates.
- (j) The successful contractor shall conduct entry and exit medical tests of all part occupational qualification learners, trade qualification learners, work integrated learners or candidates.
- (k) The successful contractor shall provide personal protective equipment (PPE) to all part occupational qualification learners, trade qualification learners, work integrated learners or candidates at the start of their employment on site.
- (l) Based on the agreed skills methods the contractor may employ part Occupational Qualification Learners and /or Trade Qualification Learners and/or Work Integrated Learners and/or Candidates directly or through a Skills Development Agency (SDA), training provider or skills development facilitator (Form A1 - List of cidb accredited SDAs). The contractor shall ensure that no more than one Method shall be applied to any individual concurrently in the calculation of the CSDG for the contract.

C3.6.7 NATIONAL YOUTH SERVICE TRAINING AND DEVELOPMENT PROGRAMME (NYS)

The National Youth Service Training and Development Programme is *applicable* to this project.

The programme shall be implemented in terms of the Implementation of the National Youth Service Programme under the Expanded Public Works (EPWP) and shall be priced in the CPG section of the Bills of Quantities. Monthly reports are to be submitted to the Employer's Representative.

Failure by the contractors to achieve the specified number to be trained in the NYS section of the CPG section within the Bills of quantities will result in a Payment reduction as per bill of quantities per person, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

C3.6.8 LABOUR-INTENSIVE WORKS

Labour Intensive Works is *"not applicable"* to this project.

Where labour intensive work is specified in the Bill of Quantities and specified by "LI" the contractor must price for and include in rates. Contractors are expected to use their initiative to identify additional activities that can be done labour-intensively to comply with the set minimum labour intensity target. Allowance must be made for submitting monthly reports illustrating the value of the works executed under Labour Intensive Works.

Failure by the contractor to achieve the specified value of the Labour Intensive Participation Goal as stipulated within the Bills of quantities will result in a **thirty percent (30%)** penalty of the value of the works not done by means of labour intensive methods, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

Employer's objectives:

The employer's objectives are to deliver public infrastructure using labour-intensive methods in accordance with EPWP Guidelines.

Labour-intensive works:

Labour-intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of the scope of work.

Labour-intensive competencies of supervisory and management staff:

Contractors shall only engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/ Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes" and Site Agent/ Manager at NQF level 5 "Manage Labour-Intensive Construction Processes" or equivalent QCTO qualifications (See Appendix C) at NQF outlined in Table 1

C3.6.8.1 GENERIC LABOUR-INTENSIVE SPECIFICATION

Contractors are referred to the Guidelines for the Implementation of Labour-intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP) for the generic labour-intensive specification applicable to the contract.

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- trenches having a depth of less than 1.5 metres
- stormwater drainage
- roads
- sidewalks and non-motorised transport infrastructure
- water and sanitation

Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail

Hand excavatable material

Hand excavatable material is:

a) granular materials:

- i) whose consistency when profiled may in terms of table 2 be classified as very loose, loose, medium dense, or dense; or
- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) cohesive materials:

- i) whose consistency when profiled may in terms of table 2 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note

- 1) A boulder is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 2: Consistency of materials when profiled			
GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of a geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavatable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers;

a) to 90% Mod AASHTO;

b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or

c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All excavatable material including topsoil classified as hand excavatable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand. Any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

Clearing and grubbing

Grass and bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Loading

All loading shall be done by hand. Haulage equipment should be selected in a manner that allows loading by hand to the greatest extent possible.

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilised for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved. Appropriate rollers should be used where higher (than can be achieved by hand) levels of compaction are required or for large areas.

Grassing

All grassing shall be undertaken by sprigging, sodding, or seeding by hand.

Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must to be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

Manufactured Elements

Elements manufactured or supplied by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. Where the mass of an element exceeds 55 kg, consideration should be

given to the size of the element relative to its total mass related to the number of workers who would be needed to lift such mass

C3.7 Submission of Accrual Reports

The Contractor shall submit accrual reports to the client representative at the end of March and September each year for the duration of the Service Contract period from the date of appointment up to and including project closeout. This is to ensure that PMTE complies with the accounting framework GRAP, which requires that PMTE disclose all its accruals as at the end of each reporting date.

C3.8 Submission of Monthly Local Material Utilisation Report (Local Content)

The contractors shall be responsible for record keeping, documenting and submission of monthly local material utilization report with supporting documentation to the Employer's representative within 7 working days of the beginning of the successive month, in terms of DTI&C designated industry/sector/sub-sector schedule as per the PA36 and Annexures C attached to the tender document. The final percentage achievement to be reconciled upon completion of the project and form part of the final account. Failure by the contractors to achieve the specified percentage of local content per designated industry/sector/sub-sector as listed will result in a thirty percent thirty percent (30%) penalty of the value not achieved, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

Examples of calculating CPGs and related penalties

CPGs values are based on the Tender Amount at the time of the award. Determining the actual values is based either on the Tender Amount including allowances and Vat or the Tender Amount at the time of award excluding allowances and VAT, where Allowances include the following:

- Provisional amounts
- CPG allowances
- Nominated and/or selected subcontractors
- Contract price adjustment (Not provided for within the B of Q by NDPWI)
- Contingency amounts (Not provided for within the B of Q by NDPWI)

CPG values in the CPG Bill of Quantities Section will be recalculated based on the “Tender Amount” or the “Contract Amount” which ever applicable and the provisional amounts adjusted accordingly. Sanctions (penalties) are applicable to all CPGs where the contractor fails to achieve the minimum specified requirements, unless the contractor can prove to the Employer’s satisfaction that the non-achievement was beyond his/her control. No penalties will be applied should the CPG value, based on the original “Tender Amount” or the “Contract Amount”, has been achieved.

1.1. 30% SMME mandatory subcontracting CPG

When applicable, a minimum of 30% of the total tender amount at the time of award, including all allowances and VAT are to be subcontracted to SMMEs.

CPG calculation example:

“Tender Amount” = R150 mil

CPG 30% subcontracting value = R45 Mil

Calculation of penalty:

Percentage penalty applicable = 5% as specified in the Scope of Works (PG01.2)

CPG Achieved = R30 Mil (R15 Mil shortfall)

Penalty = R15 Mil x 5% = R750 000 Excl. VAT

1.2 Targeted Local Building Material Manufacturers CPG

When applicable, the CPG is expressed as a percentage of the “Contract Amount”, i.e. the Tender Amount at the time of award excluding allowances and VAT.

CPG calculation example:

“Tender Amount” = R150 Mil all-inclusive of allowances and VAT

“Contract Amount” = R130 Mil (Tender Amount at the time of award excluding allowances and VAT)

CPG to be achieved = 5% as specified in the Scope of Works (PG01.2)

CPG target value = R130 Mil x 5% = R 6,5 Mil (Value of material to be purchased from local manufacturers, excluding VAT)

Calculation of penalty:

Percentage penalty applicable = 10% as specified in the Scope of Works (PG01.2)

CPG target value = R6,5 Mil excluding VAT

CPG Achieved = R5,5 Mil (R1 Mil shortfall) excluding VAT

Penalty = R1 Mil x 10% = R100 000 excluding VAT

1.3 Targeted Local Building Material Suppliers CPG

When applicable, the CPG is expressed as a percentage of the “Contract Amount”, i.e. the Tender Amount at the time of award excluding allowances and VAT.

CPG calculation example:

“Tender Amount” = R150 Mil all-inclusive of allowances and VAT

“Contract Amount” = R130 Mil (Tender Amount at the time of award excluding allowances and VAT)

Any reference to words “Bid” or “Bidder” herein and/or in any other documentation shall be construed to have the same meaning as the words “Tender” or “Tenderer”.

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CPG to be achieved = 5% as specified in the Scope of Works (PG01.2)
CPG target value = R130 Mil x 5% = R 6,5 Mil (Value of material to be purchased from local suppliers, excluding VAT)

Calculation of penalty:

Percentage penalty applicable = 20% as specified in the Scope of Works (PG01.2)
CPG target value = R6,5 Mil excluding VAT
CPG Achieved = R5,5 Mil (R1 Mil shortfall) excluding VAT
Penalty = R1 Mil x 20% = R200 000 excluding VAT

1.4 Targeted Local Labour Skills Development CPG

When applicable, the CPG is expressed as a percentage of the total number working days required to complete the Works.

CPG calculation example:

"Tender Amount" = R150 Mil all-inclusive of allowances and VAT
"Contract amount" = R130 Mil (Tender Amount at the time of award excluding allowances and VAT)
Number of working days required to complete the Works based on the construction period = 600 days
CPG percentage participation to be achieved = 30% as specified in the Scope of Works (PG01.2)
Required number of working days training to be provided = 180 days (600 x 30%)

Calculation of penalty:

Payment reduction = R 5 000 per day for not providing training as specified in the Scope of Works (PG01.2)
CPG = 600 working days x 30% = 180 working days training to be provided
CPG Achieved = 160 days (20 days shortfall where no training was provided)
Penalty = 20 days x R5 000 payment reduction per day = R100 000 excluding VAT

1.5 National Youth Service Programme (NYS) CPG

When applicable, a separate NYS Bill of Quantities will be included in the tender documentation will indicate the number of beneficiaries to be trained.

Calculation of penalty:

Payment reduction per person not trained as stipulated in the NYS Bill of Quantities = R 2 500 per person.
Total number of NYS Beneficiaries as stipulated in the NYS Bill of Quantities = 25
Total Number of NYS beneficiaries trained = 20 (shortfall of 5 beneficiaries)
Penalty = 5 x R2 500 = R12 500 Excl. VAT

1.6 Labour Intensive Works CPG

When applicable, the work to be done by way of Labour intensive methods are specified in the Bills of Quantities with a "LI".

CPG calculation example:

"Tender Amount" = R150 Mil all-inclusive of allowances and VAT
"Contract Amount" = R130 Mil (Tender Amount at the time of award excluding allowances and VAT)
CPG value = R10 Mil (Total value of labour-intensive works specified in the Bills of Quantities)

Calculation of penalty:

CPG value = R10 Mil
Percentage penalty applicable = 30% as specified in the Scope of Works (PG01.2)
CPG Achieved = 9 Mil (R1 Mil shortfall)
Penalty = R1 Mil x 30% = R300 000 Excl. VAT

1.7 Cidb BUILD Programme: Enterprise Development

When applicable, the Enterprise Development CPG expressed as a percentage of the "Contract amount" =

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Tender amount at the time of award excluding allowances and VAT. Failure to achieve the minimum Targeted Local Labour Skills Development CPG will result in a payment reduction of an amount specified in the Scope of Works (PG01.2) per working day where training was not provided.

The monetary value of training to be provided is stipulated in the CPG BoQ section. The number of beneficiaries to be trained is dependent on the "Contract Amount" as well the number of beneficiaries appointed which will generally resort under the Grade 1 and 2 cidb categories. The provisional amount will therefore be adjusted in terms of the "contract Amount", the number of beneficiaries to be trained and the actual cost for providing the training.

Part 1: Calculation of 5% CPG example:

"Tender Amount" = R150 Mil all-inclusive of allowances and VAT

"Contract Amount" = R130 Mil (Tender Amount at the time of award excluding allowances and VAT)

CPG percentage participation to be achieved = 5% as specified in the Scope of Works (PG01.2) CPG

value = R6,5 Mil (Value of work to be subcontracted to emerging enterprises)

Calculation of penalty

Percentage penalty applicable = 30% as specified in the Scope of Works (PG01.2)

CPG Minimum 5% = R6,5 Mil

Achieved = R5,5 Mil (Only subcontracted work to the value of R5,5 Mil, i.e. R1 Mil shortfall)

Penalty = R1 Mil x 30% = R300 000 Excl. VAT

Part 2: Calculations in terms of training to be done:

The number of enterprises to be developed is subject to the contract amount and the apportionment of the work as per Example 1 below.

Number of enterprises to be trained = 6 x 1 GB subcontractors

Total cost for training = R 1 660 000

Calculation of penalty

Total number of enterprises to be trained = 6

Total number trained = 4 (2 Shortfall)

Training cost per beneficiary = R1 660 000 / 6 = R 276 666,67 per beneficiary

Penalty = R 276 666,67 x 2 x 30% = R166 000 Excl. VAT

B of Q Item	Description	Unit	Rate	Quantity	Amount (R)
5	Enterprise Development				
5.1	Enterprise Development of Targeted Enterprise or JV partners				
5.1.1	Appointment of training co-ordinator	Per Quarter	45 000	8	360 000
5.1.2	Appointment of Mentor /Training Service provider	Per Quarter	135 000	8	1 080 000
5.1.3	Needs Analysis and Enterprise Development Plan per Targeted Enterprise	No.	5 000	6	30 000
5.1.4	Monitoring and Interim reporting per targeted enterprise	Per Quarter	20 000	8	160 000
5.1.5	Project Completion report per Targeted Enterprise	No.	5 000	6	30 000
	Provisional Sum to be carried over to CPG bill of quantities				1 660 000

"Contract amount" Tender amount excl. allowances and VAT. 130 000 000

CPG Monetary value (5%) to be subcontracted to beneficiaries for training 6 500 000

No of enterprises based on the CPG value 6

Grade 1 / 2
GB/CE,ETC.

Contract period (months) 24

Note: Rates to be determined by PQS and adjusted to accepted quotation amounts

1.8 Cidb BUILD Programme: Skills Development (Principal contractor including subcontractors and consultants)

When applicable, the contract skills development participation goals, expressed in Rand, shall be no less than the "contract amount" multiplied by a percentage (%) factor for the applicable class of

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construction works.

The monetary value of training to be provided is stipulated in the CPG BoQ section. The number of beneficiaries to be trained is dependent on the "Contract Amount" as well the number of beneficiaries appointed which will generally resort under the Grade 1 and 2 cidb categories. The provisional amount will therefore be adjusted in terms of the "Contract Amount", the number of beneficiaries to be trained from which *Method* and the actual cost for providing the training.

CPG Calculation

Table 2: Contracting skills development goals for different classes of engineering and construction works contracts

Source: cidb Standard for Developing Skills through Infrastructure Contracts as published in the Government Gazette Notice No. 43495 of 3 July 2020 (Page 7)

Class of construction works as identified in terms of Regulation 25 (3) of the Construction Industry Regulations 2004		Construction skills development goal (CSDG) (%)
Designation	Description	
CE	Civil Engineering	0.25
CE and GB	Civil engineering and General Building	0.375
EE	Electrical Engineering works (buildings)	0.25
EP	Electrical Engineering works (infrastructure)	0.25
GB	General Building	0.5
ME	Mechanical Engineering works	0.25
SB	Specialist	0.25

"Contract amount" = Tender amount at the time of award excluding allowances and expenses, and VAT

Contractor CPG:

CPG calculation

"Contract amount" x factor from Table 3 above.

CPG calculation example:

"Tender Amount" = R150 Mil for GB, all inclusive of allowances and VAT

"Contract Amount" = R130 Mil (Tender Amount at the time of award excluding allowances and VAT)

Factor for GB = 0,5% (as per Table 2 above)

CPG in R value = R130 Mil x 0,5% = R650 000 i.e. total cost of training to amount to R650 000

Calculation of penalty:

Percentage penalty applicable = 30% as specified in the Scope of Works (PG01.2)

CPG value = R650 000

Achieved = R550 000 = R100 000 Shortfall

Penalty = R100 000 x 30% = R30 000 Excl. VAT

Calculations based on "Contract Amount" after b5d award and aafter bid award and appointment of beneficiaries

Actual CPG training requirement value after award upon selecting method/s of training and appointment of beneficiaries = R676 000 (Table 4 below) and the provisional amount allowed for to be adjusted accordingly. The new monetary value of training required will then form the basis for determining penalties applicable. No penalties will be applied should the CPG value, based on the "Contract Amount" be achieved.

Table 4: Notional cost recalculation upon appointment of beneficiaries.

Source: cidb Standard for Developing Skills through Infrastructure Contracts as published in the Government Gazette Notice No. 43495 of 3 July 2020 (Page 10)

Skills Types	Number of learners	Notional Cost / Learner / Quarter	Notional cost / learner / year	Total Notional Cost over 12 months Contract
Method 2: Workplace learning opportunities, with unemployed TVET graduates	2	R23 000	R92 000	R184 000

Tender no.:
WCS no.:
PG-01.2 (EC): Scope of Works – JBCC
(JBCC 2000- Edition 6.2 of May 2018)

Method 3: Candidacy for an unemployed learner with a 3-year qualification	2	R61 500	R246 000	R492 000
Total	4			R676 000

Note: the required CPG will be recalculated based on the awarded Tender amount and "Contract Amount" once the beneficiaries have been appointed and actual costs are known

Note: The notional cost of providing training opportunities will increase by CPI on an annual basis based on April CPI as published by Stats SA. The rates will be adjusted as an adjustment to the provisional amounts should the rates increase after bid award or during the construction period

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

TENDER STAGE HEALTH AND SAFETY SPECIFICATIONS FOR

**THABONG SAPS TRAINING ACADEMY: COMPLETE REPAIR
AND UPGRADING OF ROOF STRUCTURES AND
CIVIL WORKS INCLUDING INSTALLATION AND CONNECTION TO A
BACKUP GENERATOR SET, INSTALLATION OF FIRE ESCAPE AND
THE PROVISIONING OF EMERGENCY
WATER STORAGE**



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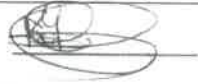
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1.0 PREAMBLE

Safetyrise consultants has been appointed by the DPWI to perform construction Health and Safety agent duties in the project, WCS 054726: **Welkom - Thabong SAPS Training college**: installation and connection to a backup generator; provision of emergency water storage; fire escape, and complete repair to roof structure.

1.1 Background and scope of project

Thabong SAPS College is situated in the town of Welkom in the Matjhabeng municipality. Figure 1 presents an overview of the college buildings.



Figure 1: Overview of the building project site (Source Architects report)

The brief scope of work is provided in sub-section 4.9.

2.0 INTRODUCTION

Occupational Health and Safety Act 85, of 1993 has +20 regulations, most of which are enforced to employers in construction as well. The major regulation that is being implemented in construction projects is **Construction Regulations, 2014**. **Construction Regulations, 2014** is intended to ensure that health and safety (H&S) issues are properly considered during a project's development.

Principal Contractor must implement the **Construction Regulations, 2014** and address all relevant aspects of H&S compliance in their H&S Plan and in their implementation while complying with all the relevant regulations of the **Occupational Health and Safety Act 85, of 1993** and sister Acts such as the **Compensation for Occupational Injuries and Diseases Act, 130. 1993**.

3.0 SCOPE & APPLICATION OF CONSTRUCTION REGULATIONS 2014

3.1 Legislative Requirements of the Client

Construction Regulations, 2014 defines a client as any person for whom construction work is being performed. Section 3 of **Construction Regulations, 2014**; specify that a client has to fulfil duties as follows:

1. Apply to the provincial director in writing for a construction work permit (CWP) to perform work if the intended work will:
 - Exceed 365 days.
 - Will involve more than 3600 person days' work: or
 - The works contract is of a value equal to or exceeding sixty million rand or Construction Industry Development Board (cidb) grading level 7.

Section 5 of **Construction Regulations, 2014**; specify that a client must fulfil duties as follows:

- Prepare a baseline risk assessment for intended work.
- Prepare site specific health and safety specifications for intended work based on baseline risk assessment.
- Ensure principal contractor appointed has the resources to carry out work safely.
- Approve the Principal Contractor Health and Safety Plan.
- Monitoring of compliance by the Principal Contractor.

3.2 Legislative Duties of Principal Contractors

Construction Regulations, 2014 defines a principal contractor as an employer appointed by a client to perform construction work. Principal contractor is required to prepare and provide the client with a site-specific H&S plan prior to the commencement of the work. Principal contractor must ensure requirements in table 1 are met.

Table 1: Principal Contractors H&S Requirements

ITEMS	REQUIREMENTS (LEGISLATIVE)
Notification of construction works	Notification of construction works at the Department of Employment and Labour (DoEL, (Construction Regulations, 2014-4 (1));
Health and safety plan	Prepare and provide a suitable, site specific and sufficiently documented H&S plan to the client, (Construction Regulations, 2014-7(1) (a));
Health and safety file	Provide and maintain a H&S file to be kept on site throughout the project duration, (Construction Regulations, 2014-7(1) (b));
Site audits	Conducts periodic site audits at 30 days interval, (Construction Regulations, 2014-7(1) (c) (vii));
Medical certificate of fitness	Ensure all his / her employees have a valid medical certificate of fitness specific to the work to be performed, issued by an occupational health practitioner in the form of annexure 3, (Construction Regulations, 2014-7(1) (g) and 7(8)) ;
H&S induction training	Ensure no employee and visitor is allowed or permitted to enter any site unless that employee or person has undergone H&S induction training pertaining to the hazards prevalent to the site, (Construction Regulations, 2014-7(5) and 7(6));
Contractor appointment	Appoint a contractor in writing in compliance with Occupational Health and Safety Act, 85. 1993, (Construction Regulations, 2014-7(1) (c) (v));
Management and supervision of construction work	Appoint competent persons to ensure management and supervision of construction works, including the duty of

	ensuring H&S compliance, (Construction Regulations 2014-8 (1));
Construction health and safety officer (CHSO)	Appoint a full-time construction H&S officer in writing to assist in the control of health and safety related aspects on the site, (Construction Regulations, 2014-8(5));
Risk assessment	Have risk assessment performed by an appointed competent person in writing before the commencement of construction works, (Construction Regulations, 2014-9(1));
Fall protection plan	Appoint a competent person in writing to prepare a fall protection plan and roof work plan, (Construction Regulations, 2014-10(1) and 10(5));
Protection of structures	Take all reasonable steps to prevent uncontrolled collapse of any new or existing structures, (Construction Regulations, 2014-11 (1) (a));
Excavations	Ensure excavation work is carried out under the supervision of a competent person, (Construction Regulations, 2014-13 (1) (a));
Scaffolding	Appoint a competent person in writing to supervise all scaffolding work, (Construction Regulations, 2014-16 (1)) and SANS 10085 ;
Bulk mixing plant	Appoint a competent person/s in writing to operate and supervise a bulk mixing plant, (Construction Regulations, 2014-20 (1));
Construction vehicle and mobile plant	Ensure acceptable design, construction, maintenance, and use of construction vehicle and mobile plant, (Construction Regulations, 2014-23 (1));
Electrical installations and machinery on construction sites	Ensure compliance with Electrical Installations Regulations, 2009 , and Electrical Machinery Regulations, 2011 , (Construction Regulations, 2014-24);
Use and temporary storage of flammable liquids	Ensure compliance with the requirements of sections 25 (a-g) under this regulation, in addition to compliance with General Safety Regulations, 2003 , (Construction Regulations, 2014-25);
Housekeeping and general safeguarding	Ensure that suitable housekeeping is continuously implemented on construction site, in addition to compliance with Environmental Regulations for Workplaces, 1987 , (Construction Regulations 2014-27);
Stacking and storage on construction sites	Ensure a competent person is appointed in writing to supervise all stacking and storage on site, and requirements under these regulations, in addition to compliance with General Safety Regulations 2003 , (Construction Regulations, 2014-28 (a-d));
Fire precautions on construction sites	Ensure that in addition to compliance with Environmental Regulations for Workplaces, 1997 , the requirements under Construction Regulations, 2014-29 (a-m) are complied with;
Construction employees' facilities	Ensure that in addition to compliance with Facilities Regulations 2004 , clean, hygienic and maintained facilities under Construction Regulations, 2014-30 (1-2) are complied with.

4.0 PROJECT DETAILS

4.1 Project title:

Welkom: Thabong: installation and connection to a backup generator, provision of emergency water storage, fire escapes and complete repair of roof structure at the SAPS training college.

4.2 Project location:

8004/1 Modikeng Road, Thabong Ext 1, Welkom, Free State. ([VIEW IN GOOGLE MAPS](#)).

4.3 Project period:

24 Months

4.4 Site Access:

1. Access through tarred roads.
2. Fenced site.
3. Closer to busy public traffic.
4. The site is easily accessible to the public road to facilitate transportation of material.
5. Fairly level ground.
6. No existence of overhead power lines.
7. Far away from municipal dumping sites, burial sites etc.
8. Far away from areas where police or military rifle practices are held.
9. Possible SAPS college staff and students' interaction with construction workers;
10. Far away from railway lines.
11. Not too close to public schools.

4.5 Level of risk of the projects

This project is classified as a **high risk** in terms of H&S and serious considerations for achieving full compliance with legal requirements shall be expected.

4.6 Existing services

Principal contractor shall assign competent personnel to locate and protect existing electrical cables and other cables existing on site. Additionally, water pipes are also to be located and protected similarly.

4.7 Security

The contractor shall provide and maintain twenty-four-hour site security and loss control systems all to the satisfaction of the principal agent. It is envisaged that these procedures will incorporate, inter alia, gate control for personnel and vehicles, individual entry permits, regular security patrols and the like.

4.8 Environmental disturbance

The site shall be continually watered down to prevent excessive dust emanating from construction vehicle movements. Rubble and general waste materials shall not pile up on site. Noise control measures shall as far reasonably practicable be implemented to manage noise nuisance.

4.9 Scope of works

The work consists of the following:

1. Alterations
2. Piling
3. Precast concrete
4. Concrete, formwork and reinforcement
5. Masonry
6. Waterproofing
7. Roof coverings
8. Carpentry and joinery
9. Ceilings, partitions and access flooring
10. Floor coverings, wall linings etc
11. Ironmongery
12. Metalwork
13. Plastering
14. Tiling
15. Plumbing and drainage
16. Glazing
17. Painting
18. General site works
19. Stormwater drainage soil drainage and water supply
20. Parking and paving
21. Walkways and yard walls
22. Carports, canopies
23. Washbay, pump house
24. Pool fencing
25. Electrical installation
 - Low-voltage distribution
 - Small power and lighting
 - Lightning protection and earthing
 - Fire detection
 - Outdoor standby diesel generator installations
 - Diesel tanks
 - Training and instruction of the operator (generators)
 - Testing and commissioning
26. Mechanical installation
 - Fire reticulation
 - Kitchen equipment
 - HVAC installation
 - Gas installation
 - Wets services

4.10 Details of the client and professional team

Client:

Client details	
Company name	DPWI
Contact person	Musawenkosi Mncwango
Contact number	073 648 6837
Email	musawenkosi.mncwango@dwp.gov.za

Architect details	
Company name	Burger and Fourie Architects CC
Contact person	Lukas Fourie
Contact number	051 436 0110 / 0832791704
Email	Bfarch.bfn@gmail.com
Quantity surveyor details	
Company name	BTKM Quantity Surveyors
Contact person	Sechaba Pitso / Herman Brönnner
Contact number	083 539 2956 / 083 635 8027
Email	Sechabap@btkm.co.za / Hermanb@btkmgroup.co.za

Structural engineer details	
Company name	BVi Consulting Engineers
Contact person	Johnnie Haefele
Contact number	051 447 2137 / 083 271 7047
Email	Johnnieh@bvi.co.za

Civil engineer details	
Company name	BVi Consulting Engineers
Contact person	Jan-Louis Reynders
Contact number	051 447 2137 / 082 852 5108
Email	Janr@bvi.co.za

Mechanical engineer details	
Company name	Department Public Works and Infrastructure
Contact person	Oliver Chimusoro Slade Hodge
Contact number	New 083 305 8134
Email	Oliver.Chimusoro@dpw.gov.za Slade.Hodge@dpw.gov.za

Electrical engineer details	
Company name	PL Consultants
Contact person	Wim Pelser Pr. Eng.
Contact number	0829203407
Email	wimpelser53@gmail.com

Health and safety agent details	
Company name	Safetyrise Consultants
Contact person	Rose Matete
Contact number	073 953 2173
Email	Rose.safetyrise@gmail.com / Rose@safetyrise.co.za

5.0 PRINCIPAL CONTRACTORS COMPLIANCE REQUIREMENTS

5.1 Health and safety policy

The H&S policy statement normally contains the aims and objectives of a company. Section 7(3) of the **Occupational Health and Safety Act** provides that employers must prominently display a copy of the H&S policy signed by the Chief Executive Officer in the workplace where employees normally report for service. In compliance with the Act (OHS), the principal contractor shall display the H&S policy in a common wall at the site office.

H&S policy is expected to possess the following characteristics:

- A description of the company;
- A validity of 12 months;
- Date;
- Name; and
- Signature of the company CEO.

5.2 Site rules and restrictions

The client has established the following site safety rules:

- Protection of existing buildings;
- Watering of construction site against dust hazards;
- Permission to commence with construction works;
- The provision of water and lighting and single phase electric power for use by the subcontractors;
- The provision of a suitable area for establishment of temporary office accommodation, workshops and storage of planting materials;
- Scaffolding erected at a suitable height;
- Allow reasonable time for another arrangements on erection of hoisting equipment;
- Protection isolation of existing works and works occupied in sections;
- Notice before covering work;
- Provide an erect temporary dust screens as prescribed by the principal agent;
- Remove temporary dust screens on completion of the works;
- Not to let any construction workers to lodge and reside in the construction facilities to be provided on site;
- Remove rubble and other items removed from the structures on a frequency not exceeding of days;
- Provide fumigation of rodents, etc at your own costs when rodents are discovered;
- Prevent workers from taking pictures;
- Not to allow visitors to the construction site;
- All construction workers including those of subcontractors must undergo security clearance by the SAPS;
- All construction workers including those of subcontractors not to commence with construction works if they are not in possession of certificate of medical fitness;
- All workers to be involved in roof coverings are to undergo drug testing every 6 months;
- Obtain entrance permit for personnel and other traits men entering the area and comply with all regulations and instructions which may be issued from time to time;
- Not to allow any person or persons who have been denied access to the works by the principal agent.

5.3 A copy of the Occupational Health and Safety Act, 85. 1993

A copy of the **Occupational Health and Safety Act and Summary of Regulations** must be displayed on a common wall on site at all times.

5.4 The Health and Safety Plan - C.R. 5 (1)

A site specific H&S plan must comply with the following:

- a. It must be a documented plan addressing hazards (risks) identified on the specific site.
 - Workplace H&S hazards and related risks
 - Ergonomic hazards and related risks
- b. It must also include safe working procedures (method statements) to mitigate, reduce or control the hazards identified.

- c. Be based on the findings of the baseline risk assessment/s conducted on the specific construction site.

5.5 H&S file

The contractor has to prepare a suitable H&S file and update it overtime. The file shall contain all relevant H&S documents required in the project.

5.6 Administrative H&S Requirements

5.6.1 Notifications of Intention to Commence Construction Work

Notification is not applicable.

5.6.2 Occupational Health and Safety Policy

The contractor shall submit a H&S Policy signed by their Chief Executive Officer with the H&S ~~plan~~ and a copy to be available on site throughout the duration of the project. The Policy must outline objectives and how they will be achieved and implemented by the company / contractor.

5.6.3 Mandatory Agreement - Section 37 (2) O.H.S. ACT

The Client / Agent / Principal Contractor / Sub-contractor shall sign an agreement as per **Occupational Health and Safety Act, 85 of 1993**, in which all parties exercise their affective duties as employers in their own right and will therefore see that each company or employer will comply with the Occupational Health and Safety Act and the relevant regulations.

5.6.4 Contractor's responsible persons to manage H&S on site

Principal contractor shall submit supervisory appointments as well as any relevant appointments in writing (as stipulated by OHSA and Construction Regulations), prior to commencement of work. Proof of competency and acknowledgement by those nominated must accompany all appointment letters.

Principal contractor must appoint two Construction H&S officers in this project because of the complexities associated with this project. There shall not be any deviation with this requirement.

5.6.4.1 Competency for contractor's appointed key personnel

Contractors' competent persons for the various risk management portfolios shall fulfil the criteria as stipulated under the definition of Competent in accordance with the **Construction Regulations, 2014**. Proof of competence for the various appointments must be included.

An organogram outlining the proposed structure for management of the construction site including H&S must be included in the H&S safety plan. In cases where appointments have not been made, the Organogram shall reflect the intended positions. The Organogram shall be updated when there are changes in management of the structure of the project. **Figure 1** provides a sample that can be adopted in preparing an organogram.

Figure 1: Organogram

CEO 16(1)

Construction Manager CR-8(1) &
Section 16(2)

Assistant Construction Manager CR-
8(2)

Construction Supervisor CR-8(7)

Health and Safety Officer CR-8(5)

First Aider GSR-3

Risk Assessor CR-9(1)

Fire Fighter GSR-8(2) & CR 29

Incident Investigator GAR-9

COVID-19 Compliance Officer

Fall Protection Planner CR-10(1) (a)

Construction Vehicle Driver CR-23(d)
(1)

Excavation Work Supervisor CR-13(1)
(a)

Stacking and Storage Supervisor CR-
28(a)

Scaffolding Supervisor CR-16(1)

Bulk Mixing Work Supervisor CR-20(1)

Temporary Works Supervisor CR-12(2)

Ladder Inspector GSR-13 (a)

Hand tool Inspector SECT.8

5.6.5 Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

Principal Contractor shall submit a valid letter of good standing with its Compensation Insurer to the client as proof of registration. Contractors shall submit proof of registration to the principal contractor before they commence work on site.

5.6.6 Risk Assessment

Principal Contractor shall cause a hazard identification to be performed by a competent person appointed in writing and who is in possession of proof of competency in the form of proof of training. The risk assessment shall form part of the construction phase H&S plan submitted for approval by the Client. The risk assessment must include the following information:

- a. Site specific activities derived from the scope of works;
- b. Health and safety hazards identified and related to site activities;
- c. Risks resulting from the hazards identified;
- d. Control measures to eliminate reduce and/or control the risks assessed;
- e. Responsible persons for controlling the risks.

5.6.7 Methods statements

- a. Method statements shall be prepared for the following site activities:
 - I. Roof work;
 - II. Piling;
 - III. Electrical installations
 - IV. Mechanical installations
 - V. Steel works
 - VI. Welding

5.6.8 A risk monitoring plan

Risk assessment shall be accompanied by a risk monitoring plan.

5.6.9 A risk review review plan.

Risk assessment shall be accompanied by a risk review plan.

5.6.10 H&S awareness and training

The contractor shall ensure that all workers on site are informed, instructed and trained by a competent person regarding any hazards, risks and control measures identified before work commences and thereafter at regular intervals as work progresses, and whenever new risks are identified. Principal Contractor shall be responsible for ensuring that all persons who could be negatively affected by its operations are informed of risks they are likely to experience by being at the project site.

5.6.10.1 H&S induction training

Principal Contractor shall ensure that all site personnel undergo a risk specific H&S induction training session before commencing work any site activities. A record of attendance shall be kept in the site safety file.

5.6.11 H&S audits, monitoring and reporting

Internal monthly H&S auditing of the project must be conducted and audit reports must be incorporated to the project reports with copies being kept in the site safety file. H&S audit reports have to cover compliance by sub-contractors who shall be appointed.

5.6.12 Emergency procedures

The contractor shall prepare a detailed emergency procedure before commencement on site. The procedure shall detail the response plan including the following key elements:

- List of key competent personnel;
- Detail of emergency services;
- Actions or steps to be taken in the event of the specific types of emergencies identified;
- Information on hazardous material/situations.

Emergency procedure(s) shall include, but shall not be limited to, fire, spills, accidents to employees and members of the public, use of hazardous agents, community unrests, bomb threats, major incidents/accidents. Etc. The contractor shall advise the client in writing forthwith, of any emergencies, together with a record of action taken.

5.6.13 Provision of First Aid Treatment

A trained first aid personnel to be available on site at all times shall be nominated and appointed in writing and a valid certificate is to be kept on site. Additionally, adequate first aid facilities must also be available on site at all times.

5.6.14 Accident / Incident Reporting and Investigation

Incidents and accidents, whether they cause damage to property, or more serious injury and / or ill-health to people should be properly and thoroughly investigated to allow an organization to take appropriate action to prevent a recurrence.

6.0 MANAGEMENT OF HEALTH AND SAFETY RISKS

6.1 Hazard identification and risk assessment

Hazards are defined as a source of danger that could result in a chance event such an accident or incident. A danger itself is a potential exposure or a liability to injury pain or loss. Exposure to hazards may be dangerous but this is dependent upon the amount of risk that accompanies it. Risk is the possibility of loss or injury/illness all the degree of possibility of such laws. Incidents do not occur if a hazard does not exist that presents a danger to those working around it. If potential exposure is high there is a greater risk that an undesired event will occur (Reese, 2017).

The risk assessor who shall assist the contractor to prepare a hazard analysis and risk assessment is reminded to address each hazard separately this is because each hazard has the unique sources and effects. The risk assessor is also reminded to address ergonomic hazards and covid-19 hazards.

The risk assessment to be provided must meet the following requirements/characteristics:

- Be prepared by a person nominated and appointed in writing;
- Risk assessor must be in possession of a valid proof of training in risk assessment;
- Be site specific;
- Be aligned to the scope of works;
- Address only the hazards related to the project;
- Be quantitative in nature;
- Provide date;
- Provide name and surname of risk assessor;
- Provide signature of risk assessor.

6.2 Potential health and safety hazards

This part of the specifications only provides a summary and it shall be read with the baseline risk assessment prepared for this project.

6.2.1 Potential safety hazards identified

Safety hazards identified are the following:

- Delivery trucks hitting workers / users of the SAPS facilities;
- Delivery trucks colliding with fixed structures;
- Construction vehicles hitting bystanders from lack of concentration;
- Construction vehicles / plant colliding with site workers from accidental man-machine interaction;
- Construction vehicles hitting fixed structures from lack of access space;
- Construction vehicles hitting site workers / the public from driving under the influence;
- Construction vehicles hitting site workers from un-roadworthy delivery / site vehicles;
- Slip and fall on same level from lack of housekeeping;
- Trip and fall on same level from bad housekeeping;
- Trip and fall on same level from trailing cables;
- Trip and fall into ground level holes from open trenches;
- Accidental fall into ground level holes from open trenches;
- Accidental collapse of superstructures;
- Stepping on sharp objects from bad housekeeping;
- Falling objects hitting people below from unsecure tools / materials;
- Falling from height from unsecure scaffolding / ladders;
- Collapse of scaffolding from poor erection;
- People hitting fixed structures from fatigue / lack of concentration;
- Skin burn from exposure to sunlight;
- Skin burn from exposure to HCAs;
- Knee trauma from direct contact with hard floors;
- Fire and explosion from smoking near ignition sources;
- Fire and explosion from lack of isolation of electrical supplies;
- Fire and explosion from accidental contact of ignition sources;
- Fighting from horseplay;
- Fighting from petty arguments;
- Sexual abuse;
- Bullying;
- Violence.

6.2.2 Potential health hazards identified

Health hazards identified are the following:

- Skin irritation from contact with hazardous chemical agents (HCAs);
- Respiratory irritation from inhalation of dust;
- Respiratory irritation from inhalation of HCA's;
- Skin irritation from skin contact with concrete;
- Skin burn from excessive exposure to concrete;
- Flu from exposure to viruses circulating during the winter season;
- Common cold from exposure to bacteria circulating during the winter season;
- Bronchitis from exposure to excessive cold;
- Asthma from exposure to contaminated soil;

- Hepatitis from digging up contaminated ground;
- Tuberculosis from inhalation of ambient/cement dust;
- Sinusitis from inhalation of cement dust
- Headache from overwork;
- Fatigue from work pressure / unreasonable timeframes / work hours;
- Eye irritation from contact with excessive dust;
- Heat stroke from excessive heat from excessive heat +36°;
- Heat exhaustion from excessive heat +45°;
- Heat stress from excessive heat +45°;
- Hypothermia;
- Arthritis from cold conditions;
- Neck and back pain from prolonged continuous bending;
- Neck and shoulder pain from prolonged continuous overreaching;
- Muscular shoulder pain from backwards repetitive overhead movements;
- Leg and hip pain from descending and ascending ladders/scaffolding equipment;
- Stress from unreasonable workload / work disruptions;
- Hand lacerations from poor handling of sharp tools;
- Hand pain from faulty / defective hand-tools;
- Shoulder and back pain from lifting heavy loads;
- Muscle pain from exposure to vibration resulting from power tools and work equipment;
- Temporary/permanent hearing loss from exposure to loud noise (+85dBa) from power tools and work equipment;
- Temporary/permanent hearing loss from exposure to loud noise (+85dBa) from power tools and work equipment;
- Tinnitus from exposure to loud noise (+85dBa) from power tools and work equipment;
- Temporary hearing loss from exposure to loud noise (+85dBa) from hammers, etc;
- Headache from exposure to loud noise (+85dBa) from hammers, etc;
- COVID-19 disease;
- HIV/AIDS.

6.3 Review of risk assessment

The risk assessor shall review the risk assessment and the standard working procedures as planned and presented in the risk review plan. And this shall be informed by progress on site, and following any major changes to the scope and construction methods and processes. The client and all other interested and concerned parties will be provided with copies of any changes, alterations or amendments to the risk assessment.

6.4 Risk monitoring

Principal contractor shall establish a monitoring programme to be documented, and meet the requirements established in Section 9 of **Construction Regulations, 2014**. Control of hazards is essential to an effective injury and illness plan. Supervisory personnel will be sure to look at safe work practices and ensure that they are being followed, and that unsafe conditions or procedures are identified and corrected. Workplace equipment and PPE will be issued and maintained in good, safe working condition. Periodic H&S audits will be conducted to verify compliance with legislation and companies' management system as well as with the client's specification and prescribed requirements.

7.0 PROVISION OF EMPLOYEES FACILITIES

7.1 Toilet facilities

Workers shall be provided with adequate, clean, hygienic and maintained toilet facilities for each sex and for every 30 workers. The following shall also be provided:

- Toilet paper;
- Hand wash facilities;
- Soap; and
- Drinking water.

7.2 Eating facilities

Workers shall be provided with suitable and adequate eating facilities equipment with chairs and storage areas for food items. Additionally, as a result of the heat predicted in the summer seasons, the eating facilities shall be equipped with kitchen equipment to provide workers with cool water during summer seasons and warm drinking fluids during cold winter seasons. There shall be no deviation for this requirement.

N.B. Project stakeholders (professionals, etc) must also be allocated suitable equipment for provision of cool water during summer seasons and warm drinking fluids during cold winter seasons.

7.3 Changing facilities

Workers shall be provided with suitable and adequate changing facilities with lockable doors and storage areas for their personal belongings. There shall be no deviation for this requirement.

8.0 MANAGEMENT OF HEALTH AND SAFETY RISKS

Identification and control of risks to health and safety is a continuous activity to be taken into account with other factors when initiating, planning and allocating work activities.

8.1 Control of safety hazards

8.1.1 Control of hazards linked to demolition

In compliance with section 14 of **Construction Regulations, 2014**, principal contractor must implement safety measures as follows:

- Appoint a competent person and writing to supervise and control all demolition work on site;
- Ensure a demolition supervisor develops a method statement on the procedure to be followed in demolishing the structure;
- Ensure that no person works under overhanging material or a structure which has not been adequately supported, shored or braced;
- Cause convenient and safe means of access are provided to every part of the demolition site in which persons are required to work;
- Ensure that no material is dropped to any point which falls outside the exterior walls of the structure unless the area is effectively protected;
- Ensure waste and debris are disposed off from a high place through safe and adequate method;
- Ensure that all waste and debris are removed and disposed off from the site within reasonably practical periods, in accordance with relevant legislation.

8.1.2 Control of hazards linked to excavations

All excavation work has to be carried out under the supervision of a competent person who has been appointed in writing. Excavation supervisor is to ensure compliance as per Section 13 of **Construction Regulations, 2014**, in addition to taking practicable steps as follows to prevent danger to people and property:

- Ascertain location and nature of services which may be affected by work being carried out;
- prevent material from blocking adjacent access routes;

- prevent a person from being buried or trapped by a fall of material;
- prevent people on site from falling into the excavation providing solid barricades where necessary, or provide safety notices, whichever is reasonably practicable;
- inspect excavations before every shift and keep a record;
- communicate safe work procedure to workers;
- Excavation supervisor to enforce and maintain safe work procedures at all times.

8.1.3 Control of hazards linked to work at heights

A competent person must assess work at heights, compile hazard analysis and risk assessment and document such which shall form part of a fall prevention plan before work at heights is undertaken. The fall prevention plan must be suitable and sufficient to prevent falls of persons. Height workers must be in possession of 'Medical Certificate of fitness' issued by an Occupational Health Practitioner who is registered with the Health Professions Council of South Africa (HCSA):

- those with the duty to manage H&S on this construction site must adopt the following hierarchy:
 - Where possible, avoiding work at height.
 - Where work at height cannot be avoided, take measures to prevent falls.
 - Where risk cannot be eliminated, take measures to minimise the distance and consequences of falls.
 - Where work at height is necessary, those have the duty to manage H&S are required to ensure that:
 - Ensure risks are assessed and managed (including the risks of working on or near fragile surfaces and risks from falling objects).
 - People involved in work at height are competent, trained, or supervised if they are being trained.
 - Ensure work at height is properly planned and organised (including planning for emergencies and for rescue).
 - Take account of weather conditions that could endanger H&S (work should be postponed if weather conditions endanger health or safety).
 - Suitable equipment is used, inspected and properly maintained (giving use of collective protection measures priority over personal protection measures).
1. Roof work The following factors must be addressed by a site manager before any roof work is started:
- Ensure roof work is planned;
 - Ensure roof work is undertaken by competent persons;
 - Ensure roof work is not undertaken during inclement weather,
 - Ensure a risk assessment is undertaken, and followed by a method statement provided by a subcontractor;
 - Ensure safe access and egress is provided;
 - Ensure fall prevention and fall arrest equipment is issued to operators.

2. Control of hazards linked to use of scaffolding

The following factors must be addressed if scaffolding is to be in use on site:

- Scaffolding to be in use is in a good and safe condition and that it complies with the **S.A. National Standard S.A.N.S. 10085 - 1: 2004**;
- Scaffolding must only be erected and dismantled by a competent person appointed in writing as per Section 16(1) of **Construction Regulations, 2014**;
- The erection and dismantling of scaffolding must take place during quiet times;
- Scaffold must be designed to carry all the required loads;
- Adequate toe boards, guard rails and intermediate rails must be fitted to prevent people or materials from falling;
- Scaffolds must rest on a stable surface, uprights must have base plates and timber sole boards if necessary;

- Safe access and egress must be provided;
- Scaffold must be maintained and cleaned;
- Scaffold must be directed away from traffic routes, if not possible, barriers must be fitted around the base of scaffold;
- Scaffold must be properly braced and secured to the building or stable structure;
- Regular inspections of the scaffold must be made and recorded.

3. Control of hazards linked to use of stepladders and trestles

When this equipment is to be used, the following factors must be addressed if this work equipment are to be used instead of scaffolding:

- Stepladders and trestles may not be used at a workplace above 2m in height unless proper edge protection is provided;
- Equipment must be checked for any defects or damage by a supervisor before use;
- Any repairs must be carried out by a competent person;
- Access ladders should be tied and extend at least 1m above the landing;
- Access ladders are used on a secure surface.

4. Fall Protection Plan

Site manager has to appoint a competent person in writing to assist in preparing a site specific fall protection plan. A fall protection plan prepared has to include risk identification and hazard analysis, safe operating procedures, a rescue plan with details of personnel to undertake the job, suitable equipment required, and a process to be followed for persons medical examination and testing for fitness.

8.1.4 Control of hazards linked to Hazardous Chemical Agents (HCA's)

The contractor and other contractors engaged in work involving HCA's shall provide the necessary training and information regarding the use, transport, and storage of HCA's. Principal contractor shall ensure that the use, transport, and storage of HCA's are carried out as prescribed by the HCA Regulations. Contractor shall ensure that all HCA's on site are accompanied by Safety Data Sheet (SDS) and that all users are made aware of the hazards and precautions that need to be taken when using the chemicals. Appointed first aider must be aware of the SDS and how to treat HCA's incidents appropriately.

8.1.5 Control of hazards linked to use and temporary storage of flammable agents

Principal contractor has to ensure compliance with provisions for the use and storage of flammable agents in compliance with the **General Safety Regulations, 2003** and Section 25 of **Construction Regulations, 2014**, and shall ensure implementation of measures as follows:

- Effectively ventilate by means of natural or mechanical ventilation, areas where flammable agents are being used or stored;
- Post suitable and conspicuous non smoking notices at the entrance where flammable liquids are being used or stored, so as to prevent persons from smoking;
- Install suitable and adequate fire fighting equipment with symbolic signs in locations where flammable agents are being used or stored.

8.1.6 Control of hazards linked to fire and explosion

Principal contractor and all contractors have to comply with **Environmental Regulations for Workplaces, 1987**, in addition to Section 29 of **Construction Regulations, 2014**.

8.1.7 Control of hazards linked to electrical installations

Principal contractor must ensure compliance with **Electrical Installation Regulations, 2009**, **Electrical Machinery Regulations, 2011**, in addition to compliance with Section 24 of **Construction Regulations, 2014**.

8.1.8 Control of hazards linked to use of portable electrical tools and equipment

Principal contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation. The contractor shall ensure that all electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order. Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and control measures to be implemented e.g. personal protection equipment, guards, etc. The contractor shall see that users are properly trained.

8.1.9 Control of hazards linked to work equipment

Work equipment is dangerous, and therefore demand specific health measures such as the ones as follows will be considered:

- Restriction of operation and use of work equipment to experienced workers only;
- Daily inspections before each use;
- Refuelling in the absence of fire/ignition sources;
- Knowledge and identification of safety guards.

Construction supervisor will have to see to it that workers who shall operate any work equipment shall be those who have adequate knowledge of methods for competent operation of the handling systems in normal operation, start-up, shutdowns and emergency situations. Persons handling work equipment will be advised of hazards, proper procedures, precautions, health effects and recommendations for emergency treatment.

8.1.10 Control of hazards linked to manual handling

Hazards linked to manual handling must be identified, related risks must be assessed and adequately controlled. Control measures must be communicated to all workers. Key personnel must familiarize themselves with **Ergonomics Regulations, 2021** when deciding on appropriate control measure. The following minimum measures are to be considered:

- Breakdown of loads into smaller loads;
- Buddy system;
- Clear obstructions before lifting;
- Safe working procedures.

8.1.11 Control of hazards linked to construction vehicles

Principal contractor has to apply reasonable health and safety measures relevant for to ensure compliance as per Section 23 of **Construction Regulations, 2014**. The following factors must be addressed if vehicles are to be in use on site:

- Vehicles are suitable for work intended for;
- Ensure all employees required to drive vehicles have received appropriate training;
- Ensure all employees required to drive vehicles have been medically assessed and have valid medical certificate of fitness to drive vehicles.

Construction vehicles expose workers and the public to various hazards, and therefore demand specific controls such as the ones as follows:

- Restriction of use to authorised workers only;
- Daily inspections before each use;
- Refuelling in the absence of fire/ignition sources;

- Maintenance and servicing.

8.1.12 Control of hazards linked to radiation

Principal contractor is to ensure control measures are implemented to reduce exposure of people to ultraviolet radiation:

- Minimize worker exposure to radiation by increasing the distance between a source of radiation and the worker;
- Post warning signs where exposure to radiation is possible;
- Workers exposed to radiation above guidelines should be provided with UV blocking safety goggles, face shields, welding shields and long sleeved clothing.

8.1.13 Control of hazards linked to use of hand tools

1. Hand tools (miscellaneous)

Supervisors and workers will be encouraged to consider in securing their own safety while handling and using hand tools, and the following safety measures are recommended:

- Compliance with the company's own H&S policy and internal procedures;
- Provide risk awareness training;
- Use the correct tools for the job;
- Provide workers with adequate and suitable PPE;
- Use eye protection where necessary;
- Use any other PPE recommended by manufacturers of tools and relevant legislation;
- Ensure workers wear PPE provided.

2. Cutting tools

Cutting tools can cause injury to the operator or other people in an area. Construction supervisor will have to manage safe use of cutting tools and ensure measures as follows:

- Tools are in use only by a person who has received instruction in their safe use;
- Tools are in use in an area where appropriate warning signs have been displayed and where people are wearing eye and hearing protection;
- Not use cutting tools if parts are damaged, defective or if they do not have a current inspection record;
- If necessary run cables at height to keep them dry and prevent them from being damaged;
- Ensure tools are in good condition;
- Use hand tools with safety gloves where possible and necessary.

8.1.14 Control of hazards linked to trailing cables

Construction supervisor, H&S officer, and users of tools with cables must ensure trip hazards are controlled, by taking consideration of measures as follows:

- Ensure the work area is regularly inspected and electrical cables or any cords are kept clear of access ways / routes;
- Ensure leads / cords don't cause tripping hazards.

8.1.15 Control of hazards linked to flying / falling of objects

Risk assessment will be communicated to site workers, workers have been provided with hard hats and safety shoes. Supervisor will monitor those workers and ensure they wear provided hard hats at all times.

8.1.16 Control of hazards linked to objects or tools lying about

Project site supervisor will have to ensure measures as follows:

- Clear up objects or tools on work areas, and ensure housekeeping is practised;
- Proper store keeping of tools;
- Regular removal of waste and materials;
- Prevent accumulation of rubbish;
- Cordon off areas where scraps and stored material could present a hazard by use of a danger tape.

8.1.17 Control of hazards linked to man-machine interaction

Construction supervisor and H&S officer for the construction stage have to coordinate and supervise site deliveries. Risk assessment will have to be communicated to workers during induction training.

8.1.18 Control of hazards linked to electrical installations

Essential steps necessary to prevent electrical risks is electrical isolation including measures as follows:

- Identification of cable markers to detect underground cables;
- Switching off power at a supply or distribution box;
- Providing competent supervision;
- Getting appropriate authorisation including Permit to Work;
- Utilizing registered persons and contractors to perform the installation work;
- Identifying the correct isolations and disconnections required;
- Correct sequence of isolations and disconnections;
- Safety methods for maintaining isolations and disconnections.

8.1.19 Control of hazards linked to delivery of bulk materials

Materials that are unloaded or tipped from plant will have to be deposited in planned locations where they will not cause any obstructions or hazards. Site deliveries will have to be planned ahead and supervised by site personnel. Site workers have to be discouraged to remain on vehicles that are being loaded / off loaded unless the vehicle is equipped with a reinforced cab or falling object protection system (FOPS). Workers working with plant or vehicles, on site where vehicle movements is expected, will have to be provided with and wear high visibility vests.

8.2 Control of health hazards

Daily exposure to health hazards result in irreversible damage that may occur before any symptoms are apparent. A development of a preventive strategy to identify and control risks before people's exposure is essential.

8.2.1 Control of hazards linked to dust

It is important that workers are made aware of the risks from dust and how it can harm their health. They must be fully-trained and informed on how to use dust control measures that have been put in place, how to maintain equipment, and how to use and look after respiratory protective equipment (RPE). The principal contractor is to consider safe method of working which takes proper account of risks to employees and others who may be affected by exposure to dust, such as visitors and contractors.

Steps as follows may be taken to control exposure to dust:

- Assesses health risks;

- Provide workers with appropriate information and training;
- Using building materials that do not require an excessive amount of preparatory cutting to size;
- Using less-powerful tools, such as a block splitter instead of a higher energy cut-off saw;
- Water suppression;
- Keeping the number of workers near the dust-producing work area to a minimum;
- Using sheeting and temporary screens to enclose the work area;
- Issue suitable and comfortable RPE (Respiratory Protective Equipment) for the work.

8.2.2 Control of hazards linked to noise

Noise Induced Hearing Loss Regulations, 2003 Section 10(1) specifies that an employer or self employed person shall ensure that exposure of a person to noise is either prevented or where reasonably practicable, adequately controlled.

- Assess noise levels;
- Reduce risks from noise exposure;
- Provide employees with information and training;
- Provide hearing protection as a last resort.

8.2.3 Control of hazards linked to ergonomics exposure

Construction is a physically demanding work environment, site workers are often at risk of long-term injury. Back sprains and strains are the most common disabling injuries, often due to overexertion and bodily motion. Ergonomic risks experienced in construction sites emanate from exposure to hazards that may include improperly designed tools or work areas and improper lifting or reaching, poor visual conditions, or repeated motions in an awkward position which can result in occupational accidents or illnesses.

Potential ergonomic hazards in this project include the following:

- Manual handling of objects and materials where lifting and carrying is done
- Repetitive motion disorders which are encountered when workers use vibrating tools like chain saws and powered hammers
- Continuous movement of hand and arm in the same motion throughout the work shift
- Repetitive and stressful wrist motion that causes irritation, fluid build up, or thickening of the carpal ligaments in the wrists
- Manual materials handling related to carpentry, bricklaying, roofing, plastering, truck driving
- Awkward work postures in activities of plumbers, electricians, boilermakers, labourers, and insulators
- Elevated posture in activities of plumbers, electricians, boilermakers, labourers, and insulators
- Overexertion
- Rapid twisting and bending of the back
- Whole-body vibration transmitted through the seats in heavy equipment.

The principal contractor must comply with the following in line with **Ergonomics Regulations, 2019**:

- Perform ergonomic risk assessment performed by a competent person before the commencement of any work that may expose employees to ergonomic risks.

The risk assessment must meet the following requirements:

- a) Include-
 - i. a complete hazard identification;
 - ii. the identification of all persons who may be affected by the ergonomic risks;
 - iii. how employees may be affected by the ergonomic risks;
 - iv. the analysis and evaluation of the ergonomic risks; and
 - v. the prioritisation of ergonomic risks.

8.2.4 Control of hazards linked to exposure to extreme heat

Many parts of the country experienced extreme hot conditions during the summer of 2022. Temperatures as high $>50^{\circ}$ were recorded in some parts of the country, therefore we recommend that the contractors remain vigilant and manage risks from hazards linked to extreme heat on site. Therefore we recommend that contractors remain vigilant and identify and manage risks from exposure to hazards linked to extreme heat. Workers can combat extreme hot weather conditions by considering the following measures:

- Undergoing compulsory medical examination and testing to be conducted and be guided by the outcome of the exercise;
- Being aware of the daily temperatures prescribed by the SA weather bureau for the area of Vrede;
- Taking daily temperature readings at the construction site;
- Regular intake of cold fluids necessary to regain energy, limiting alcohol intake;
- Taking regular cooling off breaks in a shaded area;
- Limiting the intake of alcohol;
- Wearing light and suitable safety clothing.

8.2.5 Control of hazards linked to exposure to extreme cold

Welkom can experience cold weather conditions, and during the winter season the temperatures can be $<10^{\circ}$. Therefore we recommend that the contractors remain vigilant and identify and manage risks from hazards linked to extreme cold on site. Workers can combat extreme hot weather conditions by wearing safety clothing and. Regular intake of cold fluids necessary to regain energy will also help workers:

- Undergoing compulsory medical examination and testing to be conducted and be guided by the outcome of the exercise;
- Being aware of the daily temperatures prescribed by the SA weather bureau for the area of Vrede;
- Taking daily temperature readings at the construction site;
- Regular intake of warm fluids necessary to regain energy, limiting alcohol intake;
- Wearing warm and suitable safety clothing.

8.2.6 Control of hazards linked to vibration

The principal contractor is to ensure measures as follows are implemented:

- Avoid, whenever possible, the need for use of vibration equipment;
- Undertake a risk assessment to include a sound estimate of employees' exposure to vibration;
- Develop a maintenance plan for tools and machinery.

8.2.7 Control of hazards linked to alcohol and drug abuse

The principal contractor is to ensure no use of alcohol and drugs is allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site.

8.2.8 Control of hazards linked to workplace violence

Principal contractor is to ensure that hazards any unsafe acts and evaluate risks of violence among the people on site. He / she has to ensure safety rules are drafted and communicated to all people on site, including self employed persons and contractors. Written acknowledgement on communication of safety rules has to be maintained.

8.2.9 Control of hazards linked to rope access work

Principal contractor must ensure measures as follows are implanted on site in compliance with **Construction Regulation, 2014**:

- a) Appoint a competent person and writing as a rope access supervisor with the duty of supervising all rope access work on the site, including the duty of ensuring occupational health and safety compliance in relation to rope access work; provided that the appointment of any such person does not relieve the construction manager of any personal accountability for failing in his management duties in terms of **Construction Regulation, 2014**;
- b) Ensure that all rope access work on the construction site is carried out under the supervision of a competent person appointed in writing;
- c) Ensure that all rope access operators are competent and licensed to carry out their site activities;
- d) Ensure that the design, selection and use of the equipment and anchors comply with the safety standards incorporated for this purpose into **Construction Regulations, 2014** under section 44 of the **Occupational Health and Safety Act**;
- e) Provide and be in possession of a site-specific fall protection plan developed by a competent person (appointed in writing), applicable to the specific work and environment prior to the commencement of the work, including records of maintenance and inspections of all the equipment used for the work site operations;
- f) Ensure that adequate measures are in place to allow rescue procedures to commence immediately in the event of a fall incident taking place.

8.2.10 Control of hazards linked to use of cranes

Principal contractor must in addition to compliance with the **Driven Machinery Regulations, 1988**, comply with **Construction Regulations, 2014- 22** and ensure that where tower cranes are used, the following measures are implemented:

1. Tower cranes are designed and directed under the supervision of a competent person appointed in writing;
2. A relevant risk assessment and method statements are developed and applied;
3. The effects of wind forces on the crane are taken into consideration and that a wind speed device is fitted that provides the operator with an audible warning when the wind speed exceeds the design engineer specification;
4. The basis of the tower cranes and tracks for rail mounted tower cranes are firm, level and secured;
5. The tower crane operators are competent to carry out the work safely and they are appointed in writing;
6. The crane operators have a medical certificate of fitness to work in such an environment, issued by an occupational health practitioner in the form of an annexure 3.

8.2.11 Control of hazards linked to material hoisting

Principal contractor is to 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. They are expected to cause the tower of every material hoist to be 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.

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 **2100mm** from the ground or floor level; and provided with a door or gate at least **2100mm** 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:

- Cause-

- 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.

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. Two guide ropes to be used on load to ensure stable movement and ensure the following are considered:

- No lifting during high winds or inclement weather
- Swing radius must be identified to ensure that the load can be offloaded in a safe manner
- Ensure personnel stay out of the crane swing radius
- Ensure there are barrier guards showing swing radius
- A boom angle indicator must be on the crane
- SWL should be clearly marked on the crane
- Overhead lifting is not ever allowed
- Avoid sudden acceleration or breaking during traveling with a load which will cause the load to swing

8.2.12 Control of hazards linked to stormwater management

Principal contractors to ensure that these stormwater management in place by evaluating existing storm water drainage patterns vs construction program, Implement temporary drainage channels and beams and monitor effectiveness of temporary measures.

8.2.13 Control of hazards link to confined spaces & water chambers

Principal contractor is to ensure that all employees working in confined spaces or sewer manholes must be issued with gas monitoring equipment and safety harnesses and self- rescuers where applicable. All these employees must be trained in their use. Where over pumping between manholes is involved, only leakage free pumping machines and conveyance tubes will be allowed. Under no circumstances may any confined spaces be entered unless it has been certified safe to work in.

Safety harnesses and attachments must be checked for damage to webbing, metal fittings and ropes on a monthly basis and the findings recorded in a register. Should a harness be damaged, it must be reported to the construction supervisor immediately.

The following records shall be taken and maintained by the site manager:

- Confined space entry permits
- Confined space entry registers
- Safety harness registers
- Ventilation
- All available manholes or ventilation covers must be removed and the chamber ventilated for 10 (ten) to 15 (fifteen) minutes, using compressed air or a portable blower.
- Such ventilation must be continued while personnel are in the chamber.
- Ensure that exhaust fumes from blower do not enter the confined space.
- Before entering any chamber, the atmosphere must be tested by the principal contractor's competent person (trained by the supplier of the gas monitoring equipment) by lowering the gas monitoring equipment to the bottom of the chamber by means of a rope.
- A register must be kept indicating that the atmosphere has been tested and that the area is fit to work in.
- Construction manager must check and co-sign this register every time he visits the site to ensure that the atmosphere is continuously being monitored.
- Fumes must be extracted from the chamber while welding.

- When entering a chamber the person entering the chamber must wear a safety harness as well as a gas detector.
- A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the manhole.
- At least one person on the surface must be trained in basic first aid and Cardiovascular Pulmonary Resuscitation (CPR) and a first aid kit with resuscitation equipment must be available outside the entrance of the confined space for emergencies.
- In no circumstances shall any person remain within a chamber for a period of more than one hour at a time. A five-minute rest on the surface must be taken after this period before re-entering.
- Should the alarm sound when a person is in the confined space, the area must be evacuated immediately and the atmosphere re-tested and certified safe before re-entry into the confined space.
- When the activity to undertake inside the pipeline includes the use of any hazardous chemical agents or chemical agents which might cause hazardous fumes or gasses the contractor, must comply with the **Hazardous Chemical Agents Regulations, 2021**.

8.2.14 Control of hazards linked to laying, bedding and installation of all pipes and accessories.

The installed pipes shall not be used as a drain. Principal contractor shall provide portable dewatering equipment (such as power, pumps and discharge hose) to drain excavations. The contractor shall ensure that the work is supervised by a competent person. The contractor must ensure that high visible reflective vest and hard hats are worn during loading and offloading of pipes. All vehicles loading and offloading pipes must be fitted with reverse beeper, amber lights and the mirrors. The contractor must ensure that employees receive full PPE for this activity. The contractor must ensure that all defective skids are removed and heavy duty gloves are worn by operators handling skids. The contractor shall ensure ergonomics is considered during the laying of pipes.

8.2.15 Control of hazards linked to pump sumps and valve chambers

1 Ventilation

All available manholes or ventilation covers must be removed and the compartment ventilated for **10 (ten) to 15 (fifteen) minutes**, using compressed air or a portable blower. First, such ventilation must be continued while personnel are in the compartment. Second, ensure that exhaust fumes from blower do not enter the confined space.

Before entering any sump or compartment, the atmosphere must be tested by the principal contractor's competent person (trained by the supplier of the gas monitoring equipment) by lowering the gas monitoring equipment to the bottom of the sump or compartment by means of a rope. A register must be kept indicating that the atmosphere has been tested and that the sump or compartment is fit to work in. Principal contractor's construction supervisor must check and co-sign this register each time he visits a site to ensure that the atmosphere is continuously being monitored.

2 Entering sump

When entering a sump the person entering the sump must wear the safety harness, gas detector as well as a self-rescuer. A lifeline must be attached to the safety harness and a person on the surface must be in continuous contact with the person in the sump. At least one person on the surface must be trained in basic first aid and CPR and a first aid kit with resuscitation equipment must be available outside the entrance of the confined space for emergencies.

8.2.16 Control of hazards linked to backfill and compact trenches

The principal contractor must ensure that the material that will be used is approved by the designer. Additionally, they must ensure that any compaction machinery is operated by a person who has authorized in writing to operate a handheld compactor, who has been properly trained in the operation and on the risks that are likely to arise out of the activity. In addition, drivers of construction vehicles to be involved in the activity must also be authorized in writing to drive vehicles, be in possession of relevant drivers' license, professional driving permit (PDP) and be properly trained on the risks that are likely to arise out of their activities. Operators and drivers must be in possession of a medical certificate of fitness in the form of **annexure 3**.

9.0 OCCUPATIONAL HYGIENE SURVEYS

Occupational hygiene controls shall form part of the control of health hazards to be implemented on some of the hazards identified for this project. Monitoring occupational hazards through effective occupational hygiene practices is therefore a requirement for this project. The proposed Occupational Hygiene Control aims to address the health effects of hazards associated with the following:

1. Dust
2. Noise

A qualified Occupational Hygienist has already been identified. The activities and related costs have been predetermined. Details of the occupational hygienist shall be provided to the principal contractors' site manager and safety officer.

10.0 INDUCTION TRAINING

The principal contractor must ensure every site worker is given a suitable site induction. The induction should be site specific and address all potential H&S risks and shall be guided by the baseline risk assessment (BRA) prepared for this project. Annexure-A provides a standard risk matrix (RM) as a form of guidance.

The following issues should be considered:

- a. Senior management commitment to health and safety.
- b. Outline of the project.
- c. Management of the project.
- d. First-aid arrangements.
- e. Accident and incident reporting arrangements.
- f. Arrangements for briefing workers on an ongoing basis, e.g. toolbox talks.
- g. Arrangements for consulting the workforce on health and safety matters.
- h. Individual worker's responsibility for health and safety.

Induction should also be provided to those who do not regularly work on the site, but who visit it on an occasional (e.g. professional team, client). The inductions should be proportionate to the nature of the visit.

11.0 MEDICAL FITNESS EXAMINATION AND TESTING

Principal contractor is required to ensure that all workers on site undergo medical fitness examination and testing by an occupational medical practitioner or an occupational health nurse. Medical certificate of fitness must be issued in the form of annexure 3 incorporated in **Construction Regulation, 2014**.

12.0 HOUSEKEEPING ON CONSTRUCTION SITE

Project site supervisor will ensure that: - Suitable housekeeping is implemented to prevent possible risks to workers by implementing the following measures:

- Proper storage of material and equipment; and
- Rubble must not be allowed to accumulate on site.
- Regular remove of waste materials must be practised.
- Erect screening or barricading of excavations/trenches.

Construction Regulation, 2014 section 27 also provides that the following measures be implemented:

- a) Ensure that materials required for use are not placed on the site to obstruct means of access to and egress from workplaces and passageways,
- b) Ensure that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in **Construction Regulation, 2014 - 14(6)**;
- c) Ensure that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent entry of unauthorised persons.
- d) Ensure that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under or fencing off the danger area if work is being performed above such entrance, passageway, or place to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.

13.0 SAFETY NOTICES AND SIGNS

13.1 Display of safety signs

In compliance with section 2B of the **General Safety Regulations, 2003** and section 44 of the **Occupational Health and Safety Act, 1993, SANS 1186:5**, safety notices and signage/s will be provided and displayed.

13.2 Admittance of persons

In compliance with the **General Safety Regulations, 2003**, in the interests of health and safety, we shall post up notices to work areas prohibiting the entry of unauthorized persons to work areas. Risks to any person who wishes to enter or remain at such workplace without the permission of the employer shall be controlled.

The following measures will be employed, should we find ourselves in a situation where they must allow entry of a person to a risky area without choice:

- Cooperate with an instruction from the client.
- Seek guidance from the most relevant person.
- Record the conversation for future reference.
- Pause with a risky activity.
- Safeguard work equipment prior to entry of a person.
- Guide entry of a person to whom site supervisors shall allow entry.
- Guide exit of a person to whom entry to a risky area was allowed.

14.0 MANAGEMENT OF EMERGENCIES ON CONSTRUCTION SITE

First aid treatment

There shall be provision and access to adequate first aid treatment at the construction. And in compliance with the **General Safety Regulations, 2003**, the following will be provided:

- Nomination and appointment of a trained first aid personnel.
- Communication and sharing of details of first aid personnel; and
- Provision of a regulation 3 first aid kit.

14.1 Emergency Procedures

Emergency and evacuation procedures have been documented, and they will be communicated to site workers during induction training. Workers will acquaint themselves with emergency and evacuation procedures available in the safety file.

14.2 Emergency Contact Numbers

An emergency telephone number list must be prominently displayed in a common wall; alternatively, the list will be kept in the site safety file. Emergency contact numbers have been provided for the local municipality. The following **table 2** provides verified emergency contact numbers for services provided for the Municipal area of Matjhabeng where the project site is located.

Table 2: Emergency contact information

EMERGENCY CONTACT INFORMATION			
Service Centres	Contact	Address / Location	Telephone
Ambulance	-	-	112 Vodacom 112 Cell C 112 Mtn 112 Mtn
Police	Thabong SAPS	8005 Constantia Str, Thabong Ext 1, Welkom, 9463 VIEW IN GOOGLE MAPS	057 910 2397
Electrical Services	ESKOM Thabong CNC Welkom, 9460	ESKOM Thabong CNC Welkom, 9460	08 600 37566
Water Services	Bloemwater		082 735 6691 066 479 8106
Primary Medical Facilities	Bongani Regional Hospital	1 Mothusi Rd, Thabong, Welkom, 9459 VIEW IN GOOGLE MAPS	057 916 8000
Poison Information centre	-	-	086 155 5777

15.0 EMERGENCY PREPAREDNESS AND MANAGEMENT

Possible emergencies that are likely to occur on site such as the following must be identified so that proper procedures and a related plan is prepared and communicated to the site staff:

- Delivery vehicle crashing into the premises.
- Accidental collapse of structures.
- Collapse of scaffolding.
- Fall from heights.
- Heat stroke.
- Chemical spillages.
- Fire and explosion.
- Thunderstorm and lightning.
- Arson.
- Community disruptions.

Experienced personnel must be nominated to coordinate and manage all emergencies. Nominated personnel shall have access to a senior manager.

15.1 Emergency procedures

Health and safety officer must ensure the following measures are put in place:

- There is adequate access to emergency services.
- Suitable arrangements for treating and recovering injured people are set.
- There are arrangements for calling fire and rescue services.
- All workers are familiar with emergency assembly points.
- Emergency contact numbers have been communicated and shared to all workers.
- Everyone knows what signal will be given for an emergency and knows what to do.

15.2 Assembly and roll call

Workers shall observe the client's assembly points which are currently established on the site facilities in the event of evacuation.

16.0 INCIDENT MANAGEMENT

16.1 Incident reporting

Any incident which results in injury to any person or damage to any equipment or property affecting or involving the company and its workers and all accidents in the company premises will be reported to the construction manager who will record the incident. On the spot collection of information (location, witnesses, measurement, parties involved, police and fire brigade services, hospital, photographs where possible) will be the responsibility of the safety officer and construction supervisor concerned. Any incident on a construction site will be reported immediately to the relevant person in charge and to the Construction Manager on return to the office.

16.2 Incident investigation

Injuries:

All injuries are reported to the designated first aid officer in the workplace.

First Aid:

Personnel record all injuries on the register of injuries. Where the injury requires medical attention or off-site treatment, assistant site manager will complete an incident investigation report.

Copies of incident investigation reports will be provided to the health & safety committee.

Incidents:

For all incidents involving near misses, property/plant damage or injury to the public or environmental damage, health & safety officer will investigate and records the details in an incident investigation report.

Copies of incident investigation reports will be provided to the health & safety committee.

Notifiable Incidents:

Construction manager will report all notifiable incidents to the relevant authority. And when a notifiable incident has occurred, construction manager will consider whether the site needs to be preserved for investigation by the relevant authority.

Record Keeping:

We shall keep records of incidents and injuries in accordance with statutory requirements.

16.3 Accident reporting

Any incident which results in injury to any person or damage to any equipment or property affecting or involving the company and its staff and all accidents in the company premises must be reported to the construction manager who will record the incident. On the spot collection of information (location, witnesses, measurement, parties involved, police and fire brigade services, hospital, photographs where possible) shall be the responsibility of the safety officer or construction supervisor concerned. Any accident on a construction site must be reported immediately to the relevant person in charge and to the construction manager on return to the office.

16.4 Occupational disease / conditions

Occupational diseases must be reported and recorded as prescribed by the **Compensation for Occupational Injuries and Diseases Act**.

17.0 MEDICAL CERTIFICATE OF FITNESS

In compliance with section 7 of the **Construction Regulations, 2014**, all site workers will be in possession of valid certificate of medical fitness. Principal contractor is to make financial provision in their bid which should cover all workers and contractors that anticipate to engage in their site activities.

18.0 LEGAL COMPLIANCE AUDITS

In compliance with section 7 of the **Construction Regulations, 2014**, the client shall agree with contractor on the schedule at which periodic audits will be conducted. A schedule will be concluded once the site commences.

19.0 ENVIRONMENTAL MANAGEMENT

Pressure on natural resources, including land, has continuously increased, as the population increases and likewise, awareness of the need to lessen the negative impacts of development and construction on the environment will continue to increase. Tips and piles of rubble and waste are to be avoided. Principal contractor is expected to ensure regular removal of rubble etc is practiced.

Efforts must be made to avoid negative impact on the areas surrounding the project. Waste materials will have to be disposed off at an approved disposal site.

20.0 PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

Risk assessment informs on the required PPE. All items to be issued will have to be maintained in good working order i.e. serviced and repaired as and when necessary. Items of PPE are to be provided free of charge and for the personal use of site workers. It is expected that items of PPE will be used as prescribed. Workers must be provided with the necessary training in the use and care of the items.

21.0 PROJECT / SITE SECURITY

21.1 Barricading and maintenance

Adequate and suitable barricading must be erected and maintained to prevent unauthorised entry as well as to control access onto and from the site.

21.2 Access control

Control of access to the construction must be implemented and assistant site manager and supervisor shall advice on the best way to manage the access to and egress from the works site construction areas.

22.0 EMERGENCY PREPAREDNESS AND MANAGEMENT

There is a possibility of the following emergencies to be experienced by workers in this project:

- Electrical burn or electrocution
- Delivery vehicles crashing into the premises
- Trip and fall on the same level
- Slip and fall on the same level
- Trip and fall into ground level holes, trenches
- Collapse of a scaffold
- Fall from heights
- Heat stroke
- Thunderstorms and lightning
- Strong winds
- Community disruptions.

One site personnel must be nominated to supervise and coordinate all emergency arrangements. A nominated person must have access to a senior management.

22.1 Emergency procedures

Nominated person must ensure the following precautions are taken:

- There is adequate access to the site for emergency services
- Suitable arrangements for treating and recovering injured people are set
- There are arrangements for calling fire and rescue services
- Emergency routes are kept clear, signed and adequately lit where necessary
- Everyone on site knows what signal will be given for an emergency and knows what to do
- Procedures are established to ensure that community unrest are managed without workers being involved and attacked
- Procedures are established in calling for external support during community unrest.

22.2 Assembly and roll call

Assembly points should be established for use in the event of evacuation. It should be in a position which is unlikely to be affected at the time of the emergency. It may be necessary to decide with the client or occupiers of nearby premises.

23.0 CONSTRUCTION EMPLOYEES' FACILITIES

Principal contractor is to make provision of all employees' facilities prescribed by **Construction Regulations, 2014** and **Facilities Regulations, 2004**. Therefore, the following facilities must be provided at the construction site in this project:

23.1 Eating and changing facilities

The principal contractor must provide clean, hygienic and maintained sheltered eating facilities at the construction site. The facilities must be equipped with the following:

- Lockers with keys.
- Benches.
- Microwave.
- Food stores.

23.2 Toilet facilities

Principal contractor must provide at or within reasonable access of every construction site, clean, hygienic and maintained one toilet facility for each sex and for every 30 workers. The provision of toilet facilities must promote health and hygiene practices through the following:

- Provide access to adequate hand wash facilities.
- Restrict the number of people who using toilet facilities at any one time.
- Remind workers to wash hands before and after using the toilet facilities.
- Regularly clean the hand washing facilities.
- Portable toilets must be avoided wherever possible, where in use they should be cleaned and emptied more frequently.
- A checklist must be developed for signing off on frequency of cleaning and emptying portable toilets.

23.3 Drinking facilities

Principal contractor must provide safe and standard drinking water facilities at the construction site. The following must be provided:

- Portable water taps.
- Cool water during summer.
- Warm water during winter.

23.4 Facilities for safe keeping of employees' personal belongings

Principal contractor must provide reasonable access for use by construction workers, clean, hygienic and maintained facility for safe keeping of personal property.

24.0 MANAGEMENT OF COVID-19 CASES

COVID-19 restrictions are no longer enforced; however, employers are still expected to familiarize themselves with **Hazardous Biological Agents Regulations, 2022** and comply with this legislation on conditions that may apply to themselves as employers. The regulation shall be enforced together with all other +20 Regulations of the **Occupational Health and Safety Act, 1993**.

25.0 HIV/AIDS AWARENESS AND TRAINING

Principal contractor is required to familiarize themselves with the HIV/AIDS specifications of the department of Public Works that must be read together with all project documentation as the HIV/AIDS awareness and training is a requirement of this project. Principal contractor is herein being made aware that compliance with the HIV/AIDS Specification is compulsory.

26.0 REDUCTION OF EMPLOYEE & PERSONS EXPOSURES

Construction supervisor and H&S officer must periodically make the necessary assessment of the hazards and risks which could emanate from this project activities and take the appropriate action to control the hazards through implementation of reasonably practical measures. The assessment will have regard to safe access, noise, lifting, client property and obstruction generated by work site activities, emergency procedures, and disruption of services and requirements for signage.

REFERENCES

1. 2255 Architect report
2. 2022/03 Bills of quantity (BOQ)
3. Preliminary design reports (p01-p45)
4. 2021 Approved detailed design report
5. Project Preliminary Design report (Structural Engineering)
6. Project Preliminary Design report (Civil Engineering)
7. Specifications for the Electrical installations
8. Outdoor Generator Specifications
9. Annexure A
10. Annexure B1

11. Annexure B2-B3
12. Annexures C1-C3_THLB_5-6_ML
13. Annexures C2-C4_THLB_5-6_Eco
14. Annexures C5-C6_Generator_1-2_Eco
15. Annexures C7
16. Approved detailed design report
17. Occupational Health and Safety Act, 85. 1993
18. Compensation for Occupational Injuries and Diseases Act, 130. 1993
19. Construction Regulations, 2014
20. Hazardous Chemical Agents Regulations, 2021
21. Ergonomics Regulations, 2019
22. Facilities Regulations, 2004
23. General Safety Regulations, 2003
24. Noise Induced Hearing Loss Regulations, 2003
25. Hazardous Biological Agents Regulations, 2022
26. Code Of Practice: Managing Exposure to SARS-COV-2 in the Workplace, 2022
27. Electrical Installations Regulations, 2009
28. Electrical Machinery Regulations, 2011

THE END



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THABONG SAPS PROJECT - OCCUPATIONAL HYGIENE CONTROL/S

Managing occupational hygiene in this project falls under the responsibilities of a Construction Health and Safety Agent. However, it is a specialized field carried out by qualified Occupational Hygienists, who are limited in number in the Free State province.

After completing the baseline risk assessment for stages 1-3, I strongly recommend monitoring occupational hazards through effective occupational hygiene practices. The proposed Occupational Hygiene Control aims to address the health effects of hazards associated with the following:

1. Dust
2. Noise

I have since reviewed the OHS BOQ and replaced COVID-19 allocations with Occupational Hygiene Surveys. Additionally, I have reduced the cost allocation on HIV/AIDS awareness and training and the difference has been added to the cost of Occupational Hygiene Controls. The total cost of the BOQ remains the same. Refer to the review of the BOQ. I have also reviewed the health and safety specifications.

Tables **A-B** outline the activities and preliminary cost estimates provided by an Occupational Hygienist. The duration of the Occupational Hygienist's services will depend on the final project scope, the length of the project, and the estimated number of workers involved in the targeted site activities.

The final Occupational Hygiene data will be transferred to the OHS BOQ after the QS has finalized its project BOQ.

(A)

Noise Survey			
Item	Description	Period	Cost
1.1	Noise Survey – Monitoring (Labour)	Per/day	
1.2	Equipment	Per/day	
1.3	Noise Survey Report Writing	Month	
1.4	Travel per return trip	Per/Session	
1.5	Accommodation	Per/Night	
Total			

(B)

Dust Survey			
Item	Description	Period	Cost
2.1	Dust Survey – Monitoring (Labour)	Per/day	
2.2	Equipment	Per/day	
2.3	Dust Survey Report Writing	Per/session	
2.4	Analysis – to be advised – Per sample	Per/session	
2.5	Travel per return trip	Per/Session	
2.6	Accommodation	Per/Night	
Total			

Submitted by:

Dr. Rose Matete

Date:

2025/02/13

BASELINE RISK ASSESSMENT

CLIENT NAME:	Department of Public Works and Infrastructure (DPWI) Free State
PROJECT TITLE:	Thabong SAPS Academy: Complete repair and upgrading of roof structures and civil works including installation and connection to a backup generator set, installation of fire escape and the provisioning of emergency water storage
PROJECT LOCATION:	Thabong Welkom
CLIENT REPRESENTATIVE:	Rendani Netshilema
RISK ASSESSOR:	Rose Matete
RISK ASSESSMENT NO.	003/THAB/C/2025
REVIEW DATE:	Wednesday, 15 January 2025

RISK ASSESSMENT

SITE ESTABLISHMENT (CAMP)									
ACTIVITIES	HAZARDS IDENTIFIED	EXPOS	PERSONS AT RISK	Likelihood of exposure 5 = Almost Certain 4 = Likely 3 = Possible 2 = Unlikely 1 = Rare	Consequence 5 = Catastrophic 4 = Major 3 = Moderate 2 = Minor 1 = Insignificant	Likelihood of Consequence A B C	RISK CLASS	CONTROL MEASURES	RESPONSIBLE PERSON
Delivery of mobile site facilities and other materials to site	Reckless Driving by Construction Vehicle/Truck Drivers	Load unexpectedly releasing onto persons or property causing serious injuries / property damage	Workers and employer	4	4	16	A- High Risk	1. The Contractor must develop a Safe Driving Policy & Procedure detailing site access procedures, speed restrictions, monitoring and requirements for Construction Vehicles and Trucks 2. Construction Vehicles /Trucks must be verified as roadworthy and have recent service records 3. The Construction CHSO (CHSO) is to ensure all drivers gaining access to site have valid South African Driver's licence and suitable Operator's competency when necessary 4. Site manager/Hire Company are to ensure prior to departure all plant/materials and equipment to be transported to site by Construction Vehicles/Trucks are inspected prior to each trip	Site manager
Access to workers facilities	Insufficient Provision of Welfare Facilities	Communicable diseases	General workers and supervisors	3	3	9	B-Medium Risk	1. Sufficient clean, hygienic, maintained and safe ablution facilities must be provided for both genders by the Contractor 2. Toilet paper, hand wash basins, toilet soap and disposable paper towels are to be provided	Site manager
	Insufficient sheltered eating areas	Communicable diseases (e.g. COVID-19)	General workers and supervisors	3	3	9	B-Medium Risk	1. Sheltered, safe, clean eating area must be provided for workers 2. Facilities provided must be equipped to comply with social distancing regulations 3. CHSO is to monitor proper use of facilities	Site manager
Placement of mobile facilities	Unsafe placement of mobile structures likely to collide with workers	Serious body or foot injuries and/or damage to property	General workers and supervisors	3	4	12	A- High Risk	1. The Containers must be placed according to the approved site layout drawing 2. Visitors walking through the site to access the site office must be prevented and parking areas made available in a safe area	Site manager

Temporary Electrical Installation Work	Exposed live electrical cables, wires and distribution boards	Electrical Shock / Electrocution	Workers involved in activities	3	9	B-Medium Risk	1. Subject to the Engineers approval for the connection of the power supply. 2. A competent and registered Electrical Contractor with the Department of Employment & Labour (DEL) to carry out installation work must be appointed 3. A valid Electrical Installation Certificate of Compliance must be kept on site 4. Temporary Electrical Installations must be inspected weekly by an appointed competent person and a register kept on file	Site manager CHSO Employee self
Stacking and Storage	Stacked articles or stored materials collapsing onto workers and/or property	Injuries and damage to property	All site workers	2	1	C- Low Risk	1. Stacking and Storage Supervisor is to be appointed to perform inspections and record on a register 2. Stacking and storage designated areas must be barricaded and signposted	Site manager CHSO
Accessing the site	Insufficient fencing and harding likely to result in unauthorized entry by the public into the site camp and site causing attacks	Injuries and damage to property	Site visitors and others	4	16	A- High Risk	1. Engineers approved fencing must be installed at site camp and site	Site manager
Working with defective tools	Possibility of workers hands being exposed to sharp tools	Hand lacerations	General workers	4	3	A- High Risk	1. Conduct risk assessment and communicate risks involved. 2. Conduct pre-use safety inspection of hand tools. 3. Isolate faulty/ damaged hand tools. 4. Toolbox talks. 5. Provide and use safety gloves.	Site manager CHSO Employee self
Hand digging holes	Awkward posture from excessive bending	Back pain	General workers	4	3	A- High Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Allow adequate rest breaks	Site manager CHSO
	Materials / tools lying about on the ground likely to result in stepping on sharp objects	Foot pain / serious foot injury pain	General workers / supervisors / site visitors	4	16	A- High Risk	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
	Unbarricaded open holes exposing site personnel to tripping and falling into ground level holes	Sprains/fractures	General workers	3	9	B-Medium Risk	1. Communicate risks involved 2. Ensure access to first aid treatment is available at all times	Site manager CHSO
Performing activities generating dusts	Exposure to ambient dust	Respiratory irritation	General workers / supervisors / site visitors	4	2	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
Fixing existing fencing	Handling hand tools without hand protection	Puncture wounds and cuts	General workers	4	2	B-Medium Risk	1. The workers carrying out fencing tasks must be provided safe hand tools 2. Workers must inspect hand tools prior to use	Site manager CHSO Employee self
Entry to site camp	Possibility of workers being attacked by community members due to lack of access control	Minor to serious body injuries	All site workers	4	3	A- High Risk	1. Provide access control to the construction site 2. Provide and maintain a daily visitor's register 3. Possible risks from unauthorized entry must be identified and managed 4. Workers must be discouraged from confrontation with intruders 5. Key personnel must be empowered to deal with possible community unrest	Site manager

SITE PREPARATION IN PILING, GENERATORS, WATER TANKERS, YARD WALLS

Removal of trees	Possibility of being hit by falling trees	Minor to serious head injuries	Other workers nearby	4	3	12	A- High Risk	1. Assign the activity to suitable workers 2. Provide instruction to workers to be involved 3. Communicate hazards linked to the job 4. Supervisor must have few workers nearby 5. Discourage specialisation 6. Provide suitable head, eye, foot and hand protection 7. Monitor the use of PPE provided	Site manager CHSO Employee self
	Possible exposure to dust from cutting of trees	Respiratory irritation	Operator/s	4	2	8	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide workers with suitable dust masks 4. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
	Possibility of workers tripping and falling from obstructions caused by fallen trees	Foot pain / soft tissue damage / limb dislocation	Site personnel	4	3	12	A- High Risk	1. Communicate risks involved 2. Ensure an adequate number of workers are involved in the activity 3. Workers must remove fallen trees immediately 4. General workers must be supervised to lower the risk	Site manager CHSO Employee self
Manual clearing and removal of plants and other foliage	Prolonged exposure to cold, wet and windy conditions	Common cold / flu, etc	General workers	3	3	9	B-Medium Risk	1. Wear several layers of clothing / gloves / warm hat / synthetic or cotton clothing / warm footwear with warm socks / scarf or face mask 2. Take frequent short breaks in a warm area 3. Avoid exhaustion or fatigue 4. Drink warm, sweet beverages and avoid drinks with caffeine or alcohol 5. Workers who take chronic medications, such as diabetes, high blood pressure, or cardiovascular disease must monitor irregular physiological reaction and report to their doctor	CHSO Employee self
	Exposure to extreme cold conditions	Frostbite and hypothermia	General workers	4	2	8	B-Medium Risk	1. Awareness and training of workers on the hazards, related risks and control measures 2. If any of the symptoms of hypothermia are observed, the victim should immediately be taken to a heated office 3. Remove wet clothing and wrap victim in warm covers 4. Keep the victim awake if possible 5. Provide victim with warm drinks and avoid drinks with caffeine	CHSO and workers
	Exposure to extreme cold temperature	Hypothermia, common cold, flu etc	General workers	3	3	9	B-Medium Risk	1. Wear several layers of clothing / gloves / warm hat / synthetic or cotton clothing / warm footwear with warm socks / scarf or face mask 2. Take frequent short breaks in a warm area 3. Avoid exhaustion or fatigue 4. Drink warm, sweet beverages and avoid drinks with caffeine or alcohol 5. Workers who take chronic medications, such as diabetes, high blood pressure, or cardiovascular disease must monitor irregular physiological reaction and report to their doctor	CHSO Employee self
Clearing the ground	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Awkward postures form maintaining excessive bending of the body	Lower back pain	General workers	4	2	8	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
	Possible exposure to vegetation dust from lack of use of respiratory protection	Respiratory irritation	Operator/s	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying if practicably possible 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self

Working in external environments with potential presence of biological agents	Exposure to biological agents (i.e. bacteria, viruses, fungi etc)	Allergic reactions to serious medical conditions	General workers	4				2	8	B-Medium Risk	1. Site workers must undergo baseline medical examination and testing before start of site activities 2. Provide employees with awareness regarding this hazards and protection measures 3. Site workers must anticipate presence of biological hazards and report exposure when its experienced 4. Provide adequate toilet and hand washing facilities 5. Provide workers taking part in activities with overalls, safety shoes, dust masks, goggles 6. Require employees to use personal protective equipment provided	Site manager CHSO
	ALTERATIONS											
Shipping out works resulting in flying / falling objects	Hit by falling / flying objects	Serious head injuries Foot injuries	Operator/s	4				3	12	A- High Risk	1. The project supervisor for the construction stage / main contractor to make sure access control is enforced 2. Screening must be erected to enclose all dusty operations	Site manager CHSO
	Inhalation of silica dust	Respiratory irritation Asthma Sinusitis Silicosis Tuberculosis (TB)	Operator/s	3				3	9	B-Medium Risk	1. The project supervisor for the construction stage / main contractor must provide operators with respiratory protection selected from the list of SARS approved equipment, according to the highest concentration of airborne silica dust to which the operative is likely to be exposed 2. The selection should also take into account the acceptability of the equipment to the wearer, bearing in mind the nature of the job and the length of time the protection will need to be worn 3. The project supervisor for the construction stage / main contractor are to provide and erect temporary dust screens and barriers as per Principal Agents requirements 4. The project supervisor for the construction stage / main contractor are to employ dust suppressing measures in the form of dust wetting where reasonably practicable.	Site manager CHSO
Using grinders to cut concrete	Possible exposure to respirable dust from not wearing eye protection	Eye irritation	Operators / others nearby	3				3	9	B-Medium Risk	Work supervisor and CHSO have to take appropriate steps to control hazards associated with concrete dust on site by considering control measures as follows: 1. Conduct and document risk assessment and remind staff of the risks of concrete dust, and why these controls are necessary 2. Concrete dust suppressed by wet cutting 3. Operators are provided with suitable eye protection 4. Ensure operators wear eye protection provided 5. Ensure any affected staff referred to a medical professional	Site manager CHSO Employee self
	Possible exposure to noise >85dB from noise producing tools	Hearing irritation / noise induced hearing loss	Operators / others nearby	4				4	16	A- High Risk	1. Provide baseline audiometry before starting with the work on site 2. Provide employees with awareness, education and training regarding noise hazards and protection measures 3. Rotate workers performing loud tasks 4. Train all employees on how to properly wear hearing protective devices 5. Provide overexposed employee with an hearing protector 6. Require employees to use hearing protective devices	Site manager CHSO Employee self
Breaking walls with chisels	Exposure to loud noise	Temporary hearing loss / headache	Operator/s	4				4	16	A- High Risk	1. Identify hazards linked to noise and document the risks associated with the activities 2. Workers must attend induction training 3. Workers must be in possession of medical fitness certificates 4. Provide workers involved with ear muffs and request them to wear the PPE provided 5. Rotation of workers is recommended	Site manager CHSO Employee self
	Exposure to hand arm-vibration	Hand-arm vibration syndrome	Operator	4				4	16	A- High Risk	Site manager and CHSO are to take appropriate precautions and control risks by considering safety measures as follows: 1. Identify hazards linked to vibration and communicate risks 2. Ensure that tools are well maintained 3. Keep tools well maintained to retain lowest vibration performance 4. Prevent use of poorly performing tools to avoid longer exposure time for the operator.	Site manager CHSO

Cutting through walls	Hazardous noise	Headache / temporary hearing loss	Tradesmen involved	4		3	12	A- High Risk	1. Provide and use hearing protection 2. Communicate risks involved 3. Employ site safety rules	Supervisor CHSO Employee
Sharp objects lying on the ground	Possibility of stepping on sharp objects	Foot injuries	Supervisors / Nearby Tradesmen / Professional team	4		3	12	A- High Risk	1. Ensure good housekeeping measures are employed 2. Communicate site safety rules 3. Provide and use safety shoes	Supervisor CHSO Employee
Knocking down brick / timber & ceilings	Inhalation of dust	Silicosis / sinuses	Supervisors / Nearby Tradesmen / Professional team	4		2	8	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use dust masks	Work supervisor CHSO Employee self
Manual handling	Repeated bending, reaching, stretching, pulling, lifting, repetitive motions (awkward posture)	Musculoskeletal injuries /pain including sprains and strains	Tradesmen	4		2	8	B-Medium Risk	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Work supervisor CHSO Employee self
Cutting bricks into smaller sizes	Flying objects	Eye injuries	Supervisors / Nearby Tradesmen / Professional team	4		4	16	A- High Risk	1. Communicate risks involved 2. Communicate site safety rules 3. Provide and use safety goggles	Work supervisor CHSO Employee self
Lack of safe procedures	Uncontrolled collapse of brick wall due to lack of proper methods	Serious injuries / body pain / loss of time	Supervisors / Nearby Tradesmen	3		4	12	A- High Risk	1. Communicate risks involved 2. Communicate safe operating procedures 3. Assign a competent supervisor to manage the works 4. Employer place meal method in the form of brick by brick removal method	Work supervisor CHSO Employee self
Rubble, dust etc left on floors	Slip and fall on same level	Serious injuries / fractured legs	Supervisors / Nearby Tradesmen / Professional team	4		3	12	A- High Risk	1. Communicate risks involved 2. Communicate safe operating procedures 3. Assign a competent supervisor to maintain regular housekeeping 4. Implement exclusion zones if practical	Work supervisor CHSO Employee self
	Possibility of stepping on sharp objects likely to result from scrap materials, nails, sharp objects lying about	Foot injury	All site workers	4		3	12	A- High Risk	Site manager / CHSO are to implement the following measures: 1. Provide all site workers with appropriate safety shoes 2. Apply a safety shoes policy for every individual who is to perform work at the work site 3. Prepare and document risk assessment and communicate to all site workers 4. Make sure all site workers are provided with the hazard awareness information, instruction & training.	Site manager CHSO
Picking up and movement of bricks from stockpiles to point of work	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	4		3	12	A- High Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Dropping of loads due to being overwhelmed with weights	Foot injuries	General workers	4		3	12	A- High Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO

	Possible trip and fall on same level resulting from hand tools and objects lying around	Limb dislocation / sprains / fractures	General workers / supervisors and site visitors	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Ensure access to first aid treatment is available at all times	Site manager CHSO
	Possibility of stepping on sharp objects	Foot pain / serious foot injury pain	General workers / supervisors / site visitors	3	3	9	B-Medium Risk	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
Removal of surplus material	Faulty/incorrect hand tools	Neck & shoulder pain / foot and lower back injuries	General workers	3	3	9	B-Medium Risk	1. Provide safe hand tools 2. Inspect hand tools and ensure inspections are recorded on a register at least weekly and visually prior to use 3. Provide employee with overalls, safety shoes, safety gloves 4. Require employees to use all personal protective wear provided	Site manager CHSO Employee self
Working outside in dusty environments	Exposure to inhalable dust	Respiratory irritation	General workers	3	3	9	B-Medium Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Provide employees with changing facilities equipped with hand wash equipment 4. Provide employees with dust masks/safety glasses and monitor the wearing of PPE provided	Site manager Employee self
Transporting material to a dumping site	Exposure to inhalable dust	Respiratory & eye irritation	Truck drivers	3	2	6	C- Low Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Drivers should close windows of trucks 4. Provide employees with changing facilities equipped with hand wash equipment 5. Provide employees with dust masks/safety glasses and monitor the wearing of PPE provided	Site manager Employee self
	Reckless Driving by Construction Vehicle/ Truck Drivers	Load unexpectedly releasing onto persons or property causing serious injuries / property damage	Workers and employer	4	4	16	A- High Risk	1. The Contractor must develop a Safe Driving Policy & Procedure detailing site access procedures, speed restrictions, monitoring and requirements for Construction Vehicles and Trucks 2. Construction Vehicles / Trucks must be verified as roadworthy and have recent service records 3. The Construction CHSO (CHSO) is to ensure all drivers gaining access to site have valid South African Driver's Licence and suitable Operator's competency when necessary 4. Site manager/ Hire Company are to ensure prior to departure all plant/materials and equipment to be transported to site by Construction Vehicles/trucks are inspected prior to each trip	Site manager
Collection and transportation of fill material to the site areas	Possibility of a worker/s being hit by delivery trucks from faults in vehicles	Serious / fatal injuries	Driver and others nearby	4	3	12	A- High Risk	1. Trucks must be verified as roadworthy and have recent service records 2. The CHSO is to ensure all drivers gaining access to site have valid South African Driver's Licence, suitable Operator's competency and a valid Medical Certificate of Fitness 3. Workers are to wear all prescribed PPE including high visibility clothing and dust mask	Site manager CHSO Employee self
Delivery trucks reversing into the site	Struck by moving vehicles from man-machine interaction	Serious / fatal injuries	Site workers	4	3	12	A- High Risk	1. Site manager must ensure proper supervision is available on site 2. Provide workers with high visibility clothing and require them to wear all the time 3. Tipoff areas must the site is enclosed and barricaded walkways are provided where necessary	Site manager CHSO Employee self
Offloading fill materials	Possible exposure to inhalable & respirable dust	Respiratory irritation	General workers	3	3	9	B-Medium Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Keep other workers not part of the operations away from the area 4. Provide and request workers to use dust masks, goggles provided	Site manager Employee self

Backfilling	Possibility of workers using faulty/damaged hand tools	Neck & shoulder pain / foot and lower back injuries	General workers	3	3	9	B-Medium Risk	1. Provide safe hand tools 2. Inspect hand tools and ensure inspections are recorded on a register at least weekly and visually prior to use 3. Provide employee with overalls, safety shoes, safety gloves 4. Require employees to use all personal protective wear provided	Site manager CHSO Employee self
	Possible awkward posture from maintaining excessive bending of the body	Lower back pain	General workers	4	3	12	A- High Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
	Possible exposure to Inhalable & respirable dust	Irritation of the throat / eyes	Operator of equipment / others nearby	4	2	8	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Compaction with a rammer	Exposure to vibration from poorly performing equipment / lack of use of appropriate shoes, gloves	Wholebody vibration / hand vibration syndromes	Operator of equipment	4	3	12	A- High Risk	1. Awareness of the hazards among operators 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. Ensure records of inspections are kept in the safety file 5. Provide operators with safety shoes and require them to wear the shoes provided	Site manager CHSO Employee self
	Possible exposure to noise +85dB from operating noise generating equipment without hearing protection	Irritation of the ear / noise-induced hearing loss	Operator of equipment	4	3	12	A- High Risk	1. Awareness of the hazards among operators 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. Provide operators with ear muffs and require them to wear hearing protection provided	Site manager CHSO Employee self
	Possible exposure to fumes from fuelling and re-fuelling of equipment without wearing respirators	Irritation of the throat / headache, nausea, vomiting	Operator of equipment / others nearby	3	3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment must be provided and be accessible 5. Provide all workers with masks and require them to wear the respirators provided	Site manager CHSO Employee self
Pouring bedding sand	Exposure to inhalable & respirable dusts	Irritation of the throat / eyes	Operator of equipment / others nearby	4	2	8	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
	Excessive bending	Back pain	General workers	4	2	8	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Allow adequate rest breaks	Site manager CHSO Work supervisors
	Dust inhalation	Respiratory irritation	General workers / supervisors / site visitors	4	2	8	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use dust masks	Site manager CHSO Employee self
Precast concrete slabs	Delivery and storage on site likely to result in dropping slabs	Muscle pain including sprains and strains	Operators	4	4	16	A- High Risk	1. Carrying and lifting must be performed by a suitable number of individuals 2. Manual handling must be supervised where necessary 3. Work area must be cleared up of other materials, tools, rubble	Site manager CHSO Employee self

	Uplifting and offloading slabs likely to result in a worker/s supporting loads with the body	Dropping of panels likely to result from difficulty in lifting oversized products / material resulting in damage of materials	Contractors	3	2	6	C- Low Risk	Assistant site manager and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Communicate risks involved; 2. Assign a team of workers who shall move materials to assembly points; 3. Reduce the distance between storage areas of materials to the assembly point by strategically storing materials; 4. Encourage workers to clear up obstacles from routes where movement of materials is planned.	Site manager CHSO Employee self
	Possible dropping of slabs likely to result from difficulty in handling items	Foot injury and/or damage of materials	Contractors	4	3	12	A- High Risk	Assistant site manager and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Communicate risks involved; 2. Assign a team of workers who shall move materials to assembly points; 3. Reduce the distance between storage areas of materials to the assembly point by strategically storing materials; 4. Encourage workers to clear up obstacles from routes where movement of materials is planned.	Site manager CHSO Employee self
	Possibility of stepping on sharp objects from sharp items lying on surrounding ground	Foot injury	Supervisors / Nearby Tradesmen / Professional team	3	3	9	B-Medium Risk	1. CHSO is to conduct and document risk assessment 2. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training 3. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 4. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site.	CHSO
Manual trenching and excavations with hand tools	Faulty/incorrect hand tools	Neck & shoulder pain / foot and lower back injuries	General workers	3			B-Medium Risk	1. Provide safe hand tools 2. Inspect hand tools and ensure inspections are recorded on a register at least weekly and visually prior to use 3. Provide employee with overalls, safety shoes, safety gloves 4. Require employees to use all personal protective wear provided	Site manager CHSO Employee self
Working outside in dusty environments	Exposure to inhalable ambient dust	Respiratory irritation	General workers	4	2	8	B-Medium Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
Unprotected trenches and holes	Potential fall of people into trench/holes	Serious personal injuries	General workers / supervisors and site visitors	3	3	9	B-Medium Risk	1. Provide sufficient safe access and egress of trenches and excavations 2. All trenches and excavation must be barricaded up to 1 meter with snow netting 3. Place warning signs along the trench indicating deep excavations	Site manager CHSO
	Possibility of rain water filling up trenches likely to result in workers slipping and falling into trenches	Foot pain / serious foot injury pain	Site personnel / supervisors	3	2	6	C- Low Risk	Work supervisor and CHSO must keep excavations free of water	Site manager CHSO
SITE DELIVERIES (BULK MATERIALS)									
Delivery trucks entering the site	Lack of access space, likely to result in trucks colliding with site workers	Serious/fatal injuries	General workers	3	2	6	C- Low Risk	1. Communicate exact date of site delivery and arrange with site manager for site supervision 2. Avoid hiring companies without checking up reputation	Site manager
Movement of trucks around the site area	Possibility of vehicles struck against fixed structures	Property damage	Employer	3	3	9	B-Medium Risk	1. Supervisor must negotiate safe access to loading sites 2. Secure safe loading areas 3. Ensure drivers are competent 4. Induction of site workers	Site manager

Offloading loads from trucks	Supporting heavy weight with the body	Body pain / loss of time	General workers	3	3	9	B-Medium Risk	1. Avoid the act if possible 2. Communication of risks involved 3. Lifting aids must be allowed to fully perform intended task instead of people engage in assisting the equipment involved	Site manager Employee self
Manual handling and lifting heavy loads	Pulling heavy weight resulting in slip and falls of workers	Limb dislocation / body pain / loss of time	General workers	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Avoid the act if possible 3. Ensure the standing ground provides stability (no obstructions) 4. Issue and use of safety shoes	Site manager Employee self
	Possibility of being hit by falling materials	Head and foot injuries	General workers and supervisors	3	3	9	B-Medium Risk	1. Ensure sufficient number of workers lift heavy or bulky loads 2. Provide lifting gear if possible 3. Provision and use of hard hats	Site manager Employee self
Placing bulk materials on storage areas	Struck by landing materials	People's feet may be struck by materials while being too close to landing position	General workers	3	3	9	B-Medium Risk	1. Conduct induction of site workers 2. Encourage clear communication between operatives performing the task 3. Assign supervisory duties to an experienced person	Site manager CHSO
Movement of trucks around the site area	Accidental interaction of people with vehicles from speeding	Serious/fatal injuries	General workers	4	3	12	A- High Risk	1. Ensure safety guards are in place 2. Advise people on foot not to be around loading machinery 3. Train operatives on safe operative procedures 4. Dedicate loading and off-loading areas	Site manager Employee self
Trucks pulling off and moving from delivery areas	Being run over by reversing vehicles	Serious / fatal injuries / loss of time	General workers and supervisors	2	1	2	C- Low Risk	1. Engage competent drivers 2. Watch out not only for workers in the zone, but also their equipment 3. Assign a supervisor to monitor risks activities 4. Vehicles should not go backwards unless the movement can be made in safety 5. Discourage spectatorship 6. Conduct induction of workers	Contractor Site manager
CONCRETE FORMWORK AND REINFORCEMENT IN PILE FOUNDATIONS, FLOORS, GENERATORS AND CARPOTS									
Soil poisoning	Possible inhalation of HCAs	Respiratory irritation / dizziness	Personnel involved / Others nearby	4	2	8	B-Medium Risk	1. CHSO is to provide employees with awareness and training regarding this hazards and precautionary measures 2. Site manager is to provide operators with respirators 3. Require employees to use respiratory protection provided	Site manager CHSO Employee self
Connecting / binding Rebars together	Possible skin contact with concrete (hazardous chemical agent) from lack of use of overalls, safety boots, safety gloves	Skin rash / skin burns	Operators	3	3	9	B-Medium Risk	1. Acquire the Material Safety Data Sheet of the Hazardous Chemical Substance (Cement) 2. Provide employees with awareness, education and training regarding this hazards and protection measures 3. Ensure cement bag waste is stored and disposed correctly 4. Encourage workers to wash hands after contact 5. Provide overexposed employee with overalls, builders boots, safety gloves 6. Require employees to use personal protective wear provided	Site manager CHSO Employee self
	Lack of use of hand protection	Hand cuts	Operators	3	2	6	C- Low Risk	1. Raise awareness among operators on hazards 2. Communicate site safety rules 3. Provide safety gloves and require workers to use safety gloves	Site manager CHSO Employee self
	Twisting of the hands	Muscle pain	Operators	3	2	6	C- Low Risk	1. Raise awareness among operators on hazards and related risks 2. Rotate workers 3. Allow adequate breaks	Site manager CHSO

	Rapid repetitive twisting of the wrist	Possibility of applying force	Sprains / strains	3	2	6	C- Low Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with ULDs (upper limb disorders) by considering safety measures as follows: 1. Conduct and document risk assessment, and communicate risks involved to employees 2. Ensure that workers are trained in their specific work, such as using tools 3. Regularly service and maintain tools and equipment. 4. Implement controls in order to reduce these risks as far as is reasonably practicable	Site manager CHSO
	Excessive bending resulting in awkward posture	Lower back pain / muscle strain of back and legs	General workers	4	2	8	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks 3. Rotate workers	CHSO and workers
Movement of rebars from point of binding to trenches	Possibility of dropping binded rebars due to being overwhelmed with heavy loads	Foot pain / soft tissue damage / limb dislocation	Personnel involved	3	3	9	B-Medium Risk	Site manager and CHSO are to control risks associated with construction activities, by implementing safety measures as follows: 1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work is monitored 3. Rotation of workers must be implemented 4. Implement buddy system	Site manager CHSO
Lifting and movement of rebars	Possibility of tripping and falling due to lack of housekeeping	Foot pain / serious foot injuries / disabling injuries	Personnel involved	4	3	12	A- High Risk	1. Ensure good housekeeping measures are employed 2. Communicate site safety rules 3. Develop and enforce a safety shoe policy for the people entering the construction site 4. Provide and use safety shoes	Site manager CHSO Employee self
Pouring concrete	Concrete pump lifting people nearby	Serious / fatal injuries / loss of time	Operators / others nearby	4	4	16	A- High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
	Bending, reaching, stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal injuries / pain including sprains and strains	Operators	4	2	8	B-Medium Risk	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
	Possible slip and fall on the same level due to concrete spills	Body pain / fractured legs	Supervisors / Nearby Tradesmen	3	2	6	C- Low Risk	1. Site supervisor to prevent concrete spills 2. CHSO to communicate safe operating procedures 3. Workers must not walk closer to concrete spills	Site manager Employee self
	Possibility of skin being in direct contact with concrete	Skin irritation / burns / dermatitis	The people in construction (PIC)	4	2	8	B-Medium Risk	1. Provide hazard awareness and training 2. Communicate safe working procedures 3. Provide and use full cover overalls, safety shoes and safety gloves	Site manager CHSO
Casting concrete	Awkward posture from excessive bending	Back and neck pain	Operators	4	2	8	B-Medium Risk	1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO
	Possible eye contact with concrete from splashing	Eye irritation	Operators	3	2	6	C- Low Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Provide exposed employee with goggles 3. Require employees to use eye protection provided	Site manager CHSO Employee self
	Possible skin contact with concrete (hazardous chemical agent) from lack of use of overalls, safety boots, safety gloves	Skin rash / skin burns	Operators	3	2	6	C- Low Risk	1. Acquire the Safety Data Sheet (SDS) of cement 2. Provide employees with awareness, education and training regarding this hazards and protection measures 3. Ensure cement bag waste is stored and disposed correctly 4. Encourage workers to wash hands after contact 5. Provide overexposed employee with overalls, builders boots, safety gloves 6. Require employees to use personal protective wear provided	Site manager CHSO Employee self

	Possible slip and fall on same level from spills	Body pain / foot and lower back injuries	Operators / others nearby	3	3	3	9	B-Medium Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Communicate standard operating procedures 3. Nominate and appoint a trained first aid personnel 4. Provide first aid facilities and ensure easy access to the facilities 5. Provide exposed workers with an suitable foot protection 6. Require employees to use foot protection provided	Site manager CHSO
Concrete finishing using hand trowels	Awkward postures	Stress on the back, hands and arms	Operators	4	2	8		B-Medium Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Stretching before work if personal physique allows 3. Take mini breaks (a few seconds), this can relieve stress and fatigue 4. Avoid to overreach 5. Maintain a comfortable position while working	Site manager CHSO Employee self
	Possible twisting of the body	Sprains/ strains	Operators	4	2	8		B-Medium Risk	Site manager / CHSO are to take appropriate precautions and control risks associated with ULDs (upper limb disorders) by considering safety measures as follows: 1. Inform staff about signs and symptoms of ULDs, risk factors and control measures. 2. Ensure adequate breaks by developing an appropriate work rest schedule. 3. Limit/control overtime.	Site manager CHSO
Stripping off formwork	Possibility of people struck by falling/flying materials	Head injuries	General workers	3	3	9		B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with falls of objects from roofing by considering safety measures as follows: 1. Provide covered walkways or suitable netting 2. Waste materials should be brought to ground level by a safe means and not be thrown from height 3. Store only minimal quantities of building materials on working platforms 4. Provide site workers likely to be affected with hard hats 5. Head protection should be mandatory on site for all site visitors	Site manager CHSO Employee self
	Possibility of stepping on sharp objects resulting from poor housekeeping at the point of work	Foot pain / injuries /	PIC	4	3	12		A- High Risk	Site manager and CHSO are to make sure the following measures are employed: 1. Conduct induction of site workers 2. Communicate site safety rules 3. Ensure good housekeeping measures are employed 4. Provide safety shoes to all site workers 3. Introduce a safety shoes policy to be followed throughout the period of the project	Site manager CHSO Employee self
Handling cement	Possible inhalation of cement dust from opening up bags / mixing cement / disposing off bags	Sinus / silicosis	Operators	4	2	8		B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use dust masks	Site manager CHSO Employee self
	Possible skin contact with cement dust	Skin irritation	Operators	4	2	8		B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use overalls, safety gloves	Site manager CHSO Employee self
Boxing formwork - using cutting tools	Possibility of cutting blades losing control and causing injury to the operator likely to result form incompetence	Serious hand injuries Delay in programme	Personnel involved	4	4	16		A- High Risk	Site manager / CHSO are to implement the following measures: 1. Ensure only trained and authorised operators are allowed to use cutting saws 2. Ensure operators are provided with training and supervision on the safe and correct use of saws 3. Ensure operators demonstrate competency in performing the task safely 4. Provide safe working tools	Site manager CHSO

	Possible exposure to wood dust likely to enter the body through the lungs and the eyes	Respiratory irritation / Bronchitis / Asthma / Cancer of the nose / Irritation of the eyes	Operators / others nearby	4	2	8	B-Medium Risk	Site manager / CHSO are to implement the following measures: 1. Local exhaust ventilation (LEV) is provided at machines and staff are trained in using it properly if necessary 2. LEV maintained to keep it in good condition and working effectively 3. LEV inspected every 14 months by a competent person 4. Wood dust cleared up using a suitable vacuum cleaner, fitted with an appropriate filter 5. Staff do health surveillance questionnaire before starting 6. Any seriously affected worker is to be referred to a medical practitioner	Site supervisor Employee self
	Possibility of stepping on sharp objects likely to result from scrap materials, nails, sharp objects lying about	Foot injury	All site workers	4	2	8	B-Medium Risk	Site manager / CHSO are to implement the following measures: 1. Provide all site workers with appropriate safety shoes 2. Apply a safety shoes policy for every individual who is to perform work at the work site 3. Prepare and document risk assessment and communicate to all site workers 4. Make sure all site workers are provided with the hazard awareness information, instruction & training.	Site manager CHSO
	Awkward postures from excessive bending	Back strain Lower back pain	Site Personnel	4	2	8	B-Medium Risk	Site manager and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Provide risk communication training to all workers likely to be affected 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act	Site manager CHSO
	Possible trip and fall into trenches resulting from obstructed passageways	Soft tissue damage / Fractures	Personnel involved	3	3	9	B-Medium Risk	The project supervisor for the construction stage / safety officer must ensure control of trip hazards, by implementing measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Ensure the work area is regularly inspected and loose soil, tools etc are kept clear of access ways / routes 3. Identify entry and exit points into trenches	Work supervisor CHSO
Using hammers / grinders to cut concrete	Possible exposure to noise +85dB from noise producing tools	Hearing irritation / noise induced hearing loss	Operators / others nearby	4	3	12	A- High Risk	1. Provide baseline audiometry before starting with the work on site 2. Provide employees with awareness, education and training regarding noise hazards and protection measures 3. Rotate workers performing loud tasks 4. Train all employees on how to properly wear hearing protective devices 5. Provide overexposed employee with an hearing protector 6. Require employees to use hearing protective devices	Site manager CHSO Employee self
	Possible exposure to Inhalable silica dust from not wearing respiratory protection	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	Operators / others nearby	4	2	8	B-Medium Risk	Work supervisor and CHSO have to take appropriate steps to control hazards associated with concrete dust on site by considering control measures as follows: 1. Conduct and document risk assessment and remind staff of the risks of concrete dust, and why these controls are necessary 2. Concrete dust suppressed by wet cutting 3. Operators are provided with suitable respiratory protective equipment (RPE) and staff trained in how to use it 4. Ensure operators wear RPE provided 5. Site personnel do health surveillance questionnaire before starting, then annually 6. Ensure any affected staff referred to a medical professional	Site manager CHSO Employee self
	Possible exposure to respirable dust from not wearing eye protection	Eye irritation	Operators / others nearby	4	2	8	B-Medium Risk	Work supervisor and CHSO have to take appropriate steps to control hazards associated with concrete dust on site by considering control measures as follows: 1. Conduct and document risk assessment and remind staff of the risks of concrete dust, and why these controls are necessary 2. Concrete dust suppressed by wet cutting 3. Operators are provided with suitable eye protection 4. Ensure operators wear eye protection provided 5. Ensure any affected staff referred to a medical professional	Site manager CHSO Employee self

Operating vibrating hand tools	Exposure to hand arm-vibration	Vibration while finger	Operator	3	2	6	C- Low Risk	Site manager and CHSO are to take appropriate precautions and control risks by considering safety measures as follows: 1. Identify hazards linked to vibration and communicate risks 2. Ensure that tools are well maintained 3. Keep tools well maintained to retain lowest vibration performance 4. Prevent use of poorly performing tools to avoid longer exposure time for the operator.	Site manager CHSO
Stripping off boxing	Possibility of tripping and falling on same level likely to result from pulling with force	Foot pain / body pain / soft tissue damage /	Personnel involved	4	2	8	B-Medium Risk	Site manager and CHSO are to control risks associated with construction activities, by implementing safety measures as follows: 1. Hazards associated with manual lifting of heavy items must be identified 2. Communicate safe working procedures 3. Risks connected to manual material handling must be communicated to all workers 4. Workers must be undergo awareness training on ergonomic hazards 5. Spoil material must be removed	Site manager CHSO Employee self
Picking up and movement of bricks from stockpiles to point of work	Applying force in pushing / pulling boxing	Back sprain / strain	Personnel involved	3	2	6	C- Low Risk	Site manager and CHSO are to control risks associated with construction activities, by implementing safety measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected. 2. Document safe work procedures and provide to workers 3. Provide training in safe manual handling techniques 4. Encourage team lifts where necessary	Site manager CHSO
	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	4	2	8	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Dropping of loads due to being overwhelmed with weights	Foot injuries	General workers	3	3	9	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
Cutting of bricks	Possible accidental hand cutting resulting from machine interaction	Possible hand lacerations	Operators	4	3	12	A- High Risk	1. Site manager is to secure safe work tools 2. Site manager is to select or hire safe work tools 3. Site manager is to ensure operators to be involved are competent 4. CHSO is to communicate risks involved	Site manager CHSO
	Possible exposure to inhalable silica dust from not wearing dust masks	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	Bricklayers	4	2	8	B-Medium Risk	The project supervisor is to take necessary measures to control exposure to inhalable dust as follows: 1. Provide awareness on the hazards linked to dust 2. Provide respiratory protection to the workers exposed to dust inhalation 3. Strictly enforce safety rules for the use of respiratory protection	Site manager CHSO Employee self
	Possible exposure to respirable silica dust from not wearing goggles	Eye irritation / Eye injury	Bricklayers	4	2	8	B-Medium Risk	1. Site manager and CHSO are to ensure general workers know the hazards linked to dust 2. Site manager is to provide water supply nearby to wash dust off the eyes 3. Site manager is to provide workers with safety goggles 4. CHSO is to ensure workers wear safety goggles	Site manager CHSO Employee self
	Possibility of stepping on offcut bricks	Foot pain / soft tissue damage	PIC	4	3	12	A- High Risk	Site manager and CHSO are to control risks associated with construction activities, by implementing safety measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Ensure all site workers are provided with awareness information, instruction & training 3. Maintain a safe workplace by providing a housekeeping programme 4. Ensure all site workers are provided with safety shoes, including sub-contractors workers 5. Apply a safety shoes policy for every individual who is to perform work at the work site	Site manager CHSO Employee self

	Possibility of tripping and falling on same level resulting from poor housekeeping	Body pain / soft tissue damage	PIC	4	3	12	A- High Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with construction activities, by implementing safety measures as follows: 1. Undertake and document risk assessment and communicate risks involved to all site workers 2. All site workers are to be provided with and wear safety shoes, including sub-contractors workers 3. Take the necessary steps to prevent risks involved and apply a safety shoes policy for every individual who is to perform work on site 4. Maintain a safe workplace by providing a cleaning and housekeeping programme 5. Introduce access control to the construction area to people involved in the project only	Site manager CHSO Employee self
	Possibility of tripping and falling on same level resulting from wheelbarrow colliding with props	Body pain / limb dislocation	Personnel involved	4	3	12	A- High Risk	Site manager / CHSO are to take appropriate steps and ensure workers understand risks associated with their work and ensure the necessary safety precautions are carried out by considering control measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Ensure all workers undergo induction training 3. Prepare and communicate safe working procedures 4. Maintain a safe workplace by providing a housekeeping programme 5. Provide first aid treatment in line with the General Safety Regulations, 2003.	Site manager CHSO Employee self
Operating in cold winter temperatures	Exposure to extreme cold 24° conditions	Common cold	Operators	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Encourage regular fluid intake	Site manager
MASONRY IN GUARD HOUSE, ALTERATIONS & GENERATOR									
Picking up and movement of bricks from stockpiles to point of work	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	4	2	8	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Dropping of loads due to being overwhelmed with weights	Foot injuries	General workers	4	3	12	A- High Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
Hand cutting bricks	Workers head is likely to be hit by flying brick fragments	Eye injury	Bricklayers / Site personnel / Others nearby	3	2	6	C- Low Risk	Site manager is to take necessary steps and manage risks involved by implementing safety measures as follows: 1. Provide workers with safety goggles (SABS standards) and ensure they are being worn when breaking bricks 2. Provide other involved in site activities who may be affected with safety goggles and monitor the use thereof	Site manager CHSO
	Inhalation of silica dust	Lung inflammation / irritation, injury to the eyes, irritation of nose & throat	Bricklayers	4	2	8	B-Medium Risk	CHSO is to secure safe scaffolding conditions as follows: 1. Ensure risks of silica dust are identified 2. Persons exposed to silica dust undergo medical fitness examination 3. Site workers are informed and trained about health risks from exposure to silica dust 4. Workers are issued with safety goggles, dust masks, etc and PPE is worn	Site manager CHSO
Manual handling and movement of cement bags from one point to another	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	2	2	4	C- Low Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO

Handtools and other equipment left on the ground	Sharp items lying on floors	Step on sharp objects	Supervisors / Nearby Tradesmen / Professional team	3	3	9	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site. 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO Employee self
Working on Improperly erected or unsafe scaffolding	Collapse of Scaffolding resulting in falls of people below	Serious crush injuries Fatal injuries Delay in programme	Contractors / Brick layers / Site personnel	4	3	12	A- High Risk	Site manager and CHSO are to make sure the following measures are employed: 1. Method statement prepared must guide the processes to be followed 2. Assign a competent supervisor to manage the works 3. Training of workers to be involved in the operation 4. Communicate safe operating procedures 5. Follow manufacturers' processes and procedures and prevent accidental collapse 6. Be on the look-out for hazardous situations and suspend operations when any hazards are imminent	Site manager CHSO Employee self
Working at height without fall protection	Falls of people from height	Serious / fatal injuries Delay in programme	Contractors / Brick layers	4	3	12	A- High Risk	Site manager and CHSO must ensure that work is planned so that safe access / egress and working places are provided for operatives to work at heights 1. Portable access equipment such as trestles, step ladders and lower scaffolds must not be positioned near roof edges if this places operatives at risk of falls 2. Suitable guardrails and barriers and applying the hierarchy of controls will reduce the risk 3. Wherever possible remove the possibility of falling from heights by undertaking the work at ground level 4. Where this is not possible, protect the individuals from the hazard by installing suitable guard and hand rails, fencing, toe boards, using working platforms, ladder hoops, etc. 5. Safety harnesses, as with all Personal Protective Equipment (PPE), should only be used when all other possibilities have been exhausted	Site manager CHSO Employee self
Overloading of / Improperly placed bricks / tools on scaffolding	Falling objects hitting head or body, including feet	Serious head injuries Foot injuries Delay in programme	Contractors / Site Personnel / Public / Third Parties / Client	3	3	9	B-Medium Risk	CHSO is to secure safe scaffolding conditions as follows: 1. Brick guards to be kept in position on scaffold lifts 2. Waste materials be removed from scaffolding and placed in skip 3. Safety helmets and safety shoes are supplied to workers and worn at all times 4. Monitor use of safety hats and safety shoes	Site manager CHSO Employee self
ROOF COVERINGS IN ALTERATIONS (REMOVAL & REPLACEMENT ROOF SHEETS), GUARDHOUSE AND CARPOTS									
Accessing roofing in removal of old roof sheeting	Possible fall from height likely to result from use of unsuitable access equipment	Serious / fatal injuries	Operators	3	5	15	A- High Risk	Site manager and CHSO must take necessary steps to prevent falls of people from height by implementing measures as follows: 1. Trestles or scaffolding is safely erected 2. Select the Right Scaffold for the Job 3. Assign a responsible personnel for erection and inspection of scaffold 4. Monitor operations conducted on trestles or scaffolding 5. Implement the fall protection plan 6. Operators in use of trestles or scaffolding are to secure safe operations 7. Conduct and record scaffolding inspections	Site manager CHSO Employee self
	Possible fall from height likely to result from improper use of access equipment	Serious / fatal injuries	Operators	3	4	12	A- High Risk	Site manager and CHSO must take necessary steps to prevent falls of people from height by implementing measures as follows: 1. Trestles or scaffolding is safely erected 2. Select the Right Scaffold for the Job 3. Assign a responsible personnel for erection and inspection of scaffold 4. Monitor operations conducted on trestles or scaffolding 5. Implement the fall protection plan 6. Operators in use of trestles or scaffolding are to secure safe operations 7. Conduct and record scaffolding inspections	Site manager CHSO Employee self

	Possible fall from height likely to result from lack of use of fall protective equipment	Serious / fatal injuries	Operators	3	5	15	A- High Risk	Site manager and CHSO must take necessary steps to prevent falls of people from height by implementing measures as follows: 1. Workers involved must be inducted 2. Workers must undergo medical fitness examination & testing and be in possession of valid medical fitness certificates 3. Implement the fall protection plan prepared 4. Provide operators with fall protective equipment and request proper use from operators 5. Monitor operations to ensure safe execution of activities involved 6. Implement site safety rules	Site manager CHSO Employee self
Manual movement of trusses from storage area to point of work	Possibility of being exposed to muscle strain from manual lifting and moving of heavy materials	Head / shoulder pain	Operators	3	3	9	B-Medium Risk	Site manager and CHSO are to control risks associated with construction activities, by implementing safety measures as follows: 1. Hazards associated with manual lifting of heavy items must be identified 2. Risks connected to manual material handling must be communicated to all workers 3. Workers must be undergo awareness training on ergonomic hazards	Site manager CHSO Employee self
	Possibility of tripping and falling on same level likely to result from lack of communication thereby dropping trusses	Soft tissue damage / limb dislocation / fractures	Personnel Involved	3	4	12	A- High Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
	Possible trip and fall from unsuitable height/type of access equipment	Bone fractures / soft tissue damage	Operators	3	4	12	A- High Risk	Site manager and CHSO must take necessary steps to prevent falls of people from height by implementing measures as follows: 1. Conduct hazard identification and risk assessment 2. Communicate risks identified to workers performing the job 3. Provide access equipment suitable for the height 4. The job must be supervised to safeguard the safety of workers	Site manager CHSO
Installing trusses	Possible muscle strain from descending and ascending ladders	Muscle pain	Operators	4	2	8	B-Medium Risk	Site manager and CHSO are to make sure the following measures are employed: 1. Medical assessment of workers who perform work at height up to 2.5m by approved OHS Practitioner 2. Induction of site workers 3. Avoid working on ladders if possible 4. Provision and use of ladders where no other means of reaching up to heights is not possible	Site manager CHSO Employee self
	Possible exposure to fall from height resulting from lack of use of fall protective equipment	Bone fractures / soft tissue damage	Operators	3	5	15	A- High Risk	1. Operators must undergo medical fitness examination and testing prior to performing activities 2. CHSO is to provide employees with awareness and training regarding this hazards and precautionary measures 3. CHSO is to identify hazards daily and keep the records 4. Supervisor must monitor operations to ensure safety operating procedures are followed 5. Provide operators with safety harnesses Require employees to use safety harnesses provided	Site manager CHSO Employee self
	Possibility of falling from height resulting from lack of medical fitness	Bone fractures	Operators	3	5	15	A- High Risk	1. Operators must undergo medical fitness examination and testing prior to performing activities 2. CHSO is to provide employees with awareness and training regarding this hazards and precautionary measures 3. CHSO is to identify hazards daily and keep the records 4. Supervisor must monitor operations to ensure safety operating procedures are followed 5. Provide operators with safety harnesses Require employees to use safety harnesses provided	Site manager CHSO Employee self

	Possibility of falling from height resulting from being exposed to unsecure working conditions due to strong winds	Soft tissue damage / fractures	Operators	3	5	15	A- High Risk	Site manager and CHSO must take necessary steps to prevent falls of people from height by implementing measures as follows: 1. Identify the hazards linked to bad weather conditions 2. Conduct work on the ground if possible 3. Monitor operations conducted at height until the hazard poses a medium risk 4. Suspend work at height until the weather condition poses a low risk	Site manager CHSO
	Materials / tools left at the edge of roofing likely to result in falls of material from height	Head injury	Supervisors / Nearby Tradesmen / Professional team	3	3	9	B- Medium Risk	Site manager and CHSO are to make sure the following measures are employed: 1. Communicate risks involved 2. Materials or tools must not be left, dropped or thrown from the edge of roofing 3. Effective cordons must be fitted to deter non-essential personnel in some areas where this is not practicable 4. All edges from which it is possible for tools or materials to fall must be protected with guardrails, middle rails and toe boards	Site manager CHSO Employee self
Accessing the height	Possible slips, trips and fall from ladders	Temporary disability Permanent disability	Site Personnel	3	3	9	B- Medium Risk	1. CHSO is to develop a policy on ladders which covers use, inspection, repair, and disposal 2. Site manager and CHSO are to establish safe practices for the use of ladders and make sure they are followed 3. Site manager is to develop a training program and provide employees with ladder training 4. CHSO is to secure safety of ladders at all times, and provide ladders fit for the purpose intended	Site manager CHSO Employee self
Working on scaffolding	Possible fall from height likely to result from improper use of scaffolding	Serious / fatal injuries	Operators	3	4	12	A- High Risk	Site manager and CHSO must take necessary steps to prevent falls of people from height by implementing measures as follows: 1. Trestles or scaffolding is safely erected 2. Select the Right Scaffold for the Job 3. Assign a responsible personnel for erection and inspection of scaffold 4. Monitor operations conducted on trestles or scaffolding 5. Implement the fall protection plan 6. Operators in use of trestles or scaffolding are to secure safe operations 7. Conduct and record scaffolding inspections	Site manager CHSO Employee self
	Possible fall from height likely to result from improper use or unsecure scaffolding	Serious / fatal injuries	Operators	3	4	12	A- High Risk	Site manager and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles. 2. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time. 3. Improve the working environment, e.g. with better lighting, and a more comfortable temperature if practicable possible	Site manager CHSO
Lifting roof sheets	Possibility of dropping roof sheets hitting people below resulting from lack of concentration	Head injuries	Site personnel	3	3	9	B- Medium Risk	1. The site manager must ensure all lifting equipment has valid load test certificates and service inspection registers from the appointed Lifting Machinery Inspector 2. Construction Manager and health and safety practitioners will prepare a technical method statement and risk assessment on lifting operations prior to the task taking place and all workers provided awareness and training regarding the hazards and precautionary measures 3. Site manager will assign a competent supervisor for monitoring the activities 4. Supervisor is to ensure standard operating procedures are followed	Site manager CHSO Supervisor

	Bending, reaching, stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal injuries /pain including sprains and strains	Operators	3	2	6	C- Low Risk	Site manager and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected. 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act.	Site manager CHSO Employee self
Falls of objects from roofing	Possibility of people hit by falling / flying objects	Serious / fatal head injuries Delay in programme	Site Personnel / Others nearby	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with falls of objects from roofing by considering safety measures as follows: 1. Provide covered walkways or suitable netting 2. Waste materials should be brought to ground level by a safe means and not be thrown from height 3. Store only minimal quantities of building materials on working platforms 4. Provide site workers likely to be affected with hard hats 5. Head protection should be mandatory on site for all site visitors	Site manager CHSO Employee self
CEILING, PARTITIONS AND ACCESS FLOORING									
Manual lifting of plaster boards	Exertion	Neck pain	Operators	3	2	6	C- Low Risk	1. Communicate risks involved 2. Document safe work procedures 3. Encourage team lifts where appropriate	Work supervisor Contractor
Cutting plaster boards	Inhalation of respirable dust	Respiratory irritation / Sinuses	Operators / others nearby	3	2	6	C- Low Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use dust masks	Site manager CHSO Employee self Stakeholders
Operating cutting saw	Cutting saw losing control / jamming	Possible hand injuries	Operators	3	2	6	C- Low Risk	1. Site manager is to secure safe work tools 2. Site manager is to select or hire safe work tools 3. Site manager is to ensure operators to be involved are competent 4. CHSO is to communicate risks involved	Site manager CHSO Employee self
Improper use / poorly performing cutting saws	Accidental contact of operators hands with blades	Possible hand lacerations	Operators	3	3	9	B-Medium Risk	1. Site manager is to secure safe work tools 2. Site manager is to select or hire safe work tools 3. Site manager is to ensure operators to be involved are competent 4. CHSO is to communicate risks involved	Site manager CHSO Employee self
Scraps & off-cuts lying about	Stepping on sharp objects	Possible foot injury	Site workers and project stakeholders	3	2	6	C- Low Risk	Site manager and CHSO are to make sure the following measures are employed: 1. Conduct induction of site workers 2. Communicate site safety rules 3. Ensure good housekeeping measures are employed 4. Provide safety shoes to all site workers 3. Introduce a safety shoes policy to be followed throughout the period of the project	Site manager CHSO Employee self Stakeholders
Mixing plaster mix	Inhalation of dust	Irritation of the upper respiratory system	Operators	3	2	6	C- Low Risk	Site manager and CHSO are to ensure operators know the risks of dry plaster powder and how to avoid skin contact, excessive dust build-up and contact with eyes 1. Operators are to ensure work area is suitable to prevent excessive dust build-up 2. Site manager is to provide dust masks 3. Operators are to wear dust masks provided 4. CHSO is to ensure packaging is removed from work area and disposed off in waste bags	Site manager CHSO Employee self
Applying plaster mix to seal joints	Skin, eye contact with dust	Irritation of eyes / skin	Operators	3	2	6	C- Low Risk	Site manager and CHSO are to ensure operators know the risks of dry plaster powder and how to avoid skin contact, excessive dust build-up and contact with eyes 1. Operators are to ensure work area is suitable to prevent excessive dust build-up 2. Site manager is to provide water supply nearby to wash dust off skin 3. Site manager is to provide workers with goggles when plastering ceilings and ensure they wear them 4. Operators are to keep work area clean	Site manager CHSO Employee self

Installing ceiling from scaffolding	Working at >2m height without guard rails likely to result in falls of people from height	Body pain / serious injuries					Personnel involved	3	3	9	B-Medium Risk	Site manager and CHSO must ensure that work is planned so that work at height is performed on top of secure scaffolding by implementing the following measures: 1. Ensure suitable guardrails and barriers and apply the hierarchy of controls to reduce the risk level 2. Wherever possible remove the possibility of falling from heights by undertaking the work at ground level 3. Agree scaffolding requirements of contract stage, including appropriate load rating and provision of loading bays 4. Workers are to confirm that suitable scaffold is provided and inspected 5. Workers should be instructed not to interfere with or misuse scaffold 6. Ensure that weekly inspections are carried out	Site manager CHSO Employee self
	Possibility of objects falling down and hitting people below	Head injuries					Others nearby	3			B-Medium Risk	Site manager and CHSO must ensure that work is planned so that work at height is performed on top of secure scaffolding by implementing the following measures: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Ensure suitable guardrails and barriers and apply the hierarchy of controls to reduce the risk 3. Ensure waste materials are removed from scaffolding and placed in waste bins 4. Ensure tools are not placed at edge of scaffolding	Site manager CHSO
Kneeling during flooring	Possibility of applying force/ exertion during lifting of ceiling panels	Muscle pain					Personnel involved	3	2	6	C- Low Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with ULDs (upper limb disorders) by considering safety measures as follows: 1. Conduct and document risk assessment, and communicate risks involved to employees 2. Ensure that workers are trained in their specific work 3. Implement buddy system	Site manager CHSO
	Possibility of installers getting in direct contact with bare ground	Knee trauma / strain					Tilers	4	3	12	A- High Risk	1. Conduct risk assessment and communicate risks involved. 2. Toolbox talks. 3. Provide and use knee protectors.	Work supervisor Contractor Employee self
Handling faulty tools	Possibility of hands being cut off	Hand lacerations					Tilers	4	4	16	A- High Risk	1. Conduct risk assessment and communicate risks involved. 2. Conduct pre-use safety inspection of hand tools. 3. Isolate faulty/ damaged hand tools. 4. Toolbox talks. 5. Provide and use safety gloves.	Work supervisor Contractor Employee self
	Trip and fall on same level	Fractured legs / limb dislocation / body pain					Supervisors / Nearby Tradesmen / Professional team	3	4	12	A- High Risk	1. Induction training 2. Document and communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Work supervisor Contractor Employee self
Mixing plaster mix	Dust inhalation	Respiratory irritation or sinusitis					Tilers & others nearby	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Encourage personal hygiene 3. Provide and use dust masks	Work supervisor Contractor Employee self
	Excessive bending	Back pain					Tilers	3		9	B-Medium Risk	1. Communicate risks involved 2. Document and communicate safe working procedures 3. Allow adequate rest breaks	Work supervisor Contractor
Installing flooring	Dust / rubble on the floors	Serious injuries / fractured legs					Supervisors / Nearby Tradesmen / Professional team	3	4	12	A- High Risk	1. Conduct risk assessment and communicate risks involved 2. Tilers must clean up after themselves 3. Safety officer is to conduct regular inspections 4. Provide safety rules	Site manager CHSO Employee self
PLASTERING													

Manual lifting and loading heavy 40kg cement bags on wheelbarrows	Workers are likely to suffer muscular strain	Back pain / Injury		General workers	3	3	9	B-Medium Risk	1. Ensure that risks are assessed and adopt appropriate risk control measures 2. Site manager and CHSO are to ensure that dry plaster mix is lifted to the work areas in smallest size practical 3. Rotate workers to lower the risk to a worker 4. Allow adequate rest breaks	Site manager CHSO
	Possibility of a worker being overwhelmed by heavy loads	Lower back pain / muscle pain		General workers	4	3	12		1. Ensure that risks are assessed and adopt appropriate risk control measures 2. Site manager and CHSO are to ensure that sands are offloaded within reach of the area where mixing is to take place 3. Movement of sands must happen in loads that are of lesser weights 4. Rotate workers to lower the risk to a worker 5. Allow adequate rest breaks	Site manager CHSO
Mixing plaster mix	Exposure to inhalable silica dust	Irritation of the upper respiratory system / sinusitis / silicosis		Personnel involved / Others nearby	3	3	9	B-Medium Risk	1. Site manager and CHSO are to ensure general know the hazards linked to handling dry plaster powder and how to avoid skin contact, excessive dust build-up and contact with eyes 2. Operators are to ensure work area is suitable to prevent excessive dust build-up 3. Site manager is to provide water supply nearby to wash dust off skin 4. Site manager is to provide workers with dust masks & goggles when plastering ceilings and ensure workers wear them 5. Operators are to keep work area clean	Site manager CHSO Employee self
	Awkward posture from excessive bending	Back strain / Neck pain		Personnel involved	3	3	9		1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO
Plastering from height >2M	Cement powder spilled on the floor & spread around resulting in possible slip and fall on same level	Limb dislocation Body pain Fractures		Site Personnel / Others nearby	4	3	12	A- High Risk	1. Site manager is to provide all operators with safety boots and ensure they wear them on site 2. All work areas are to be cleared up of spillages to avoid hazardous conditions 3. Safe route to job are to be agreed with project supervisor 4. CHSO is to ensure that good housekeeping measures (e.g. debris such as plaster bags put into rubbish bins, clearing up of work area) are implemented on-site	Site manager CHSO Employee self
	Unsafe scaffolding likely to result in operators falling from height	Serious body pain Body pain Fractures		Plastermen	3	4	12		Site manager and CHSO are to take the necessary steps and implement the following measures: 1. Nominate and appoint a competent person who shall erect scaffolding equipment; 2. Agree on scaffolding requirements prior to commencement of tasks involving the use of scaffolding; 3. Scaffolding supervisor is to check with the Site manager that the correct scaffold is provided and inspected; 4. Scaffolding supervisor and CHSO are to keep a check on to make sure that scaffolding is secure at all times.	Site manager CHSO
Performing tasks at overhead positions	Reaching overhead positions by stretching the body likely to expose workers to musculoskeletal disorders	Shoulder / elbow / back stress		Plastermen	3	3	9	B-Medium Risk	Site manager and CHSO must control risks associated with reaching by taking consideration of health & safety measures as follows: 1. Document and communicate hazards and risks associated with reaching to all site workers, including self employed tradesmen 2. Provide and use ladders and lifts to reduce reaching 3. Rotate workers to allow recovery periods 4. Allow adequate rest breaks	Site manager CHSO Employee self

Repetitive motion from plastering	Employees experiencing excessive strain problems	Muscular strain long-term pain	Bricklayers / Site Personnel involved	3										Site manager and CHSO must control risks associated with repetitive motion by taking consideration of health & safety measures as follows: 1. Provide workers with information and training about risks related to their tasks 2. Ensure workers undergo medical fitness examination and testing. 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act. Workers should be encouraged to build short pauses between motions to obtain muscles and tendons recovery time.	Site manager CHSO Employee self
	Stacking and storage of cement bags	Cement powder spilled and spread on floors of general stores resulting in exposure to inhalable dust	Irritation of the upper respiratory system / sinusitis / silicosis	Storeman / general workers	4	3								Site manager is to provide all operators with safety boots and ensure they wear them on site 1. All work areas are to be cleared up of spillages to avoid hazardous conditions 2. Safe route to job are to be agreed with project supervisor based on site H&S plan 3. CHSO is to ensure that good housekeeping measures (e.g. debris such as plaster bags put into rubbish bins, clearing up of work area) are implemented on-site	Site manager CHSO Employee self
PAINTING ON PLASTER, METAL AND WOOD															
Strenuous two-hand lifting of heavy containers	Possibility of dropping 20L containers	Foot pain / foot injuries	Painters	3										Site manager and CHSO are to take control risks associated with manual handling by considering safety measures as follows: 1. Ensure workers carrying out heavy items activities must be inducted 2. Communicate and inform workers about possible ergonomic risks 3. Employ buddy system	Site manager CHSO Employee self
	Opening up containers of paint	Inhalation of paint fumes due to lack of respirators	Irritation of the upper respiratory system / sinusitis	Painters / Nearby Trademen	4	3								1. Site manager and CHSO are to ensure operators know the risks of hazardous chemical substances 2. Work area has natural ventilation 3. Site manager and CHSO are to provide operators with respiratory protection 4. Operators are to wear respiratory protection provided	Site manager CHSO Employee self
Preparing and mixing paint	Skin contact with paint due to lack of skin protection	Skin irritation (short-term) Skin burn (Long-term) Dermatitis (Long-term)	Painters	3	2									1. CHSO is to retain related SDS and keep a copy in the safety file 2. CHSO and those involved in handling of hazardous substances must read SDS and follow manufacturer's instructions 3. Site manager is to provide the prescribed PPE (e.g. overalls, mask or respirator, safety shoes) 4. Workers are to use PPE provided	Site manager Employee self
	Applying paint on the walls	Inhalation of paint fumes due to lack of respirators	Lung / skin irritation / nausea	Painters / Nearby Trademen	3	3								1. CHSO is to retain related SDS and keep a copy in the safety file 2. CHSO and those involved in handling of hazardous substances must read SDS and follow manufacturer's instructions 3. Site manager is to provide the prescribed PPE (e.g. overalls, mask or respirator, safety shoes) 4. Workers are to use PPE provided	Site manager Employee self
Painting walls with rollers	Overreaching heights likely to expose workers to hazards linked to musculoskeletal disorders	Neck / shoulder pain	Painters	3	2									1. CHSO is to communicate risks involved 2. CHSO/site manager are to communicate safe operating procedures 3. Site manager is to allow rest breaks for painters 4. Workers are to report any form of pain they may experience	Site manager Employee self
	Painting walls with rollers	Repetitive motion from painting likely to expose workers to hazards linked to musculoskeletal disorders	Hand and shoulder pain	Painters	3	3								Site manager and CHSO must control risks associated with repetitive motion by taking consideration of health & safety measures as follows: 1. Provide workers with information and training about risks related to their tasks 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act 3. Workers should build short pauses between motions to obtain muscles and tendons recovery time	Site manager CHSO Employee self

Operating dust generating machine	Possible lack of use of dust masks likely to result in inhalation of wood dust	Respiratory irritation / Bronchitis / Asthma / Cancer of the nose /	Carpenters / Nearby tradesmen	4	2	8	B-Medium Risk	The construction supervisor / main contractor is to take appropriate steps and ensure staff understand risks associated with their work and ensure the necessary safety precautions are carried out by considering control measures as follows: 1. Local exhaust ventilation (LEV) is provided at machines and staff are trained in using it properly if necessary 2. LEV maintained to keep it in good condition and working effectively 3. LEV inspected every 14 months by a competent person 4. Wood dust cleared up using a suitable vacuum cleaner, fitted with an appropriate filter 5. Staff do health surveillance questionnaire before starting, then annually 6. Any seriously affected worker is to be referred to a medical practitioner. 7. Suitable respiratory protective equipment (RPE) as well as LEV for very dusty jobs, and staff trained in how to use it	Site supervisor Employee self
Improper use / inexperienced machine operator	Contact with moving parts of machinery, particularly saw blades	Serious and possibly fatal cut injuries Delay in programme	Contractors / Machine operator / Client	3	4	12	A- High Risk	Site supervisor, carpenter and CHSO are to take appropriate precautions and control risks associated with falls of objects from roofing by considering safety measures as follows: 1. All machines are guarded according to manufacturers' instructions 2. Guards are inspected regularly and maintained as necessary to ensure their good condition 3. Staff allows sufficient space at machines to work safely 4. Staff is monitored by manager to ensure guards always used 5. Ensure all operators are trained in safe use of machines and are competent persons 6. Ensure all machines have brakes and fitted with necessary safety features, e.g. chip limited tooling etc	Carpenter CHSO Employee self
Handling heavy / bulky items	Poor packaging / improper loads to lift resulting in exertion	Joint & muscular pain	Site Personnel	4	2	8	B-Medium Risk	The construction supervisor / main contractor is to take appropriate steps and ensure staff understand risks associated with their work and ensure the necessary safety precautions are carried out by considering control measures as follows: 1. Low-noise tools / machinery to be in use where possible 2. Ensure planned maintenance programme for machinery and LEV systems 3. Suitable hearing protectors should be provided for all operators and other personnel who may be directly affected and trained on how to use them 4. Train site personnel on risks of noise exposure 5. Train site personnel on systems of work to reduce noise exposure (e.g. suitable feed rates for certain jobs, timber control etc.)	Site supervisor CHSO Employee self
Operating noisy woodworking machinery	Exposure of people to noise	Operator and others may suffer temporary or permanent hearing loss	Contractors / Others nearby	4	3	12	A- High Risk	The construction supervisor / main contractor is to take appropriate steps and ensure staff understand risks associated with their work and ensure the necessary safety precautions are carried out by considering control measures as follows: 1. Low-noise tools / machinery to be in use where possible 2. Ensure planned maintenance programme for machinery and LEV systems 3. Suitable hearing protectors should be provided for all operators and other personnel who may be directly affected and trained on how to use them 4. Train site personnel on risks of noise exposure 5. Train site personnel on systems of work to reduce noise exposure (e.g. suitable feed rates for certain jobs, timber control etc.)	Site supervisor CHSO Employee self
Unstable work position at height	Falls of people from height	Serious / fatal injuries / Bruising and fractures / Body pain	Operators / Others involved	4	2	8	B-Medium Risk	The construction supervisor / main contractor is to take appropriate steps and ensure staff understand risks associated with their work and ensure the necessary safety precautions are carried out by considering control measures as follows: 1. Provide strong stepladder ensure it is in good condition 2. Allow only trained & authorised personnel to work at height 3. Check condition of stepladder periodically	Site supervisor CHSO Employee self

Handling & lifting packages lacking handles	Dropping items likely to result in powder spills causing slip and fall hazards	Overexertion Back injury					Site Personnel	3		3	9	B-Medium Risk	Work supervisor and CHSO must control risks associated with lifting heavy loads by taking consideration of health & safety measures as follows: 1. Reduce size of product boxes to lighten the loads 2. Arrange workstation so that employees can move closer to loads and perform lifts with arms close to the body 3. Put objects to be lifted at waist level 4. Provide employees with gloves that aid in holding slippery objects, and monitor their use	Site manager CHSO Employee self
	Overreaching exposing workers to hazards linked to musculoskeletal disorders	Shoulder / elbow / back stress					Site Personnel	3		3	9	B-Medium Risk	Site manager and CHSO must control risks associated with reaching by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with reaching to all site workers, including self employed traders 2. Provide and use ladders and lifts to reduce reaching 3. Provide those in use of ladders with information, instruction and training on safe use of ladders 4. Bent handled tools that allow straight wrists and elbows close to the body	Site manager CHSO Employee self
	Possibility of stepping on sharp objects lying on floors	Foot injury					Tilers / Nearby tradesmen	3		2	6	C- Low Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site. 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO
	Possibility of experiencing musculoskeletal hazards from stretching and reaching wider floor distances	Shoulder pain / lower back strain					Tilers	3		3	9	B-Medium Risk	Site manager and CHSO must control risks associated with repetitive motion by taking consideration of health & safety measures as follows: 1. Provide toolbox talks. 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act. 3. Workers should build short pauses between motions to obtain muscles and tendons recovery time.	Site manager CHSO Employee self
Handling, opening bags & mixing dry cement powder	Repetitive motion likely to result in hand and wrist motion	Joint & muscular stress					Site Personnel	3		3	9	B-Medium Risk	Site manager and CHSO must control risks associated with repetitive motion by taking consideration of health & safety measures as follows: 1. Provide toolbox talks. 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act. 3. Workers should build short pauses between motions to obtain muscles and tendons recovery time.	Site manager CHSO Employee self
	Exposure to inhalable silica dust	Eye / skin irritation Short-term irritation of respiratory system					Contractors / Operators and or/ Nearby Tradesmen / Others	3		3	9	B-Medium Risk	1. Site manager and CHSO are to ensure operators know the risks of dry plaster powder and how to avoid skin contact, excessive dust build-up and contact with eyes 2. Operators are to ensure work area is regularly swept to prevent excessive dust build-up 3. Site manager is to provide wash facilities to wash dust off skin 4. Site manager and CHSO is to provide operators with eye protection and dust masks when plastering ceilings and ensure they wear them 5. Operators are to keep work area clean 6. Provide workers with safety gloves and monitor the use thereof.	Site manager CHSO Employee self
	PLUMBING AND DRAINAGE													
	Using cutting tools without hand protection or/ using blunt cutting tools	Hand cutting	Hand lacerations Delay in programme					Plumbers / Other Personnel involved	3		3	9	B-Medium Risk	Site manager and CHSO must control risks associated with handling and use of hand tools by taking consideration of health & safety measures as follows: 1. CHSO is to document and communicate risks associated with handling and use of hand tools to all site workers, including self employed traders. 2. Provide toolbox talks. 3. Burn use of hand tools that show signs of wear and tear.

Bursting water pipes or/ failure to isolate pipe lines	Flooding	Property damage Delay in programme	Contractors / Client	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks involved with subcontractors, by implementing safety measures as follows: 1. Conduct pre-inspection of existing services in the buildings and communicate work procedures to your workers. 2. Take steps to avoid bursting of pipes by isolation of pipes which are likely to pose a risk and properly damage. 3. Ensure activities are undertaken by competent persons who are able to manage risks involved.	Site manager CHSO
	Sharp items lying about likely to result in stepping on sharp objects	Foot injury	Contractors / Site Personnel / Public / Third Parties	3	3	9	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided and in use of safety shoes, including sub-contractors workers 2. Site manager and CHSO are to agree & apply a safety shoes policy for every individual who is to perform work at the work site 3. CHSO is to conduct and document risk assessment 4. CHSO is to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO
	Scraps & off-cuts scuttled on the floors, passageways etc. likely to result in trip & fall on same level	Limb dislocation Bruising or fractures	Contractors / Site Personnel / Public / Third Parties	3	4	12	A- High Risk	1. Site manager and CHSO are to provide all operators with safety boots and ensure they wear them on site 2. CHSO and work supervisor are to maintain general housekeeping – off-cuts cleared away promptly, dust cleared regularly etc 3. Site manager is to provide site workers with safety shoes and ensure they wear them 4. Provide good lighting in all areas where necessary	Site manager CHSO
	Possibility of workers knees getting in direct contact with hard floor surfaces	Knee pain Knee trauma	Plumbers / Other Personnel Involved	4	3	12	A- High Risk	Site manager and CHSO must control risks associated with crouching and kneeling by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with crouching and kneeling to workers exposed, including self employed traders. 2. Provide employees with knee protectors and monitor their use.	Site manager CHSO
GLAZING									
Handling slippery / fragile materials with bare hands	Glass slipping & breaking up	Hand lacerations Loss of material	Site Personnel	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks involved with handling glass, by implementing safety measures as follows: 1. Properly organise and prepare site inductions. 2. Undertake risk assessment and communicate results to all site workers. 3. Provide required supervision of manual handling of risky activities. 4. Ensure activities are conducted and completed by competent workers who shall manage risks involved and avoid dropping items. 5. Ensure no workers or any other people are below the material or item being lifted. 6. Do not lift any heavy material in excessively windy conditions.	Site manager CHSO Employee self
	Descending and ascending unstable ladders	Temporary disability Permanent disability	Site Personnel	3	3	9	B-Medium Risk	1. CHSO is to develop a policy on ladders which covers use, inspection, repair, and disposal 2. CHSO is to establish safe practices for the use of ladders and make sure they are followed. 3. CHSO is to develop a training program and provide employees with ladder training 4. Site manager is to secure safety of ladders at all times, and provide ladders fit for the purpose intended	Site manager CHSO
Sharp items lying about sharp objects	Possibility of stepping on sharp objects	Foot injury	Contractors / Site Personnel / Public / Third Parties	3	3	9	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided and in use of safety shoes, including sub-contractors workers 2. Site manager and CHSO are to agree & apply a safety shoes policy for every individual who is to perform work at the work site 3. CHSO is to conduct and document risk assessment 4. CHSO is to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO

Performing tasks at overhead positions	Overreaching	Shoulder / elbow / back stress	Site Personnel	3	3	9	B-Medium Risk	Site manager and CHSO must control risks associated with reaching by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with reaching to all site workers, including self employed traders. 2. Provide and use ladders and lifts to reduce reaching. 3. Provide those in use of ladders with information, instruction and training on safe use of ladders. 4. Bent handled tools that allow straight wrists and elbows close to the body.	Site manager CHSO Employee self
	ELECTRICAL WORKS (INTERNAL AND EXTERNAL INCLUDING BACKUP GENERATORS)								
Chasing walls	Exposure to and respirable silica dust resulting from cutting of brick walls with cutting tools	Upper respiratory irritation Sinuses Tuberculosis Eye irritation	Electrical workers / others nearby	4	3	12	A- High Risk	The project supervisor for the construction stage to ensure implement the following measures: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Ensure a reduced number of workers are exposed 3. Provide dust masks and safety goggles to the workers exposed to dust 4. Strictly enforce safety rules for the use of dust masks and safety goggles 5. Employ, as far as is reasonably practicable, dust suppression measures such as wetting of dusty areas 6. Maintain housekeeping measures	Employer Work supervisor Employee self
	Possible skin contact with silica dust from lack of skin protection	Skin irritation	Electrical workers	3	3	9	B-Medium Risk	The project supervisor for the construction stage to ensure implement the following measures: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Provide coveralls and safety gloves 3. Strictly enforce safety rules for the use of coveralls and safety gloves 4. Provide changing facilities	Employer Work supervisor Employee self
	Inexperienced workers cutting walls	Serious personal injuries	Electrical workers	3	4	12	A- High Risk	The project supervisor for the construction stage / electrical contractor to ensure implementation of electrical measures as follows: 1. Ensure only authorized operators are allowed to use wall cutting equipment 2. Ensure operators are provided with training and supervision on the safe and correct use of the cutting tools 3. Ensure operators demonstrate competency in performing the task safely 4. Communicate safety rules 5. Workers must not engage in unsafe acts	Employer Work supervisor Employee self
	Exposure to hand-arm vibration	Hand-arm vibration syndrome	Operators	4	2	8	B-Medium Risk	The project supervisor for the construction stage / electrical contractor is to implement H&S measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Rotation of workers or limiting the duration of the tool use to control exposure to hand arm vibration 3. Assign the job to trained and competent operators 4. Procure or hire less vibrating equipment 5. Provide operators with "anti-vibration" gloves safety gloves appropriate to limit exposure to hand arm vibration 6. Enforce stricter safety rules for operators to wear safety gloves	Employer Work supervisor Employee self

	Repetitive movements likely to expose workers to hazards linked muscle disorders	Muscular pain	Operators	3	3	9	B-Medium Risk	The project supervisor for the construction stage / electrical contractor must reduce the risk by implementing the safety measures as follows: 1. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles 2. Reduce repetitive movements, e.g. by varying tasks, rotating jobs, using power driven tools, reducing machine pace and introducing rest and recovery time 3. Get rid of awkward positions by changing the workstation position of the worker 4. Improve the working environment, e.g. with better lighting, and a more comfortable temperature	Employer Work supervisor Employee self
	Possible exposure to hazardous noise +85dB	Hearing loss	Operator / others nearby	4	4	16	A- High Risk	The project supervisor for the construction stage to ensure implement the following measures: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Workers must undergo audiometric testing before they could start site activities 3. Workers are in possession of medical fitness examination and testing 4. Provide ear plugs/muffs 5. Strictly enforce safety rules for the use of ear plugs/muffs 6. Encourage other tradesmen nearby to wear ear plugs/muffs	Employer Work supervisor Employee self
	Trailing cables likely to result in trip and fall on same level	Fractures / limb dislocation	All site workers	3	3	9	B-Medium Risk	The project supervisor for the construction stage / electricians must ensure control of trip hazards, by implementing measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Ensure the work area is regularly inspected and electrical cables are kept clear of access ways / routes 3. Lift up cables / leads if possible.	Work supervisor Employee self
	Untidy work environment likely to result in workers being exposed to slip hazards	Body pain / soft tissue damage / limb dislocation	All site workers	3	3	9	B-Medium Risk	The project supervisor for the construction stage / electricians must implement measures as follows: 1. Ensure the work area is regularly inspected and dust and cuttings are cleared away. 2. Ensure materials and work pieces not being used is stored until required. 3. Ensure tools and equipment do not obstruct passageways. 4. Ensure extension cords/cable don't cause trip hazards	Employer Work supervisor Employee self
Descending and ascending unstable ladders	Slip, trip and fall from ladders	Fractures / limb dislocation	Electrical personnel	3	3	9	B-Medium Risk	1. Site manager / CHSO are to develop a policy on ladders which covers use, inspection, repair, and disposal 2. Site manager / CHSO are to establish safe practices for the use of ladders and make sure they are followed. 3. CHSO is to develop a training program and provide employees with ladder training 4. Site manager / electrical contractor are to secure safety of ladders at all times, and provide ladders fit for the purpose intended	Site manager CHSO
Performing tasks at overhead positions	Reaching likely to expose workers of hazards linked to muscle disorders	Shoulder / elbow / back stress	Electrical personnel	3	3	9	B-Medium Risk	Site manager and CHSO must control risks associated with overhead work positions by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with reaching to all site workers, including self employed traders 2. Provide and use ladders and lifts to reduce reaching. 3. Provide those in use of ladders with information, instruction and training on safe use of ladders 4. Bent handled tools that allow straight wrists and elbows close to the body	Site manager CHSO
	Trailing cables likely to result in trip and fall on same level	Fractures / limb dislocation	All site workers	4	3	12	A- High Risk	The project supervisor for the construction stage / electricians must ensure control of trip hazards, by taking consideration of measures as follows: 1. Ensure the work area is regularly inspected and electrical cables are kept clear of access ways / routes 2. Lift up cables / leads if possible. 3. Ensure angle grinder leads / cords are not too long.	Work supervisor CHSO Employee self

	Possibility of operators dropping tools	Head injuries / foot injuries	Others nearby	3	3	9	B-Medium Risk	Work supervisor and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Conduct hazard identification and risk assessment 2. Communicate outcome of risk assessment to workers 3. Provide workers with hard hats 4. Workers must wear hard hats provided	Work supervisor CHSO
Digging trenches	Possibility of being hit by flying objects from improper use of picks	Head injuries and foot injuries	Electrical personnel	3	3	9	B-Medium Risk	The project supervisor for the construction stage / electricians must ensure control of hazards by implementing measures as follows: 1. Provide awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Work supervisor CHSO Employee self
	Exposure to inhalable ambient dust	Respiratory irritation	Electrical personnel	3	2	6	C- Low Risk	The project supervisor for the construction stage / electricians must ensure control of hazards, by implementing measures as follows: 1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Provide employees with dust masks 4. Require employees to wear dust masks provided	Work supervisor CHSO Employee self
	Exposure to sunlight	Skin burns / skin cancer	Electrical personnel	3	2	6	C- Low Risk	The project supervisor for the construction stage / electrical contractor must take precautions to reduce the risks from ultraviolet (UV), by taking consideration of safety measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Provide workers with overalls, safety gloves 3. Take care to avoid exposures to UV light, e.g. by providing workers with suitable clothing and eye protection 4. Ensure workers wear clothing and eye protection provided	Work supervisor CHSO Employee self
	Possible exposure to cold (<10°) weather conditions	Cold stress Common cold Flu	Site Personnel	4	3	12	A- High Risk	Work supervisor for the construction stage / electrical contractor must take appropriate precautions and control risks involved in working in extreme cold weather conditions, by implementing health & safety measures as follows: 1. Undertake risk assessment and identify necessary procedures to protect people on site against risks involved where necessary. 2. Allow adequate rest breaks to be taken under warm shelter if possible. 3. Encourage employees to take warm fluids if possible. 4. Employees must be encouraged to wear warm clothing.	Work supervisor CHSO Employee self
	Possible exposure to hot (+45°) weather conditions	Heat stroke / heat stress / heat exhaustion	Personnel involved	4	5	20	A- High Risk	Work supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage employees to drink plenty of water to avoid dehydration. 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact. 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately.	Work supervisor CHSO Employee self

	Possible exposure to life threatening hazards resulting from adverse weather conditions (high winds, lightning and thunderstorms, snow, floods etc)						4	5	20	A- High Risk	Work for the construction stage / electricians must ensure control of hazards, by implementing measures as follows: 1. The weather conditions are to be constantly assessed by the site technicians. 2. In thunder storms, severe heavy rain or snow, work will cease, until conditions improve to the construction project supervisors approval 3. In lightning storms or if lightning is an imminent threat, work is to cease until the threat appears to have passed 4. Technicians may not step onto icy or slippery surfaces under any circumstances 5. In excessively hot conditions, technicians must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc, to minimize the impact, if heat sickness symptoms are felt (nausea, dizziness, sickness, headache, over-tiredness, stopping sweating, etc), stop work, rest, take on fluids, and seek medical attention immediately if symptoms are persistent or severe (especially stopping sweating, this can indicate heat stroke which can be life threatening!)	Work supervisor CHSO Employee self
Connecting to existing main supply	Possible contact with live electricity	Serious / fatal injuries Skin burn Electrocution Delay in programme	Contractors / Electrical Personnel / Client	3	5				15	A- High Risk	Site manager is ensure implementation of electrical safety measures as follows: 1. Ensure only authorised technicians are allowed to connect & disconnect electricity 2. Ensure operators are provided with training and supervision on the safe and correct use of angle grinders 3. Ensure operators demonstrate competency in performing the task safely 4. Work supervisor and main contractor to agree and dedicate a working plug for safe power connection 5. Workers must not engage in unsafe acts	Site manager CHSO Employee self
	Crouching and bending	Poor circulation of blood Knee injury	Electrical personnel	3	3				9	B-Medium Risk	Site manager and CHSO must control risks associated with crouching and kneeling by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with crouching and kneeling to workers exposed, including self employed traders. 2. Provide employees with knee protectors and monitor their use.	Site manager CHSO
Manual lifting heavy items	Overexertion likely to expose workers to hazards linked to muscle disorders	Muscular pain / back strain	Electrical personnel	3	3				9	B-Medium Risk	Electrical contractor / supervisor must control risks associated with lifting heavy loads by taking consideration of health & safety measures as follows: 1. Use lift assist such as hand trucks, carts and forklifts. 2. Reduce size of products to lighten the loads. 3. Arrange workstation so that employees can move closer to loads and perform lifts with arms close to the body. 4. Use pallets that can rotate. 5. Put objects to be lifted at waist level. 6. Arrange workstations so that lifting can be done in front without twisting. 7. Put handles or grips on boxes. 8. Provide employees with gloves that aid in holding slippery objects and monitor their use.	Site manager CHSO
Working in cramped / confined spaces	Lack of oxygen Lack of adequate work space Lack of adequate lighting	Serious / fatal injuries Suffocation / asphyxiation Property damage Delay in programme	Electrical personnel	3	5				15	A- High Risk	Site manager / CHSO / electrical contractor is to take appropriate precautions and control risks associated with entering / exiting and working in confined spaces, by implementing health & safety measures as follows: 1. Ensure competent and trained people do this particular work in confined spaces. 2. Limit working periods and the suitability of individuals in confined spaces. 3. Ensure effective isolation from gases, liquids and other flowing materials by removal of pieces of pipes, blanked off pipes, lock off valves etc. 4. Clean up to ensure fumes do not develop from residues etc while the work is being done. 5. Test the atmosphere to check that it is free from toxic or flammable vapours and that there is enough fresh air. 6. Make sure there is enough ventilation to ensure an adequate supply of fresh air. 7. Use non-sparking tools. 8. Do not use petrol or diesel equipment inside the confined space. 9. Make sure rescue equipment and enough trained personnel are ready at hand for rescue and resuscitation. 10. Use safe lighting (e.g. low voltage).	Site manager CHSO Employee self

Working on electrical circuits at commissioning phase	Electric shock Fire	Electrocution Electric burns Property damage	Those testing and commissioning. Others in the immediate area.	3	5	15	A- High Risk	Site manager CHSO Employee self	1. Contractors involved in commissioning work must be required to submit a detailed Method Statement to the project supervisor for the construction stage / main contractor prior to commencing works on site 2. Access to the areas where commissioned plant has been installed must be controlled to ensure that there is no unauthorised access 3. Where Dead working is required there must be a secure means of isolation on the work that is being carried out; Isolators should be locked off and keys held by the person carrying out the work. 4. Where working Dead is required and electrical isolation is first required a Permit to work must be required. 5. All live panels / plant should be marked as being live with a prominent sign. 6. Live working is a danger to be avoided if at all possible 7. Where live working is required a detailed Method Statement must be required to include – the precautions to be taken and the personal protective equipment needed, precaution taken to limit access to the area, the required space / lighting / access to ensure safe working, and details of the person who shall accompany the main worker who will implement emergency procedures in the event of an accident.
	Hand-arm vibration	Vibration white finger / reynolds disease	Electrical personnel	3	3	9	B-Medium Risk	Work supervisor CHSO Employee self	Electrical contractor / work supervisor must take precautions to reduce the risks associated with hand-arm vibration, by taking consideration of health & safety measures as follows: 1. Use low vibration tools. 2. Use vibration dampers or shields to isolate vibration from employees if possible. 3. Inspect and maintain power tools regularly. 4. Limit the duration of tasks that involve vibration, and rotate tasks if practicable.
	Static postures likely to expose workers to musculoskeletal disorders	Muscular strain / muscle fatigue / foot stress / foot pain	Electrical personnel	3	3	9	B-Medium Risk	Site manager CHSO Employee self	Work supervisor must control risks associated with static posture by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with static posture to all site workers, including self employed traders. 2. Allow adequate rest breaks in line with the Basic Conditions of Employment Act . Workers should build moltons to obtain muscles recovery time.
	Incorrect procedures / inexperienced operators	Electrocution Burns Fire	Those testing and commissioning. Others in the immediate area.	3	5	15	A- High Risk	Main contractor Electrical contractor CHSO	The project supervisor for the construction stage / electricians must ensure control of hazards, by implementing measures as follows: 1. Only authorized and competent electricians will carry out the testing and commissioning and they will be provided with all the information relevant to the work 2. Suitable, calibrated test equipment will be used for testing and commissioning 3. Before work begins all switch rooms will be cleared of loose materials and all temporary installations removed. All equipment guards, doors and covers will be fitted 4. Liaison with other contractors / employees will take place before work begins in order to make everyone aware of the work taking place, where appropriate a permit to work will be used 5. All circuits to be worked on will be treated as live until verified dead. There are no exceptions to this requirement
MECHANICAL INSTALLATIONS									
Installations of air conditioning units	Exposure to cement dust from drilling walls	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term) Tuberculosis (TB) (long-term)	Personnel involved	3	3	9	B-Medium Risk	Work supervisor CHSO	1. Workers must be in possession of medical fitness certificates 2. Hazards linked to dust must be communicated to all workers 3. Workers must be provided with dust masks 4. Work supervisor must ensure that workers wear dust masks

	Possible static postures	Muscular strain / muscle fatigue / foot stress / foot pain	Personnel involved	3	3	9	B-Medium Risk	Work supervisor must control risks associated with static posture by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with static posture to all site workers, including self employed traders. 2. Allow adequate rest breaks in line with the Basic Conditions of Employment Act . Workers should build motions to obtain muscles recovery time.	Work supervisor CHSO
	Exposure to ambient dust	Respiratory irritation	General workers / supervisors / site visitors	3	2	6	C- Low Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Work supervisor CHSO Employee self
Working on Improperly erected or unsafe scaffolding	Possible collapse of scaffolding resulting in falls at people below	Serious crush injuries Fatal injuries Delay in programme	Personnel involved	3	4	12	A- High Risk	Work supervisor and CHSO are to make sure the following measures are employed: 1. Method statement prepared must guide the processes to be followed 2. Assign a competent supervisor to manage the works 3. Training of workers to be involved in the operation 4. Communicate safe operating procedures 5. Follow manufacturers' processes and procedures and prevent accidental collapse 6. Be on the look-out for hazardous situations and suspend operations when any hazards are imminent	Work supervisor CHSO Employee self
	Falls of people from height	Serious / fatal injuries Delay in programme	Personnel involved	4	3	12	A- High Risk	Work supervisor and CHSO must ensure that work is planned so that safe access / egress and working places are provided for operatives to work at heights 1. Workers must be in possession of medical fitness certificates 2. Suitable guardrails and barriers and applying the hierarchy of controls will reduce the risk level 3. Wherever possible remove the possibility of falling from heights by undertaking the work at ground level 4. Where this is not possible, protect the individuals from the hazard by installing suitable guard and hand rails, fencing, toe boards, using working platforms, ladder hoops, etc. 5. Safety harnesses, as with all PPE should only be used when all other possibilities have been exhausted	Work supervisor CHSO Employee self
Descending and ascending unstable ladders	Slips, trips and fall from ladders	Temporary disability Permanent disability	Operators	3	3	9	B-Medium Risk	1. CHSO is to develop a policy on ladders which covers use, inspection, repair, and disposal 2. Work supervisor and CHSO are to establish safe practices for the use of ladders and make sure they are followed. 3. Work supervisor is to develop a training program and provide employees with ladder training 4. CHSO is to secure safety of ladders at all times, and provide ladders fit for the purpose intended	Site manager CHSO
	Bending, reaching, stretching, pulling, lifting, repetitive motions, (awkward posture)	Musculoskeletal injuries /pain including sprains and strains	Operators	3	3	9	B-Medium Risk	Work supervisor and CHSO are to control risks by implementing the following measures: 1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Work supervisor CHSO
Manual handling	Possibility of operators dropping materials likely to result from difficulty in lifting heavy material	Head injuries / foot injuries	Others nearby	3	4	12	A- High Risk	Work supervisor and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Communicate risks involved 2. Assign a team of workers who shall move materials to assembly points 3. Reduce the distance between storage areas of materials to the assembly point by strategically storing materials 4. Encourage workers to clear up obstacles from routes where movement of materials is planned.	Work supervisor CHSO

	Scrap left lying on floor areas causing trip hazards	Fractures / limb dislocation	Operators / other tradesmen	3	3	9	B-Medium Risk	Work supervisor and CHSO are to control risks by implementing the following measures: 1. Provide non-slip safety shoes 2. Tidy up the area daily 3. Ensure walkways are clear of scraps 4. Provide suitable bins to avoid obstructions	Work supervisor CHSO
Generator concrete plinth, earthworks, foundations	Exposure to inhalable dust from clearing, grubbing and cutting excavated material of the site	Respiratory irritation	Personnel involved	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying if practicably possible 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Work supervisor CHSO Employee self
	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	Personnel involved	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Awkward postures from maintaining excessive bending of the body	Lower back pain	Personnel involved	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Work supervisor CHSO
Construction of upper and sub-layers, concrete blinding, compaction and cement stabilisation	Excessive bending resulting in awkward posture	Lower back pain / muscle strain of back and legs	General workers	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks 3. Rotate workers	Site manager CHSO
	Poor storage of mesh resulting in stepping on sharp objects	Foot injury	All workers	4	3	12	A-High Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site. 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO Employee self
	Twisting of the hands from tying rebars	Muscle pain	Personnel involved	3	3	9	B-Medium Risk	1. Raise awareness among operators on hazards and related risks 2. Rotate workers 3. Allow adequate breaks	Site manager CHSO
Pouring concrete, finishing using hand trowels and cement stabilisation	Rapid repetitive twisting of the wrist	Possibility of applying force	Sprains / strains	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with ULDs (upper limb disorders) by considering safety measures as follows: 1. Conduct and document risk assessment, and communicate risks involved to employees 2. Ensure that workers are trained in their specific work, such as using tools 3. Regularly service and maintain tools and equipment. 4. Implement controls in order to reduce these risks as far as is reasonably practicable	Site manager CHSO
	Concrete pump hitting people nearby	Serious / fatal injuries / loss of time	Personnel involved	4	4	16	A-High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
	Bending, reaching, stretching, pulling, lifting, repetitive motions, (including awkward posture)	Musculoskeletal injuries / pain including sprains and strains	Personnel involved	3	3	9	B-Medium Risk	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
	Possibility of skin being in direct contact with concrete	Skin irritation / burns / dermatitis	Personnel involved	3	3	9	B-Medium Risk	1. Provide hazard awareness and training 2. Communicate safe working procedures 3. Provide and use full cover overalls, safety shoes and safety gloves	Site manager CHSO

	Awkward postures	Stress on the back, hands and arms	Personnel involved	3		3	9	B-Medium Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Stretching before work if personal physique allows 3. Take mini breaks (a few seconds), this can relieve stress and fatigue 4. Avoid to overreach 5. Maintain a comfortable position while working	Site manager CHSO Employee self
	Exposure to inhalable silica dust	Eye / skin irritation Short-term irritation of respiratory system	Personnel involved	3		2	6	C- Low Risk	1. Site manager and CHSO are to ensure operators know the risks of dry plaster powder and how to avoid skin contact, excessive dust build-up and contact with eyes 2. Operators are to ensure work area is regularly swept to prevent excessive dust build-up 3. Site manager is to provide wash facilities to wash dust off skin 4. Site manager and CHSO is to provide operators with eye protection and dust masks when plastering ceilings and ensure they wear them 5. Operators are to keep work area clean 6. Provide workers with safety gloves and monitor the use thereof.	Site manager CHSO Employee self
	Possible skin contact with cement dust	Skin irritation	Personnel involved	3		2	6	C- Low Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use overalls, safety gloves	Site manager CHSO Employee self
	Exposure to inhalable ambient dust	Respiratory irritation	General workers / supervisors / site visitors	3		3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Work supervisor CHSO Employee self
Digging, backfilling and compaction of trench	Possible exposure to inhalable ambient dust	Respiratory irritation	Personnel involved	3		3	9	B-Medium Risk	The project supervisor must ensure control of hazards, by implementing measures as follows: 1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Provide employees with dust masks 4. Require employees to wear dust masks provided	Work supervisor CHSO Employee self
	Possible exposure to respirable dust	Eye irritation	Operators / others nearby	3		3	9	B-Medium Risk	Work supervisor and CHSO have to take appropriate steps to control hazards associated with concrete dust on site by considering control measures as follows: 1. Conduct and document risk assessment and remind staff of the risks of concrete dust, and why these controls are necessary 2. Concrete dust suppressed by wet cutting 3. Operators are provided with suitable eye protection 4. Ensure operators wear eye protection provided 5. Ensure any affected staff referred to a medical professional	Work supervisor CHSO Employee self
	Possibility of being hit by flying objects from improper use of picks	Head injuries and foot injuries	Personnel involved	3		3	9	B-Medium Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Work supervisor CHSO Employee self
	Awkward postures from maintaining excessive bending of the body	Lower back pain	Personnel involved	3		3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Work supervisor CHSO
Compaction with a rammer	Exposure to vibration from poorly performing equipment / lack of use of appropriate shoes, gloves	Wholebody vibration / hand vibration syndromes	Operator of equipment	3		3	9	B-Medium Risk	1. Awareness of the hazards among operators 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. Ensure records of inspections are kept in the safety file 5. Provide operators with safety shoes and require them to wear the shoes provided	Work supervisor CHSO Employee self

	Exposure to noise +85dB from operating equipment without hearing protection	Irritation of the ear / noise-induced hearing loss	Operator of equipment	4		2	8			1. Awareness of the hazards among operators 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. Provide operators with ear muffs and require them to wear hearing protection provided	Work supervisor CHSO Employee self
	Potential fall of people into unprotected trench	Serious personal injuries	All site workers / site visitors	3		3	9			1. Provide sufficient safe access and egress of trenches and excavations 2. All trenches and excavation must be barricaded up to 1 meter with snow netting 3. Place warning signs along the trench indicating deep excavations	Work supervisor CHSO
	Possibility of rain water filling up trenches likely to result in workers slipping and falling into trenches	Foot pain / serious foot injury pain	Site personnel / supervisors	2		1	2			Work supervisor and CHSO must keep excavations free of water	Work supervisor CHSO
	Possibility of tripping and falling on same level likely to result from pulling with force									Work supervisor and CHSO are to control risks associated with construction activities, by implementing safety measures as follows: 1. Hazards associated with manual lifting of heavy items must be identified 2. Communicate safe working procedures 3. Risks connected to manual material handling must be communicated to all workers 4. Workers must be undergo awareness training on ergonomic hazards 5. Spoil material must be removed	Work supervisor CHSO Employee self
Installation of cables		Foot pain / body pain / soft tissue damage /	Personnel involved	3		3	9				
	Crouching and bending	Poor circulation of blood Knee injury	Personnel involved	4		3	12			Work supervisor and CHSO must control risks associated with crouching and kneeling by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with crouching and kneeling to workers exposed, including self employed traders 2. Provide employees with knee protectors and monitor their use	Work supervisor CHSO
	Bending, reaching, stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal injuries /pain including sprains and strains	Operators	3		3	9			Work supervisor and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act	Work supervisor CHSO Employee self
	Trailing cables likely to expose people to trip and fall hazards	Fractures / limb dislocation	All site workers	4		3	12			Work supervisor / operators must ensure control of trip hazards, by taking consideration of measures as follows: 1. Ensure the work area is regularly inspected and electrical cables are kept clear of access ways / routes 2. Lift up cables / leads if possible. 3. Ensure angle grinder leads / cords are not too long.	Work supervisor Employee self
	Possible exposure to heat	Heat stroke / heat stress / heat exhaustion	Personnel involved	4		5	20			Work supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage employees to drink plenty of water to avoid dehydration 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately	Work supervisor CHSO Employee self
	Possible exposure to sunlight	Skin burns / skin cancer	Personnel involved	4		2	8			The project supervisor for the construction stage / electrical contractor must take precautions to reduce the risks from ultraviolet (UV), by taking consideration of safety measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Provide workers with overalls, safety gloves 3. Take care to avoid exposures to UV light, e.g. by providing workers with suitable clothing and eye protection 4. Ensure workers wear clothing and eye protection provided	Work supervisor CHSO Employee self

	Possibility of stepping on sharp objects due to tools lying about at the work area	Foot pain / foot injury / disabling injury	All site personnel	4	2	8	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
	Possible exposure to inhalable ambient dust from working outside in dusty environments	Respiratory irritation	General workers	3	3	9	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
	Possible slip and fall on same level resulting from water filling up excavated areas	Body pain / soft tissue damage	Pl/C	3	3	9	Keeping excavations free of water	Site supervisor CHSO Employee self
Manual carting away of excavated material	Stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal Injuries /pain including sprains and strains	Personnel involved	3	3	9	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager CHSO
Piling of excavated materials	Exposure to inhalable ambient dust	Irritation of the throat / eyes	Operator of equipment / others nearby	3	3	9	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Manual loading excavated material onto trucks and transportation to dumping site	Stretching, pulling, lifting, repetitive motions, awkward posture)	Musculoskeletal injuries /pain including sprains and strains	Personnel involved	3	3	9	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
	Exposure to inhalable ambient dust	Irritation of the throat / eyes	Operator of equipment / others nearby	3	3	9	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Clearing the ground	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3	3	9	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Awkward postures form maintaining excessive bending of the body	Lower back pain	General workers	3	3	9	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
Stockpiling of fill material on site	Exposure to inhalable ambient dust	Respiratory irritation	General workers	3	3	9	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
Picking up and moving fill material from stockpiles to point of work	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3	3	9	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO

	Possible obstruction of walkways likely to result in trip hazards	Foot pain / foot injury / disabling injury / property damage	PIC	3	3	9	B-Medium Risk	Work supervisor and CHSO are to control risks by implementing the following measures: 1. Agree on a suitable, safe accessible area for stockpiles 2. Ensure stockpiles are stored in areas that allows movement of vehicles and wheelbarrows 3. Ensure walkways are clear of scraps	Site manager CHSO Work supervisor
Backfilling	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	4	2	8	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Site manager CHSO
	Awkward postures form maintaining excessive bending of the body	Lower back pain	General workers	4	2	8	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
	Exposure to respirable ambient dust	Respiratory irritation	General workers / supervisors / site visitors	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	General workers	4	2	8	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Site supervisor CHSO Employee self
Compaction	Repetitive movement likely to expose workers to stretched muscles	Lower back pain / shoulder pain	General workers	4	2	8	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Exposure to vibration from operation of a vibrating plate compactor	Wholebody vibration / hand vibration syndromes	Operator of equipment	4	2	8	B-Medium Risk	1. Awareness of the hazards among operators 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. Ensure records of inspections are kept in the safety file 5. Provide operators with safety shoes and require them to wear the shoes provided	Work supervisor CHSO Employee self
	Exposure to hazardous noise >85dB	Permanent hearing loss Temporary hearing loss	Contractors / Operators / Site Personnel / Third Parties	4	3	12	A- High Risk	The project supervisor for the construction stage / main contractor must ensure control of noise hazards, by taking consideration of measures as follows: 1. Use a different, quieter process or quieter equipment, and maybe introduce a low-noise purchasing policy for machinery and equipment. 2. Introduce engineering controls, e.g. fit silencers to air exhausts and blowing nozzles. 3. Modify the paths by which the noise travels through the air to the people exposed, e.g. erect enclosures around machines. 4. Limit the time spent in noisy areas – every halving of the time spent in a noisy area will reduce noise exposure by 3 dB. 5. Hearing protection (earmuffs or earplugs) should be issued to workers and use thereof be monitored.	Site supervisor CHSO Employee self
	Exposure to inhalable ambient dusts	Irritation of the throat / eyes	Operator of equipment / others nearby	3	3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self

	Exposure to fumes from operating equipment without wearing respirators	Irritation of the throat / headache, nausea, vomiting	Operator of equipment / others nearby	4	3	12	A- High Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment must be provided and be accessible 5. Provide all workers with masks and require them to wear the respirators provided	Site manager CHSO Employee self
Picking up and movement of bricks from stockpiles to point of work	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
Cutting pavers	Inhaling silica dust from operating dust generating tools	Respiratory irritation Eye irritation Sinuses Tuberculosis	Contractors / Site Personnel / Third Parties	3	3	9	B-Medium Risk	1. Site manager and CHSO are to ensure a reduced number of workers are exposed to dust 2. Site manager and contractor must provide respiratory protection to the workers exposed to dust 3. Site manager and CHSO must strictly enforce safety rules for the use of respiratory protection 4. Site manager and CHSO is to employ, as far as is reasonably practicable, dust suppression measures such as wet cutting of pavers	Site manager CHSO Employee self
	Improper use/poorly performing cutting tools	Hand lacerations	Operators	4	3	12	A- High Risk	1. Communicate risks involved 2. Select or hire a safe working machine 3. Ensure operators are competent	Site manager CHSO
	Ejection of material likely to result in material being ejected	Hand lacerations / cutting of limbs	Operators	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with handling and use of angle grinder, by implementing safety measures as follows: 1. Provide operators with instruction, information and training to secure their health & safety and that of others. 2. Provide supervision of tasks involving the use of angle grinder. 3. Take appropriate steps and ensure the correct disc is used for the job. 4. Provide employees with safe work procedures. 5. Ensure employees take reasonable care to secure their own health & safety and that of others likely to be affected by their acts.	Site manager CHSO Employee self
Installing paving	Possibility of people applying exertion from repetitive motion	Joint & muscular discomfort / pain	Tradesmen	3	3	9	B-Medium Risk	Site manager and safety officer must control risks associated with repetitive motion by taking consideration of health & safety measures as follows: 1. Identify risks associated with repetition and provide risk communication training. 2. Design jobs so they include a wider variety of tasks. 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act. Workers should build short pauses between motions to obtain muscles and tendons recovery time.	Site manager CHSO
	Possibility of workers knees getting in direct contact with hard floor surfaces	Knee pain Knee trauma	Plumbers / Other Personnel Involved	4	3	12	A- High Risk	Site manager and CHSO must control risks associated with crouching and kneeling by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with crouching and kneeling to workers exposed, including self employed traders. 2. Provide employees with knee protectors and monitor their use.	Site manager CHSO
	Possibility of stepping on sharp objects lying on floors	Foot injury	Tradesmen / Others nearby	4	2	8	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site. 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO

	Awkward postures from excessive bending	Back strain Lower back pain	Site Personnel	3	3	3	9	B-Medium Risk	Site manager and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Provide risk communication training to all workers likely to be affected 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act	Site manager CHSO
Working under extreme hot weather conditions	Heat	Heat stroke	All the people in construction	4	5	20		A- High Risk	Site manager and CHSO are to monitor weather patterns and identify hazards linked to extreme hot conditions 1. Allow adequate rest breaks 2. Workers must be encouraged to take fluids regularly 3. Act immediately and attend to complaints of heat exhaustion 4. Refer cases that show signs of serious health conditions to the nearest health facility	Site manager CHSO
Working under extreme cold weather conditions	Possible exposure to excessive cold -10°C if activities are done in winter flu	Cold stress Common cold	Site Personnel	4	3	12		A- High Risk	Site manager / principal contractor is to take appropriate precautions and control risks involved in working in extreme cold weather conditions by implementing health & safety measures as follows: 1. Undertake risk assessment and identify necessary procedures to protect people on site against risks involved where necessary. 2. Allow adequate rest breaks to be taken under warm shelter if possible. 3. Encourage employees to take warm fluids if possible. 4. Employees must be encouraged to wear warm clothing.	Site manager CHSO Employee self
Working under high windy conditions	Prolonged exposure to cold, wet and windy conditions	Common cold / flu, etc	General workers	4	4	16		A- High Risk	1. Wear several layers of clothing / gloves / warm hat / synthetic or cotton clothing / warm footwear with warm socks / scarf or face mask 2. Take frequent short breaks in a warm area 3. Avoid exhaustion or fatigue 4. Drink warm, sweet beverages and avoid drinks with caffeine or alcohol 5. Workers who take chronic medications, such as diabetes, high blood pressure, or cardiovascular disease must monitor irregular physiological reaction and report to their doctor	CHSO Employee self
Trailing cables	Slips, trips and falls on the same level	Fractures / Body Pain / Limb Dislocation	Contractors / Site Personnel / Public / Third Parties	4	3	12		A- High Risk	1. Site workers are responsible to maintain a clean, tidy, well organised site at all times as far as reasonably practical 2. Work areas are to be kept clear of all hazards and slippery substances such as spilt, mud, grease, oil, etc as far as reasonably practicable. 3. Prevent cables, ropes etc. from trailing across working areas 4. Keep all cables tidy on site at all times. 5. When several operatives are moving large unwieldy materials, the route to be taken is to be identified and any special hazards such as steps, pointed out 6. Do not use electrical cables or tools requiring cables in wet conditions, or allow cables to trail through ponded areas.	Site manager CHSO Employee self
Procurement and storage of paint	Possible inhalation of paint due to lack of adequate ventilation in general stores	Nausea / headache vomiting	Storeman / general workers	3	3	9		B-Medium Risk	1. Site manager and CHSO are to ensure operators know the risks of hazardous chemical agents 2. Ensure adequate ventilation is available in general stores 3. CHSO shall conduct regular inspection of general stores where paint is stored	Site manager CHSO Employee self
Opening up containers of paint	Inhalation of paint fumes due to lack of respirators	Lung / skin irritation / nausea	Painters / Nearby Tradesmen	3	3	9		B-Medium Risk	1. CHSO is to retain related SDS and keep a copy in the safety file 2. CHSO and those involved in handling of hazardous substances must read SDS and follow manufacturer's instructions 3. Site manager is to provide the prescribed PPE (e.g. overalls, mask or respirator, safety shoes) 4. Workers are to use PPE provided	Site manager CHSO Employee self

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Operating dust generating machine / tools	Exposure to inhalable silica dust	Eye irritations Respiratory irritation Asthma Sinuses Tuberculosis (TB)	Contractors / Site Personnel / Third Parties	3	9	B-Medium Risk	1. The project supervisor for the construction stage / main contractor are to ensure workers get rest breaks in their exposure periods, depending on the nature of the exposure 2. The project supervisor for the construction stage / main contractor are to ensure a reduced number of workers are exposed 3. The project supervisor for the construction stage / main contractor must provide respiratory protection to the workers exposed to dust inhalation 4. The project supervisor for the construction stage / main contractor must strictly enforce safety rules for the use of respiratory protection 5. The project supervisor for the construction stage / main contractor is to employ, as far as is reasonably practicable, dust suppression measures such as wetting of dusty areas.	Site supervisor CHSO Employee self	
	People hit by flying objects	Head injuries Foot injuries Delay in programme	Contractors / Site Personnel / Third Parties / Client	2	6		C- Low Risk	The project supervisor for the construction stage / main contractor must take precautions to control site activities, by taking consideration of safety measures as follows: 1. Supply safety helmets and safety shoes and ensure they are being worn at all times 2. Supervisor to monitor use of safety helmets and protective footwear	Site supervisor CHSO Employee self
	Sharp items lying about likely to result in workers/others stepping on sharp objects	Foot injury	PIC	3	9		B-Medium Risk	1. The project supervisor for the construction stage / main contractor are to make sure all site workers are provided and in use of safety shoes, including sub-contractors workers 2. The project supervisors for the construction stage / main contractor are to apply a safety shoes policy for every individual who is to perform work at the work site 3. The project supervisor for the construction stage / main contractor are to conduct and document risk assessment 4. The project supervisor for the construction stage / main contractor are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site supervisor CHSO Employee self
Performing tasks at overhead positions	Bending resulting awkward postures	Back & neck pain	Site Personnel	4	8	B-Medium Risk	The project supervisor for the construction stage / main contractor must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected. 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act.	Site supervisor CHSO Employee self	
	Kneeling resulting in direct knee contact with the floor / ground resulting in knee injuries	Knee pain Knee trauma	Site Personnel	3	9		B-Medium Risk	The project supervisor for the construction stage / main contractor must ensure protection of workers against associated risks by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected. 2. Provide workers with knee protection equipment and monitor the use thereof. 3. Recognise presence of risks and give affected workers appropriate information, instruction and training in the use of tools for their trade.	Site supervisor CHSO Employee self
	Overreaching	Shoulder strain / Back pain	Site Personnel	4	8		B-Medium Risk	The project supervisor for the construction stage / main contractor must control risks associated with reaching by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with reaching to all site workers, including self employed ladders. 3. Provide and use ladders and lifts to reduce reaching. 4. Provide those in use of ladders with information, instruction and training on safe use of ladders. 5. Bent handled tools that allow straight wrists and elbows close to the body.	Site supervisor CHSO Employee self
STORMWATER DRAINAGE, SOIL DRAINAGE AND WATER SUPPLY									
Hand digging excavations in stormwater channels, aprons, manholes, culverts,	Awkward posture from excessive bending	Back pain	General workers	4	2	8	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Allow adequate rest breaks	Site manager CHSO

	Possibility of being hit by flying objects from improper use of picks	Head injuries and foot injuries	General workers and supervisors	3		2	6	C- Low Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Site manager CHSO Employee self
	Materials / tools lying about on the ground likely to result in stepping on sharp objects	Foot pain / serious foot injury pain	General workers / supervisors / site visitors	3		3	9	B-Medium Risk	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
Surface preparation for stormwater channels, aprons, manholes, culverts	Possible exposure to inhalable ambient dust	Respiratory irritation or sinusitis	General workers	3		3	9	B-Medium Risk	1. Communicate risks involved 2. Encourage personal hygiene 3. Provide and use dust masks	Site manager CHSO Employee self
	Excessive bending	Lower back pain	General workers	3		3	9	B-Medium Risk	1. Communicate risks involved 2. Document and communicate safe working procedures 3. Allow adequate rest breaks	Site manager CHSO
Compaction in stormwater channels, aprons, manholes, culverts	Lifting and dropping heavy weight resulting in muscular strain of hands and shoulders	Muscle pain of hands and shoulders	General workers / contractor	4		3	12	A- High Risk	1. CHSO is to communicate hazards linked to this activity and risks involved 2. Work supervisor is to rotate workers 3. Ensure the standing ground provides stability (no obstructions) 4. Work supervisor is to allow adequate rest breaks	Site manager Employee self
	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3		3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Possibility of a worker dropping a rammer resulting from difficulty in lifting or lack of concentration	Foot pain	General workers	4		3	12	A- High Risk	Site manager and CHSO are to control risks associated with lifting weights by taking consideration of the following measures: 1. Ensure hazards linked to this activity and related risks are communicated to workers 2. Allocate work to capable workers 3. Encourage workers to clear up obstacles in areas where the activity is taking place 4. Ensure workers wear safety shoes	Site manager CHSO
	Exposure to hand-arm vibration from operating vibrating equipment	Hand-arm vibration syndrome	Operators	3		3	9	B-Medium Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Conduct risk assessment and communicate risks to employees 2. Only trained and competent operators are to operate vibrating equipment 3. Ensure job rotation or limiting the duration of the equipment to control exposure to hand arm vibration 4. Operators are to take all practicable steps to ensure that only the most methods of work are employed in order to minimise the impact 5. When using vibrating equipment operatives are to work in shifts of no more than 20 minutes use in any one hour 6. Provide operators with safety gloves appropriate to limit exposure to hand arm vibration 7. Enforce stricter safety rules for operators to wear safety gloves	Site supervisor CHSO Employee self
	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	4		2	8	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO

	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Inhalation of silica dust	Lung inflammation / irritation, injury to the eyes, irritation of nose & throat	Bricklayers	3	3	9	B-Medium Risk	CHSO is to secure safe scaffolding conditions as follows: 1. Ensure risks of silica dust are identified 2. Persons exposed to silica dust undergo medical fitness examination 3. Site workers are informed and trained about health risks from exposure to silica dust 4. Workers are issued with safety goggles, dust masks, etc and PPE is worn	Site manager CHSO
	Repetitive movements from exposing workers to hazards linked to musculoskeletal disorders	Muscle strain Muscle pain Back / neck pain	Personnel involved	3	3	9	B-Medium Risk	Site manager and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles. 2. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time. 3. Improve the working environment, e.g. with better lighting, and a more comfortable temperature if practicable possible	Site manager CHSO
	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	Personnel involved	3	3	9	B-Medium Risk	1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO
	Possibility of workers being exposed to trip and fall hazards likely to result from obstructed passageways	Foot pain / soft tissue damage / limb dislocation	All site workers	4	3	12	A- High Risk	Site manager for the construction stage and CHSO must implement the following measures: 1. Ensure site workers undergo induction training 2. Undertake hazard identification and risk assessment and communicate related risks to all site workers 3. Ensure passageways are clear of obstructions 4. Nominate a site personnel to monitor housekeeping measures are implemented	Site manager CHSO
Earfilling in stormwater channels, aprons, manholes, culverts	Possible musculoskeletal disorders from overloading wheelbarrows with filling material	Lower back pain / shoulder pain	Personnel involved	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Repetitive movements from mixing mortar exposing workers to hazards linked to musculoskeletal disorders	Muscle strain Muscle pain Back / neck pain	Personnel involved	4	2	8	B-Medium Risk	Site manager, CHSO and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Awareness to workers on the hazards and risks involved 2. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles 3. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time	Site manager CHSO Work supervisor
	Exposure to inhalable ambient dust	Respiratory irritation	Personnel involved	3	3	9	B-Medium Risk	Site manager, CHSO and work supervisor must ensure control of hazards, by implementing measures as follows: 1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Provide employees with dust masks 4. Require employees to wear dust masks provided	Work supervisor CHSO Employee self

Picking up and movement of material from stockpiles to point of work in bedding for stormwater channels, eprons, manholes, culverts	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	Personnel involved	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	Personnel involved	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Awkward postures form maintaining excessive bending of the body	Lower back pain	Personnel involved	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
Concrete supply and delivery	Exposure to ambient dusts	Irritation of the throat / eyes	Personnel involved	3	3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
	Possibility of concrete pump hitting people nearby	Serious / fatal injuries / loss of time	Operators / others nearby	3	4	12	A- High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
	Possible eye contact with concrete from splashing	Eye irritation	Personnel involved	3	2	6	C- Low Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Provide exposed employee with goggles 3. Require employees to use eye protection provided	Site manager CHSO Employee self
Concrete finishing using hand trowels	Possible skin contact with concrete (hazardous chemical agent) from lack of use of overalls, safety boots, safety gloves	Skin rash / skin burns	Operators	3	3	9	B-Medium Risk	1. Acquire the Material Safety Data Sheet of the Hazardous Chemical Substance (Cement) 2. Provide employees with awareness, education and training regarding this hazards and protection measures 3. Ensure cement bag waste is stored and disposed correctly 4. Encourage workers to wash hands after contact 5. Provide overexposed employee with overalls, builders boots, safety gloves 6. Require employees to use personal protective wear provided	Site manager CHSO Employee self
	Possible slip and fall on same level from spills	Body pain / foot and lower back injuries	Operators / others nearby	3	4	12	A- High Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Communicate standard operating procedures 3. Nominate and appoint a trained first aid personnel 4. Provide first aid facilities and ensure easy access to the facilities 5. Provide exposed workers with an suitable foot protection 6. Require employees to use foot protection provided	Site manager CHSO Employee self
	Awkward postures	Stress on the back, hands and arms	Operators	3	3	9	B-Medium Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Stretching before work if personal physique allows 3. Take mini breaks (a few seconds), this can relieve stress and fatigue 4. Avoid to overreach 5. Maintain a comfortable position while working	Site manager CHSO Employee self
	Twisting of the hands	Muscle pain	Operators	4	3	12	A- High Risk	1. Raise awareness among operators on hazards and related risks 2. Rotate workers 3. Allow adequate breaks	Site manager CHSO

Joining to drains	Possibility of workers crouching & bending	Poor circulation of blood Knee injury	Electrical personnel	4	3	12	A- High Risk	Site manager and CHSO must control risks associated with crouching and kneeling by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with crouching and kneeling to workers exposed, including self employed traders. 2. Provide employees with knee protectors and monitor their use.	Site manager CHSO
	Awkward postures from excessive bending	Back strain Lower back pain	Site Personnel	3	3	9	B-Medium Risk	Site manager and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Provide risk communication training to all workers likely to be affected 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act	Site manager CHSO
Backfilling in stormwater channels, aprons, manholes, culverts	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Awkward postures from maintaining excessive bending of the body	Lower back pain	General workers	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
	Exposure to ambient dusts	Irritation of the throat / eyes	Operator of equipment / others nearby	3	3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Compaction	Lifting and dropping heavy rammer resulting in muscular strain of hands and shoulders	Muscle pain of hands and shoulders	General workers / contractor	4	3	12	A- High Risk	1. CHSO is to communicate hazards linked to this activity and risks involved 2. Work supervisor is to rotate workers 3. Ensure the standing ground provides stability (no obstructions) 4. Work supervisor is to allow adequate rest breaks	Site manager Employee self
	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Possibility of a worker dropping a rammer resulting from difficulty in lifting or lack of concentration	Foot pain	General workers	4	3	12	A- High Risk	Site manager and CHSO are to control risks associated with lifting weights by taking consideration of the following measures: 1. Ensure hazards linked to this activity and related risks are communicated to workers 2. Allocate work to capable workers 3. Encourage workers to clear up obstacles in areas where the activity is taking place 4. Ensure workers wear safety shoes	Site manager CHSO
	Possible exposure to hazardous noise from operating noisy equipment	Hearing irritation / temporary hearing loss	All site workers	4	4	16	A- High Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Ensure workers undergo audiometric testing before performing this activities 2. Conduct risk assessment and communicate risks to employees 3. Operators must conduct safety inspections of compactors before each use 4. Provide employees with suitable ear plugs or ear muffs 5. Monitor workers and ensure that they wear ear protectors provided	Site supervisor CHSO Employee self

Cleaning up and unblocking of stormwater channels	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3	3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Induction of workers involved in manual handling of heavy loads 2. Hazards linked to this activity are identified and communicated to all workers 3. Overloading of wheelbarrows should be avoided	Site manager CHSO
Excavate in earth not exceeding 2m deep for storm water channels, aprons	Possibility of striking underground cables resulting in possibility of people being electrocuted	Serious / fatal injury Property damage Delay in programme	Operators Principal contractor	3	4	12	A-High Risk	1. Prior to the commencement of any hand digging, firstly check with the client to identify if any service plans are available for site 2. If practicable, clearly mark out the location of the buried surfaces 3. Involve competent workers to locate buried services	Site manager
Exposing existing water supply line	Possibility striking underground water pipes resulting in possibility of flooding	Property damage Delay in programme	Client Principal contractor	3	4	12	A-High Risk	The project supervisor for the construction stage / main contractor must ensure that excavation works measures as follows are employed: 1. Provide pumps or other dewatering systems to remove water and prevent water inrush build-up where necessary 3. Workers must be supervised by a competent personnel	Site manager
	Possibility of people being hit by flying / falling objects likely to result from faulty / damaged picks	Serious head injury	Personnel involved	3	3	9	B-Medium Risk	The project supervisor for the construction stage / CHSO must secure safety of hand tools, by taking consideration of measures as follows: 1. Tools must be suitable for the task that they are going to perform and for the environment in which they are to be used 2. Give users appropriate information, instruction and training in the use of tools for their trade. 3. Tools should be visually inspected routinely before use by the user to ensure they are in an acceptable condition. 4. Supervisor to conduct spot checks to ensure users comply and that safe working practices are adhered to. 5. Tools should be maintained in a safe condition. 6. Hardhats and safety glasses should be worn at all times to protect the workers from flying/falling objects during the erection process.	Site manager CHSO
Carting away surplus material from excavations and/or stockpile on site to a dumping site	Possibility of being hit by flying objects from improper use of picks	Head injuries and foot injuries	General workers and supervisors	3	3	9	B-Medium Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Site manager CHSO Employee self
	Exposure to inhalable ambient dust	Respiratory irritation	General workers	3	3	9	B-Medium Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
	Possibility of stepping on sharp objects	Foot pain / serious foot injury pain	General workers / supervisors / site visitors	3	3	9	B-Medium Risk	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
	Possible tripping and falling of people into excavations resulting from lack of protection of excavations	Serious personal injuries	General workers / supervisors and site visitors	3	3	9	B-Medium Risk	1. Provide sufficient safe access and egress of trenches and excavations 2. All trenches and excavation must be barricaded up to 1 meter with snow netting 3. Place warning signs along the trench indicating deep excavations	Site manager CHSO

	Possibility of rain water filling up excavated areas likely to result in workers slipping and falling into trenches	Foot pain / serious foot injury pain	Site personnel / supervisors	3		2	6	C- Low Risk	1. Communicate hazards and risks involved 2. Work supervisor is to ensure dewatering of excavations is done 3. CHSO is to ensure open excavations are adequately barricaded	Work supervisor CHSO
Laying, backfilling, bedding of pipes	Awkward postures from excessive bending	Back strain Lower back pain	Site Personnel	3		3	9	B-Medium Risk	Site manager and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Provide risk communication training to all workers likely to be affected 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act	Site manager CHSO
	Pushing / pulling pipes likely to result in a worker applying force	Back sprain / strain	All site workers	3		2	6	C- Low Risk	The project supervisor for the construction stage / CHSO must ensure protection of workers against risks associated with handling heavy materials by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected. 2. Document safe work procedures and provide employees with such. 3. Provide training in safe manual handling techniques 4. Encourage team lifts where necessary.	Site supervisor CHSO
	Possibility of stepping on sharp objects lying on floors	Foot injury	Tradesmen / Others nearby	3		3	9	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site. 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO
	Inhalation of ambient dust	Eye allergy Sinuses Tuberculosis	All site workers	3		3	9	B-Medium Risk	The project supervisor / CHSOs are to take necessary measures to control exposure to inhalable dust as follows: 1. Providedust masks and safety goggles to the workers exposed to dust inhalation 2. Strictly enforce safety rules for the use of respiratory protection 3. Employ, as far as is reasonably practicable, dust suppression measures such as wetting of dusty areas	Site supervisor CHSO
Cutting pipes	Possibility of people being cut by hand tools resulting from working with faulty / damaged hand tools	Hand cuts	Personnel involved	3		2	6	C- Low Risk	The project supervisor / CHSO must ensure safe use of hand tools, by taking consideration of measures as follows: 1. Regular inspection of hand tools 2. Provide suitable for the purposes and location in which they are to be used 3. Discarding or prompt repair of defective tools	Site supervisor CHSO
	Crouching & kneeling resulting in knee contact with ground surfaces	Knee pain Knee trauma	Site Personnel	3		3	9	B-Medium Risk	The project supervisor for the construction stage / CHSO must control risks associated with crouching and kneeling by taking consideration of health & safety measures as follows: 1. Document and communicate risks associated with crouching and kneeling to workers exposed, including self employed traders. 2. Provide employees with knee protectors and monitor their use.	Site supervisor CHSO Employee self
Connecting pipes	Twisting of the hands	Muscle pain	Operators	3		3	9	B-Medium Risk	1. Raise awareness among operators on hazards and related risks 2. Rotate workers 3. Allow adequate breaks	Site manager CHSO
	Awkward postures	Lower back pain	General workers	3		3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Site manager CHSO

	Sharp objects lying on the ground	Fall injuries	Supervisors / Nearby Tradesmen / Professional team	4	2		8	B-Medium Risk	1. Ensure good housekeeping measures are employed 2. Communicate site safety rules 3. Provide and use safety shoes	Site manager CHSO Employee self
Trailing pipes	Slips, trips and falls on the same level	Fractures / Body Pain / Limb Dislocation	PlC	4	2		8	B-Medium Risk	The project supervisor for the construction stage / CHSO must control risks by implementing the following measures: 1. Site workers are responsible to maintain a clean, tidy, well organised site at all times as far as reasonably practical 2. Work areas are to be kept clear of hazards identified 3. Prevent pipes from trailing across working areas 4. Maintain housekeeping	Site manager CHSO Employee self
	Exposure to ultraviolet radiation	Skin burn / Sun blindness / Skin cancer	Personnel involved	4	3		12	A-High Risk	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Site personnel are aware of exposure to ultra-violet radiation from the sun. 2. On sunny days, especially at midday when the sun is at its strongest, employees must be discouraged to remove clothing, but must wear cool full length trousers, long sleeved tops, and hats which protect the ear and neck. 3. Encourage employees to check skin regularly for possible signs of skin cancer, such as the appearance of moles or spots, or a change in the appearance of existing moles. If concerned – seek immediate medical advice.	Site supervisor CHSO Employee self
	Possible exposure to heat	Heat stroke / heat stress / heat exhaustion	Personnel involved	4	4		16	A-High Risk	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage workers to drink plenty of water to avoid dehydration. 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact. 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately.	Site supervisor CHSO Employee self
	Exposure to inhalable ambient dust	Respiratory irritation	General workers	3	3		9	B-Medium Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
	Exposure to respirable ambient dust	Eye irritation	General workers / supervisors / site visitors	3	3		9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with safety goggles 5. Monitor and ensure workers use safety goggles provided	Site manager CHSO Employee self
	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	General workers	3	3		9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Site supervisor CHSO Employee self
	Repetitive movement likely to expose workers to stretched muscles	Lower back pain / shoulder pain	General workers	3	3		9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO

Testing water supply	Possibility of pipes bursting resulting in workers being exposed to slip and fall hazards	Body pain / soft tissue damage	Personnel involved	4				2	8	B-Medium Risk	Site manager / work supervisor are to implement measures as follows: 1. Hazards linked to this activity are identified and communicated to workers to be involved 2. Ensure competent workers perform this activity 3. Develop a plan for testing, identify the necessary emergency procedures and have emergency equipment in place 4. Ensure workers to be involved are provided with water resistant protective clothing and boots	Site manager Work supervisor
Fixing existing manholes												
Manual handling and movement of cement bags from one point to another	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	3				3	9	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
	Dropping of materials likely to result from difficulty in lifting heavy material	Foot pain	General workers	3				3	9	B-Medium Risk	Site manager and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Communicate risks involved; 2. Assign a team of workers who shall move materials to assembly points; 3. Reduce the distance between storage areas of materials to the assembly point by strategically storing materials; 4. Encourage workers to clear up obstacles from routes where movement of materials is planned.	Site manager CHSO
Manual mixing of cement	Possible exposure to inhaled silica dust from opening up bags and mixing mortar	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	General workers	3				2	6	C-Low Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use dust masks	Site manager CHSO Employee self
	Possible exposure to respirable dust from sands	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	General workers	3				3	9	B-Medium Risk	1. Site manager and CHSO are to ensure general workers know the hazards linked to dust 2. Operators are to ensure work area is maintained to prevent excessive dust build-up 3. Site manager is to provide water supply nearby to wash dust off skin 4. Site manager is to provide workers with dust masks 5. CHSO is to ensure workers wear dust masks	Site manager CHSO Employee self
	Possible skin contact with cement resulting from not wearing suitable overalls, safety gloves, safety boots	Serious skin burns (short-term) Skin ulcers (short-term) Skin dermatitis (long-term)	Personnel involved	3				3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Risks of dermatitis or cement burns and precautions explained to all workers 2. Use cement or cement containing products within the use-by date 3. Direct skin contact to be avoided, SABS marked PVC gloves used when handling mortar 4. Provide good washing facilities on site, with hot and cold water, soap and basins large enough to wash forearms 5. Ensure provision of first aid includes emergency eyewash	Site manager CHSO
	Possible eye contact with wet cement from splashing into the face	Eye irritation / Eye allergy	Personnel involved	3				3	9	B-Medium Risk	1. Risks from exposure to splashing of wet cement must be explained to all workers 2. Direct skin contact is to be avoided 3. Provide good washing facilities on site, with hot, cold water and soap 4. Ensure provision of first aid includes emergency eyewash	Site manager CHSO
	Prolonged bending from mixing mortar	Back strain Back pain Neck pain	Personnel involved	4				2	8	B-Medium Risk	1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO

	Possible exposure to inhalable silica dust from picking up and throwing cement bags	Respiratory Irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term) Tuberculosis (TB) (long-term)	General workers	3	3	9	B-Medium Risk	1. Hazards linked to dust must be communicated to all workers 2. Site manager and CHSO must agree on practical way of temporary storage of cement waste bags 3. Work supervisor and CHSO must assign the duty to pick up and dispose of cement waste bags to selected workers 4. Site manager must provide workers with dust masks	Site manager CHSO
Handtools and other equipment left on the ground	Sharp items lying on the ground likely to result in people stepping on sharp objects	Foot injury	Supervisors / Nearby Tradesmen / Professional team	4	2	8	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work of the work site 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO Employee self
	Exposure to ultraviolet radiation	Skin burn / Sun blindness / Skin cancer	Personnel involved	4	2	8	B-Medium Risk	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Site personnel are aware of exposure to ultra-violet radiation from the sun. 2. On sunny days, especially at midday when the sun is at its strongest, employees must be discouraged to remove clothing, but must wear cool full length trousers, long sleeved tops, and hats which protect the ear and neck. 3. Encourage employees to check skin regularly for possible signs of skin cancer, such as the appearance of moles or spots, or a change in the appearance of existing moles. If concerned – seek immediate medical advice.	Site supervisor CHSO Employee self
	Possible exposure to heat	Heat stroke / heat stress / heat exhaustion	Personnel involved	4	5	20	A- High Risk	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage employees to drink plenty of water to avoid dehydration. 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately.	Site supervisor CHSO Employee self
Handling bitumen	Possibility of workers getting skin burns from lack of use of the required PPE	Skin burns / skin cancer	Personnel involved	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with handling of bitumen by considering safety measures as follows: 1. Hazards must be identified and risks and controls be documented 2. Risks emanating from use of bitumen and precautions explained to all workers 3. Obtain SDS and use product within suppliers instructions 4. Provide workers with overalls, gloves, full head and face protection, monitor use of PPE provided 5. Provide good washing facilities on site, with hot and cold water, soap and basins large enough to wash the skin 6. Ensure provision of first aid includes emergency treatment	Site supervisor CHSO Employee self
	Possibility of workers getting skin burns from lack of use of the required PPE	Skin burns / skin cancer	Personnel involved	3	3	9	B-Medium Risk	Site manager and CHSO are to take appropriate precautions and control risks associated with handling of bitumen by implementing safety measures as follows: 1. Obtain SDS and use product within suppliers instruction 2. Ensure work activities are supervised by a competent personnel appointed in writing 3. Ensure proper procedures and safe systems of work are followed 4. Ensure safe storage 5. Ensure safe access to the site 6. Ensure housekeeping measures are in place	Site supervisor CHSO Employee self

Installation of Water Tankers

Delivery of water tankers and other materials to site	Possible reckless Driving by Construction Vehicle/ Truck Drivers	Load unexpectedly releasing onto persons or property causing serious injuries / property damage	Workers and employer	3	4	12	A- High Risk	1. The Contractor must develop a Safe Driving Policy & Procedure detailing site access procedures, speed restrictions, monitoring and requirements for Construction Vehicles and Trucks 2. Construction Vehicles /trucks must be verified as roadworthy and have recent service records 3. The CHSO is to ensure all drivers gaining access to site have valid South African Driver's Licence and suitable Operator's competency when necessary 4. Site manager/Hire Company are to ensure prior to departure all plant/materials and equipment to be transported to site by Construction Vehicles/trucks are inspected prior to each trip	Site manager
	Possibility of a worker/s being struck by moving vehicles from man-machine interaction	Serious / fatal injuries	Site workers	3	4	12	A- High Risk	1. Site manager must ensure proper supervision is available on site 2. Provide workers with high visibility clothing and require them to wear all the time 3. Tipoff areas must the site is enclosed and barricaded walkways are provided where necessary	Site manager CHSO Employee self
Placement of a tanker on fixed stand by crane	Unsafe placement of a tanker	Serious body or foot injuries and/or damage to property	General workers and supervisors	3	3	9	B-Medium Risk	1. The tanker must be placed according to the approved site layout drawing 2. Site manager and CHSO must prepare a method statement for the engineers approval 3. Workers not forming part of the activities must be prevented from accessing the work site area	Site manager CHSO Civil/structural engineer
	Possibility of lifting equipment dropping tankers	Serious body or foot injuries and/or damage to property	Tradesmen nearby	3	4	12	A- High Risk	The construction supervisor / main contractor is to take implement the following safety measures: 1. Tanker must be placed according to the approved site layout drawing 2. Ensure procedure to be followed is documented in a method statement to be submitted to the principal agent 3. Ensure the work is supervised by a competent person appointed in writing 4. The choice of lifting equipment is adequately assessed	Site manager CHSO Work supervisor
	Lack of use of head protection while working near crane truck	Head injury	Tradesmen nearby	3	4	12	A- High Risk	The construction supervisor / main contractor is to take implement the following safety measures: 1. Prepare and document risk assessment, communicate to all site workers. 2. Provide employees likely to be affected with hard hats and monitor the use thereof.	Employer Works site supervisor
	There is a possibility of people being struck by moving parts of a crane resulting from mechanical malfunction	Serious / fatal injury Delay in programme	Site workers Client Principal contractor	3	3	9	B-Medium Risk	The construction supervisor / main contractor is to take appropriate precautions and control risks associated with delivery trucks by considering safety measures as follows: 1. Ensure operators are competent and non operators should be kept away from moving crane 2. Crane truck will be operated by a trained operator 3. Ensure inspections are made before the first engagement of crane truck 4. The inspection is to be performed by the operator 5. Hard hats to be worn by all workers 6. Assign only one person to direct the movement of the crane trucks 7. Crane truck must not be moved until the person directing the move has verified that no workers are exposed to the moving equipment 8. If the operator is unable to see the other end, one worker must signal the operator. All signals used will be agreed upon in advance of the work.	Employer Works site supervisor Employee self
	Cranes / Trucks may damage property due to lack of loading space	Property damage Delay in programme	Client & contractor	4	3	12	A- High Risk	The construction supervisor is to take appropriate precautions and control risks by implementing safety measures as follows: 1. Supervisor must arrange safe access to work sites 2. Secure safe landing 3. Ensure operators are competent 4. Communicate risks involved	Works site supervisor Supplier Operator
PARKING AND PAVING									

Breaking up and removing existing paving bricks	Possibility of people being hit by picks	Head injury	Operators	3	4	12	A- High Risk	Site manager / CHSO are to take implement the following measures: 1. Tools must be suitable for the task that they are going to perform and for the environment in which they are to be used. 2. Give users appropriate information, instruction and training in the use of tools for their trade. 3. Tools should be visually inspected routinely before use by the user to ensure they are in an acceptable condition. 4. Supervisor to conduct spot checks to ensure users comply and that safe working practices are adhered to. 5. Tools should be maintained in a safe condition 6. Hardhats and safety glasses should be worn at all times	Site manager CHSO Employee self
	Inhalation of ambient dust	Eye allergy Sinuses Tuberculosis	All site workers	3	3	9	B-Medium Risk	The project supervisor is to take necessary measures to control exposure to inhalable dust as follows: 1. Provide dust masks to workers exposed to dust inhalation 2. Strictly enforce safety rules for the use of dust masks 3. Employ, as far as is reasonably practicable, dust suppression measures such as wetting of dusty areas	Site manager CHSO
	Sharp objects on the ground likely to result in people stepping on sharp objects	Foot injury	PLC	3	3	9	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Make sure all site workers are provided with and in use of safety shoes 2. Apply a safety shoes policy for every individual who is to perform work at the work site 3. Conduct and document risk assessment 4. Make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO
	Possibility of people being cut by hand tools resulting from working with faulty / damaged hand tools	Hand cuts	Personnel involved	4	2	8	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Regular inspection of hand tools 2. Provide suitable for the purpose and location in which they are to be used 3. Discarding or prompt repair of defective tools	Site manager CHSO
	Awkward posture resulting from excessive bending	Back and neck pain	Personnel involved	3	2	6	C- Low Risk	Site manager / CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Allow adequate rest breaks in line with the Basic Conditions of Employment Act	Site manager CHSO
Handling sharp objects	Possibility of objects striking bare hands	Hand cuts	Personnel involved	4	2	8	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Prepare risk assessment, document and communicate to all site workers 2. Provide all workers with appropriate safety gloves. 3. Monitor the workers and ensure they wear safety gloves when handling farms to prevent cuts and scrapes	Site manager CHSO
Work at height without fall protection	Fall of persons from height	Serious / fatal injuries Delay in programme	Operators Contractor Client	4	2	8	B-Medium Risk	Site manager / CHSO are to take necessary measures and prevent falls of people from height, by implementing health & safety measures as follows: 1. Undertake hazard analysis and risk assessment before workers can engage in work at heights 2. Communicate risk control measures to workers likely to be affected 3. Provide workers with fall protective equipment and ensure they use it	Site manager CHSO
Performing tasks at overhead positions	There is a possibility of operators striking against fixed structures	Head injuries	Operators	3	3	9	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Site supervisor shall maintain close supervision of activities and provide necessary guidance 2. Operators must follow safe operating procedures and adhere to best practices 3. Provide workers with suitable helmets and ensure operators wear provided helmets where necessary.	Site manager CHSO Employee self

PARKING AND PAVING

Backfilling	Exposure to inhalable ambient dust	Respiratory irritation	General workers	3	2	6	C- Low Risk	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
Compaction	Possibility of workers being overwhelmed with weight of a compactor likely to expose workers to whole-body vibration	Muscle strain / muscle pain / shoulder pain		4	3	12	A- High Risk	Site manager and CHSO must control risks by implementing the following measures: 1. Provide workers with information, awareness and training about ergonomic risks 2. Ensure workers undergo medical fitness examination and testing 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act 4. Rotate workers Allow rest breaks	5. Site manager CHSO
	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	3	3	9	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
	Possible exposure to ambient inhalable dust	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	General workers	3	3	9	B-Medium Risk	1. Site manager and CHSO are to ensure general workers know the hazards linked to dust 2. Operators are to ensure work area is maintained to prevent excessive dust build-up 3. Site manager is to provide water supply nearby to wash dust off skin 4. Site manager is to provide workers with dust masks 5. CHSO is to ensure workers wear dust masks	Site manager CHSO Employee self
	Possible exposure to hazardous noise from operating noisy equipment	Hearing irritation / temporary hearing loss	All site workers	3	4	12	A- High Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Ensure workers undergo audiometric testing before performing this activities 2. Conduct risk assessment and communicate risks to employees 3. Operators must conduct safety inspections of compactors before each use 4. Provide employees with suitable ear plugs or ear muffs 5. Monitor workers and ensure that they wear ear protectors provided	Site supervisor CHSO Employee self
	Exposure to hand-arm vibration from operating vibrating equipment	Hand-arm vibration syndrome	Operators	4	3	12	A- High Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Conduct risk assessment and communicate risks to employees 2. Only trained and competent operators are to operate vibrating equipment 3. Ensure job rotation or limiting the duration of the equipment to control exposure to hand arm vibration 4. Operators are to take all practicable steps to ensure that only the most methods of work are employed in order to minimise the impact 5. When using vibrating equipment operatives are to work in shifts of no more than 20 minutes use in any one hour 6. Provide operators with safety gloves appropriate to limit exposure to hand arm vibration 7. Enforce stricter safety rules for operators to wear safety gloves	Site supervisor CHSO Employee self
Soil poisoning	Possible inhalation of HCAs	Respiratory irritation / dizziness	Personnel involved / Others nearby	3	2	6	C- Low Risk	1. CHSO is to provide employees with awareness and training regarding this hazards and precautionary measures 2. Site manager is to provide operators with respirators 3. Require employees to use respiratory protection provided	Site manager CHSO Employee self
	Possible skin contact with concrete (hazardous chemical agent) from lack of use of overalls, safety boots, safety gloves	Skin rash / skin burns	Operators	3	2	6	C- Low Risk	1. Acquire the Material Safety Data Sheet of the Hazardous Chemical Substance (Cement) 2. Provide employees with awareness, education and training regarding this hazards and protection measures 3. Ensure cement bag waste is stored and disposed correctly 4. Encourage workers to wash hands after contact 5. Provide overexposed employee with overalls, builders boots, safety gloves 6. Require employees to use personal protective wear provided	Site manager CHSO Employee self

Collection and transportation of fill material to the site areas	Hill by delivery trucks from faults in vehicles	Serious / fatal injuries	Driver and others nearby	4	3	12	A- High Risk	1. Trucks must be verified as roadworthy and have recent service records 2. The CHSO is to ensure all drivers gaining access to site have valid South African Driver's Licence, suitable Operator's competency and a valid Medical Certificate of Fitness 3. Workers are to wear all prescribed PPE including high visibility clothing and dust mask	Site manager CHSO Employee self
Movement on trucks in public areas and the site/s	Struck against fixed structures	Property damage	Truck owner / Contractor / Communities	4	4	16	A- High Risk	1. Trucks must be verified as roadworthy and have recent service records 2. The CHSO is to ensure all drivers gaining access to site have valid South African Driver's Licence, suitable Operator's competency and a valid Medical Certificate of Fitness	Site manager CHSO Employee self
Offloading materials on site	Exposure to ambient dust	Respiratory / eye irritation	Driver and others nearby	3	3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Drivers must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Delivery trucks reversing into the site	Struck by moving vehicles from man-machine interaction	Serious / fatal injuries	Site workers	4	4	16	A- High Risk	1. Site manager must ensure proper supervision is available on site 2. Provide workers with high visibility clothing and require them to wear all the time 3. Tipoff areas must the site is enclosed and barricaded walkways are provided where necessary	Site manager CHSO Employee self
Concrete finishes on exposed surfaces, i.e. (bedding, jointing and potholing)	Possibility of concrete pump hitting people nearby	Serious / fatal injuries / loss of time	Operators / others nearby	4	4	16	A- High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
	Repetitive movements from mixing mortar exposing workers to hazards linked to musculoskeletal disorders	Muscle strain Muscle pain Back / neck pain	Personnel involved	3	3	9	B-Medium Risk	Site manager and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles. 2. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time. 3. Improve the working environment, e.g. with better lighting, and a more comfortable temperature if practicably possible	Site manager CHSO
	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	Personnel involved	3	3	9	B-Medium Risk	1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO
Paving	Possibility of workers being hit by falling bricks from unsecured stacking	Foot pain / foot injury	Personnel involved	3	3	9	B-Medium Risk	The construction supervisor / main contractor is to take appropriate precautions and control risks associated with stacking and storage of materials by implementing safety measures as follows: 1. Stacks are to be properly managed, secured and solid barricades be installed if practicable. 2. Storage areas are not to be overly stacked 3. Assign a stacking and storage inspector to ensure risk of collapse are controlled	Site manager CHSO
Picking up and movement of bricks from stockpiles to point of work	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3	3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Dropping of loads due to being overwhelmed with weights	Foot injuries	General workers	3	3	9	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO

Hand cutting bricks	Workers head is likely to be hit by flying brick fragments	Eye injury					Bricklayers / Site personnel / Others nearby	3	3	9	B-Medium Risk	Site manager is to take necessary steps and manage risks involved by implementing safety measures as follows: 1. Provide workers with safety goggles (SABS standards) and ensure they are being worn when breaking bricks 2. Provide other involved in site activities who may be affected with safety goggles and monitor the use thereof	Site manager CHSO
	Exposure to inhalable silica dust	Lung inflammation / Irritation, injury to the eyes, irritation of nose & throat					Bricklayers	3	3	9	B-Medium Risk	CHSO is to secure safe scaffolding conditions as follows: 1. Ensure risk of silica dust are identified 2. Persons exposed to silica dust undergo medical fitness examination 3. Site workers are informed and trained about health risks from exposure to silica dust 4. Workers are issued with safety goggles, dust masks, etc and PPE is worn	Site manager CHSO
Manual handling and movement of cement bags from one point to another	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains					General workers	3	3	9	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
	Dropping of materials likely to result from difficulty in lifting heavy material	Foot pain					General workers	3	3	9	B-Medium Risk	Site manager and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Communicate risks involved; 2. Assign a team of workers who shall move materials to assembly points; 3. Reduce the distance between storage areas of materials to the assembly point by strategically storing materials; 4. Encourage workers to clear up obstacles from routes where movement of materials is planned.	Site manager CHSO
Manual mixing of cement	Possible exposure to inhalable silica dust from opening up bags and mixing mortar	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)					General workers	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide and use dust masks	Site manager CHSO Employee self
	Possible exposure to respirable dust from sands	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)					General workers	3	3	9	B-Medium Risk	1. Site manager and CHSO are to ensure general workers know the hazards linked to dust 2. Operators are to ensure work area is maintained to prevent excessive dust build-up 3. Site manager is to provide water supply nearby to wash dust off skin 4. Site manager is to provide workers with dust masks 5. CHSO is to ensure workers wear dust masks	Site manager CHSO Employee self
	Possible skin contact with cement resulting from not wearing suitable overalls, safety gloves, safety boots	Serious skin burns (short-term) Skin ulcers (short-term) Skin dermatitis (long-term)					Personnel involved	4	2	8	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Risks of dermatitis or cement burns and precautions explained to all workers 2. Use cement or cement containing products within the use-by date 3. Direct skin contact to be avoided, SABS marked PVC gloves used when handling mortar 4. Provide good washing facilities on site, with hot and cold water, soap and basins large enough to wash forearms 5. Ensure provision of first aid includes emergency eyewash	Site manager CHSO
	Possible eye contact with wet cement from splashing into the face	Eye irritation / Eye allergy					Personnel involved	4	2	8	B-Medium Risk	1. Risks from exposure to splashing of wet cement must be explained to all workers 2. Direct skin contact is to be avoided 3. Provide good washing facilities on site, with hot, cold water and soap 4. Ensure provision of first aid includes emergency eyewash	Site manager CHSO
	Prolonged bending from mixing mortar	Back strain Back pain Neck pain					Personnel involved	3	3	9	B-Medium Risk	1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO

	Repetitive movements from mixing mortar exposing workers to hazards linked to musculoskeletal disorders	Muscle strain Muscle pain Back / neck pain	Personnel involved	3	3	9	B-Medium Risk	Site manager and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles. 2. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time. 3. Improve the working environment, e.g. with better lighting, and a more comfortable temperature if practicable possible	Site manager CHSO
	Possible exposure to inhalable silica dust from picking up and throwing cement bags	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term) Tuberculosis (TB) (long-term)	General workers	3	3	9	B-Medium Risk	1. Hazards linked to dust must be communicated to all workers 2. Site manager and CHSO must agree on practical way of temporary storage of cement waste bags 3. Work supervisor and CHSO must assign the duty to pick up and dispose of cement waste bags to selected workers 4. Site manager must provide workers with dust masks	Site manager CHSO
Handtools and other equipment left on the ground	Sharp items lying on the ground likely to result in people stepping on sharp objects	Foot injury	Supervisors / Nearby Tradesmen / Professional team	3	3	9	B-Medium Risk	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO Employee self
	Exposure to ultraviolet radiation	Skin burn / Sun blindness / Skin cancer	Personnel involved	4	2	8	B-Medium Risk	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Site personnel are aware of exposure to ultra-violet radiation from the sun. 2. On sunny days, especially at midday when the sun is at its strongest, employees must be discouraged to remove clothing, but must wear cool full length trousers, long sleeved tops, and hats which protect the ear and neck. 3. Encourage employees to check skin regularly for possible signs of skin cancer, such as the appearance of moles or spots, or a change in the appearance of existing moles. If concerned – seek immediate medical advice.	Site supervisor CHSO Employee self
	Possible exposure to heat	Heat stroke / heat stress / heat exhaustion	Personnel involved	4	5	20	A- High Risk	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage employees to drink plenty of water to avoid dehydration. 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact. 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately.	Site supervisor CHSO Employee self
WALKWAY AND YARD WALLS									
Manual digging of trenches	Possibility of workers being hit by flying rocks	Serious eye injury / serious head injury	Personnel involved / others nearby	3	3	9	B-Medium Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Site manager CHSO Employee self
	Possibility of workers being hit by picks resulting from loose handles	Head injuries and foot injuries	General workers and supervisors	4	2	8	B-Medium Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Site manager CHSO Employee self

	Possibility of stepping on sharp objects due to tools lying about at the work area	Foot pain / foot injury / disabling injury	All site personnel	4	2	8	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
	Possible collapse of sides of trenches resulting from heavy rains filling up trenches and causing slip hazards	Body pain / soft tissue damage	PIC	3	2	6	Keeping excavations free of water	Site supervisor CHSO Employee self
Manual carting away of excavated material	Stretching, pulling, lifting, repetitive motions, awkward posture	Musculoskeletal injuries / pain including sprains and strains	Personnel involved	3	3	9	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
Piling of excavated materials	Exposure to inhalable ambient dust	Irritation of the throat / eyes	Operator of equipment / others nearby	3	3	9	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Manual loading excavated material onto trucks and transportation to dumping site	Stretching, pulling, lifting, repetitive motions, awkward posture	Musculoskeletal injuries / pain including sprains and strains	Personnel involved	4	2	8	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
	Exposure to inhalable ambient dust	Irritation of the throat / eyes	Operator of equipment / others nearby	3	3	9	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Stockpiling of filling material on site	Exposure to inhalable ambient dust	Respiratory irritation	General workers	3	3	9	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
	Possible obstruction of walkways likely to result in trip hazards	Foot pain / foot injury / disabling injury / property damage	PIC	3	3	9	Work supervisor and CHSO are to control risks by implementing the following measures: 1. Agree on a suitable, safe accessible area for stockpiles 2. Ensure stockpiles are stored in areas that allows movement of vehicles and wheelbarrows 3. Ensure walkways are clear of scraps	Site manager CHSO Work supervisor
Backfilling to trenches, holes	Exposure to inhalable ambient dust	Respiratory irritation	General workers	3	3	9	1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Require employees to use all personal protective wear provided	Site manager Employee self
	Exposure to respirable ambient dust	Respiratory irritation	General workers / supervisors / site visitors	3	3	9	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	General workers	4	3	12	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	Site supervisor CHSO Employee self

	Repetitive movement likely to expose workers to stretched muscles	Lower back pain / shoulder pain	General workers	4				3	12	A- High Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
Compaction of trenches	Possibility of workers being overwhelmed with weight of a rammer likely to expose workers to musculoskeletal disorders	Muscle strain / muscle pain / shoulder pain		3				3	9	B-Medium Risk	Site manager and CHSO must control risks by implementing the following measures: 1. Provide workers with information, awareness and training about ergonomic risks 2. Ensure workers undergo medical fitness examination and testing 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act 4. Rotate workers 5. Allow rest breaks	Site manager CHSO
	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	3				3	9	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
	Possible exposure to ambient inhalable dust	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	General workers	3				3	9	B-Medium Risk	1. Site manager and CHSO are to ensure general workers know the hazards linked to dust 2. Operators are to ensure work area is maintained to prevent excessive dust build-up 3. Site manager is to provide water supply nearby to wash dust off skin 4. Site manager is to provide workers with dust masks 5. CHSO is to ensure workers wear dust masks	Site manager CHSO Employee self
	Possible exposure to hazardous noise from operating noisy equipment	Hearing irritation / temporary hearing loss	All site workers	4				3	12	A- High Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Ensure workers undergo audiometric testing before performing this activities 2. Conduct risk assessment and communicate risks to employees 3. Operators must conduct safety inspections of compactors before each use 4. Provide employees with suitable ear plugs or ear muffs 5. Monitor workers and ensure that they wear ear protectors provided	Site supervisor CHSO Employee self
Soil poisoning	Exposure to hand-arm vibration from operating vibrating equipment	Hand-arm vibration syndrome	Operators	3				3	9	B-Medium Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Conduct risk assessment and communicate risks to employees 2. Only trained and competent operators are to operate vibrating equipment 3. Ensure job rotation or limiting the duration of the equipment to control exposure to hand arm vibration 4. Operators are to take all practicable steps to ensure that only the most methods of work are employed in order to minimise the impact 5. When using vibrating equipment operatives are to work in shifts of no more than 20 minutes use in any one hour 6. Provide operators with safety gloves appropriate to limit exposure to hand arm vibration 7. Enforce stricter safety rules for operators to wear safety gloves	Site supervisor CHSO Employee self
	Possible inhalation of HCAs	Respiratory irritation / dizziness	Personnel involved / Others nearby	3				2	6	C- Low Risk	1. CHSO is to provide employees with awareness and training regarding this hazards and precautionary measures 2. Site manager is to provide operators with respirators 3. Require employees to use respiratory protection provided	Site manager CHSO Employee self
	Possible skin contact with concrete (hazardous chemical agent) from lack of use of overalls, safety boots, safety gloves	Skin rash / skin burns	Operators	3				2	6	C- Low Risk	1. Acquire the Material Safety Data Sheet of the Hazardous Chemical Substance (Cement) 2. Provide employees with awareness, education and training regarding this hazards and protection measures 3. Ensure cement bag waste is stored and disposed correctly 4. Encourage workers to wash hands after contact 5. Provide overexposed employee with overalls, builders boots, safety gloves 6. Require employees to use personal protective wear provided	Site manager CHSO Employee self

Concrete finishes on exposed surfaces, i.e. (bedding, jointing and pointing)	Possibility of concrete pump hitting people nearby	Serious / fatal injuries / loss of time	Operators / others nearby	3		4	12	A- High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
	Repetitive movements from mixing mortar exposing workers to hazards linked to musculoskeletal disorders	Muscle strain Muscle pain Back / neck pain	Personnel involved	3		3	9	B-Medium Risk	Site manager and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well designed handles. 2. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time. 3. Improve the working environment, e.g. with better lighting, and a more comfortable temperature if practicably possible	Site manager CHSO
	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	Personnel involved	3		3	9	B-Medium Risk	1. Induction of site workers 2. Conduct and communicate risk assessment 3. Allow adequate rest breaks	Site manager CHSO
Brick work	Possibility of workers being hit by falling bricks from insecure stacking	Foot pain / foot injury	Personnel involved	3		3	9	B-Medium Risk	The construction supervisor / main contractor is to take appropriate precautions and control risks associated with stacking and storage of materials by implementing safety measures as follows: 1. Stacks are to be properly managed, secured and solid barricades be installed if practicable. 2. Storage areas are not to be overly stacked 3. Assign a stacking and storage inspector to ensure risk of collapse are controlled	Site manager CHSO
Picking up and movement of bricks from stockpiles to point of work	Possible musculoskeletal disorders from overloading wheelbarrows	Lower back pain / shoulder pain	General workers	3		3	9	B-Medium Risk	Site manager is to take appropriate precautions and control risks associated with manual handling by considering safety measures as follows: 1. Manual handling of heavy loads should be avoided. 2. Overloading of wheelbarrows are avoided 3. Hazards linked to this activity are identified and communicated all workers	Site manager CHSO
	Dropping of loads due to being overwhelmed with weights	Foot injuries	General workers	3		4	12	A- High Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
Hand cutting bricks	Workers head is likely to be hit by flying brick fragments	Eye injury	Bricklayers / Site personnel / Others nearby	4		3	12	A- High Risk	Site manager is to take necessary steps and manage risks involved by implementing safety measures as follows: 1. Provide workers with safety goggles (SABS standards) and ensure they are being worn when breaking bricks 2. Provide other involved in site activities who may be affected with safety goggles and monitor the use thereof	Site manager CHSO
	Exposure to inhalable silica dust	Lung inflammation / irritation, injury to the eyes, irritation of nose & throat	Bricklayers	3		3	9	B-Medium Risk	CHSO is to secure safe scaffolding conditions as follows: 1. Ensure risks of silica dust are identified 2. Persons exposed to silica dust undergo medical fitness examination 3. Site workers are informed and trained about health risks from exposure to silica dust 4. Workers are issued with safety goggles, dust masks, etc and PPE is worn	Site manager CHSO
Manual handling and movement of cement bags from one point to another	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	4		2	8	B-Medium Risk	1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO

Handtools and other equipment left on the ground	Sharp items lying on the ground likely to result in people stepping on sharp objects	Foot injury	Supervisors / Nearby Tradesmen / Professional team	4	2	8	1	1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO Employee self
	Exposure to ultraviolet radiation	Skin burn / Sun blindness / Skin cancer	Personnel involved	4	2	8	1	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Site personnel are aware of exposure to ultra-violet radiation from the sun. 2. On sunny days, especially at midday when the sun is at its strongest, employees must be discouraged to remove clothing, but must wear cool full length trousers, long sleeved tops, and hats which protect the ear and neck. 3. Encourage employees to check skin regularly for possible signs of skin cancer, such as the appearance of moles or spots, or a change in the appearance of existing moles. If concerned – seek immediate medical advice.	Site supervisor CHSO Employee self
Digging up and removal of all grass, shrubs, rubbish and vegetable soil	Possible exposure to heat	Heat stroke / heat stress / heat exhaustion	Personnel involved	4	5	20	1	The construction supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage employees to drink plenty of water to avoid dehydration. 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact. 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately.	Site supervisor CHSO Employee self
	Exposure to inhalable vegetation dust	Respiratory irritation	Operator/s	3	3	9	1	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide workers with suitable dust masks 4. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
Manual ground excavation <2m deep for trenching	Exposure to inhalable ambient dust	Irritation of the throat	Personnel involved / Supervisors	3	3	9	1	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
	Striking underground cables resulting in possibility of people being electrocuted	Interruption of services Electrocution Delays in programme	Personnel involved	4	3	12	1	1. Undertake risk assessment and identify necessary procedures to protect people on site against related risks 2. Document and communicate risks involved to all workers likely to be affected 3. Workers must undergo induction training before performing site activities 4. Prior to commencement of high risk activities, workers must be issued with the permit-to-work plans are available for site 5. Prior to commencement of any hand digging, firstly check with the client to identify if any service plans are available for site 6. If practicable, clearly mark out the location of the buried surfaces	Site manager CHSO Employee self
Backfilling to trenches	Exposure to inhalable ambient dusts	Irritation of the throat	Personnel involved	4	2	8	1	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5 Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self

	Excessive bending resulting in awkward posture	Lower back pain / neck pain / headache	General workers	3						Site manager and CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Provide risk communication training to all workers likely to be affected 3. Allow adequate rest breaks in line of the Basic Conditions of Employment Act	Site manager CHSO
	Repetitive movement likely to expose workers to stretched muscles	Muscle strain Muscle pain Back / neck pain	Personnel involved	3						Site manager and work supervisor must take precautions to reduce the risks from repetitive handling, by taking consideration of safety measures as follows: 1. Undertake ergonomic risk assessment and identify necessary procedures to protect people on site against related risks 2. Provide ergonomic hazard awareness and training 3. Reduce the levels of force required, e.g. by maintaining equipment and using lighter tools with well-designed handles 4. Reduce repetitive movements, e.g. by varying tasks, rotating jobs and introducing rest and recovery time	Site manager CHSO
	Sharp items lying on the ground	Step on sharp objects	Supervisors / Others nearby / Professional team	4						1. Site manager and CHSO are to make sure all site workers are provided with safety shoes, including sub-contractors workers. 2. Site manager and CHSO are to apply a safety shoes policy for every individual who is to perform work at the work site. 3. CHSO is to conduct and document risk assessment 4. Site manager and CHSO are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO Employee self
Compaction of trenches	Possibility of workers dropping a rammer and hitting them	Foot pain / foot injuries	Personnel involved	3						Site manager and CHSO are to take control risks associated with manual handling by considering safety measures as follows: 1. Ensure workers carrying out heavy items activities must be inducted 2. Communicate and Inform workers about possible ergonomic risks 3. Employ buddy system	Site manager CHSO Employee self
	Possibility of workers being overwhelmed by heavy weights	Muscle pain including sprains and strains	General workers	3						1. Heavy weights must be moved by workers carefully selected as being of suitable body weight 2. Hazards linked to manual material handling must be assessed and work be monitored 3. Rotation of workers must be implemented	Site manager CHSO
	Possible exposure to inhalable ambient dust	Respiratory irritation (short-term) Sinuses (short-term) Asthma (long-term) Silicosis (long-term)	General workers	3						1. Site manager and CHSO are to ensure general workers know the hazards linked to dust 2. Operators are to ensure work area is maintained to prevent excessive dust build-up 3. Site manager is to provide water supply nearby to wash dust off skin 4. Site manager is to provide workers with dust masks 5. CHSO is to ensure workers wear dust masks	Site manager CHSO Employee self
	Possible exposure to hazardous noise from operating noisy equipment	Hearing irritation / Temporary hearing loss	All site workers	4						The project supervisor for the construction stage and CHSO must implement the following measures: 1. Ensure workers undergo audiometric testing before performing this activities 2. Conduct risk assessment and communicate risks to employees 3. Operators must conduct safety inspections of compactors before each use 4. Provide employees with suitable ear plugs or ear muffs 5. Monitor workers and ensure that they wear ear protectors provided	Site supervisor CHSO Employee self

	Exposure to hand-arm vibration from operating vibrating equipment	Hand-arm vibration syndrome	Operators	3	3	9	B-Medium Risk	The project supervisor for the construction stage and CHSO must implement the following measures: 1. Conduct risk assessment and communicate risks to employees 2. Only trained and competent operators are to operate vibrating equipment 3. Ensure job rotation or limiting the duration of the equipment to control exposure to hand arm vibration 4. Operators are to take all practicable steps to ensure that only the most methods of work are employed in order to minimise the impact 5. When using vibrating equipment operatives are to work in shifts of no more than 20 minutes use in any one hour 6. Provide operators with safety gloves appropriate to limit exposure to hand arm vibration 7. Enforce stricter safety rules for operators to wear safety gloves	Site supervisor CHSO Employee self
Pouring concrete	Concrete pump hitting people nearby	Serious / fatal injuries / loss of time	Operators / others nearby	3	4	12	A- High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
	Repetitive movement likely to expose workers to stretched muscles	Repetitive strain injury to hands / legs etc	Personnel involved	3	3	9	B-Medium Risk	1. Workers must undergo training on hazards awareness and training 2. CHSO must understand and implement ergonomic principles 3. Work supervisor must rotate workers 4. Workers must be recommended to be vigilant and report symptoms	Site manager CHSO Employee self
	Bending likely to expose workers to awkward posture	Back pain	General workers	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Allow adequate rest breaks	Site manager CHSO
	Concrete pump hitting people nearby	Serious / fatal injuries / loss of time	Operators / others nearby	3	4	12	A- High Risk	1. A competent person must be assigned to supervise this activity 2. Obstructions must be cleared up in areas where the activity is performed 3. Spectatorship must be discouraged 4. The activity must be conducted under adequate lighting	Site manager CHSO Employee self
Pouring concrete in trenches									
	Possible eye contact with concrete from splashing	Eye irritation	Personnel involved	3	2	6	C- Low Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Provide exposed employee with goggles 3. Require employees to use eye protection provided	Site manager CHSO Employee self
Handling concrete	Possible skin contact with concrete (hazardous chemical agent) from lack of use of overalls, safety boots, safety gloves	Skin concrete burns	Personnel involved	3	3	9	B-Medium Risk	1. Provide employees with awareness, education and training regarding this hazards and protection measures 2. Workers must be provided with long-sleeved overall tops, coveralls, rubber boots, safety gloves 3. Require employees to use eye protection provided	Site manager CHSO Employee self
	Possibility of workers being hit by poles during lifting	Foot pain / foot injury	Personnel involved	4	2	8	B-Medium Risk	The construction supervisor / CHSO is to take appropriate precautions and control risks by implementing safety measures as follows: 1. Ensure workers undergo instructions, awareness and training on safe work procedures 2. Ensure storage areas are not to be overly stacked 3. Ensure workers wear safety shoes	Work supervisor CHSO
Planting steel poles	Possibility of workers tripping and falling on same level from tools lying about	Limb dislocation / sprains / fractures	General workers / supervisors and site visitors	3	3	9	B-Medium Risk	1. Communicate risks involved 2. CHSO is to maintain housekeeping on site 3. Adequate first aid treatment must be available at all times	Site manager CHSO

Breaking up and removing tar surface, block paving and removing from site										
Breaking up tar surface	Inhalation of silica dust	Respiratory irritation Asthma Sinuses Silicosis Tuberculosis (TB)	Personnel involved & other tradesmen nearby	3	3	9	B-Medium Risk	1. The project supervisor for the construction stage / main contractor must provide operators with respiratory protection selected from the list of SARS approved equipment; according to the highest concentration of airborne silica dust to which the operative is likely to be exposed 2. The selection should also take into account the acceptability of the equipment to the wearer, bearing in mind the nature of the job and the length of time the protection will need to be worn 3. The project supervisor for the construction stage / main contractor are to employ dust suppressing measures in the form of dust wetting where reasonably practicable.	Site manager CHSO Employee self	
Operating jackhammer / concrete cutters								The work supervisor and CHSO must implement the following measures: 1. Provide induction of workers and communicate risks involved 2. Restrict work area to workers involved in the activity 3. Employ site safety rules 4. Provide and use suitable hearing protection 5. Rotate operators if possible and if not allow regular rest breaks	Work supervisor CHSO Employee	
	Exposure to hazardous noise	Temporary hearing loss / Headache	Operators	4	2	8	B-Medium Risk			
	Repeated stretching, pulling, lifting	Musculoskeletal injuries /pain including sprains and strains	Operators	4	2	8	B-Medium Risk	The work supervisor and CHSO must implement the following measures: 1. Provide induction of workers and communicate risks involved 2. Document safe work procedures and communicate to workers 2. Rotate operators if possible and if not allow regular rest breaks	Work supervisor CHSO	
								The work supervisor and CHSO must implement the following measures: 1. Provide awareness of the hazards among operators 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. Ensure records of inspections are kept in the safety file 5. Ensure operators are in possession of operator certificate and certificate of medical fitness	Site manager CHSO Employee self	
	Exposure to wholebody	Wholebody vibration disorders	Operator/s	4	2	8	B-Medium Risk			
	Heat	Heat stroke	Operator/s	4	5	20	A- High Risk	The work supervisor and CHSO must implement the following measures: 1. Provide awareness of the hazards among operators 2. Allow adequate rest breaks 3. Workers must be encouraged to take fluids regularly	Site manager CHSO Employee self	
	Sunlight	Sunburn / skin cancer	Operator/s	4	3	12	A- High Risk	The work supervisor and CHSO must implement the following measures: 1. Communicate risks involved 2. Provide and use fully body overalls	Work supervisor CHSO Employee self	
Digging the ground with picks	Hit by flying objects from improper use of picks	Head injuries, back injuries and foot injuries	General workers and supervisors	3	3	9	B-Medium Risk	The work supervisor and CHSO must implement the following measures: 1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, high visibility clothing, safety shoes and require them to use hard hats, high visibility clothing and safety shoes provided	Site manager CHSO Employee self	
Removal of trees	Possibility of being hit by falling trees	Minor to serious head injuries	Other workers nearby	4	3	12	A- High Risk	1. Assign the activity to suitable workers 2. Provide instruction to workers to be involved 3. Communicate hazards linked to the job 4. Supervisor must have few workers nearby 5. Discourage spectatorship 6. Provide suitable head, eye, foot and hand protection 7. Monitor the use of PPE provided	Site manager CHSO Employee self	

	Possible exposure to dust from cutting trees	Respiratory irritation	Operator/s	3	3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Provide workers with suitable dust masks 4. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
	Possibility of workers tripping and falling from obstructions caused by fallen trees	Foot pain / soft tissue damage / limb dislocation	Site personnel	4	3	12	A- High Risk	1. Communicate risks involved 2. Ensure an adequate number of workers are involved in the activity 3. Workers must remove fallen trees immediately 4. General workers must be supervised to lower the risk	Site manager CHSO Employee self
Digging up and removing rubbish, debris, vegetation, hedges, shrubs and trees	Possibility of being hit by flying objects from improper use of picks	Head injuries and foot injuries	Electrical personnel	4	3	12	A- High Risk	The project supervisor for the construction stage / electricians must ensure control of hazards by implementing measures as follows: 1. Provide awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Work supervisor CHSO Employee self
	Exposure to inhalable ambient dust	Respiratory irritation	Electrical personnel	3	3	9	B-Medium Risk	The project supervisor for the construction stage / electricians must ensure control of hazards, by implementing measures as follows: 1. Communicate hazards and risks involved 2. Communicate safe working procedures 3. Provide employees with dust masks 4. Require employees to wear dust masks provided	Work supervisor CHSO Employee self
	Exposure to sunlight	Skin burns / skin cancer	Electrical personnel	4	3	12	A- High Risk	The project supervisor for the construction stage / electrical contractor must take precautions to reduce the risks from ultraviolet (UV), by taking consideration of safety measures as follows: 1. Conduct hazard identification and risk assessment and communicate the outcome of the risks assessment 2. Provide workers with overalls, safety gloves 3. Take care to avoid exposures to UV light, e.g. by providing workers with suitable clothing and eye protection 4. Ensure workers wear clothing and eye protection provided	Work supervisor CHSO Employee self
Manual clearing and removal of rubbish and debris from the site	Bending, reaching, stretching, pulling, lifting, repetitive motions, awkward posture]	Musculoskeletal injuries /pain including sprains and strains	Operators	3	3	9	B-Medium Risk	Work supervisor and CHSO are to control risks by implementing the following measures: 1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Work supervisor CHSO
	Possible exposure to hot (>45°) weather conditions	Heat stroke / heat stress / heat exhaustion	Personnel involved	4	5	20	A- High Risk	Work supervisor / CHSO are to take appropriate action and control risks involved in working in extreme sunny weather conditions, by implementing health & safety measures as follows: 1. Encourage employees to drink plenty of water to avoid dehydration. 2. In excessively hot conditions, employees must constantly monitor themselves and those around them, and take sufficient breaks and plenty of fluids etc. to minimize the impact. 3. If heat sickness symptoms are felt, stop work and allow them to rest, take on fluids, and seek medical attention immediately.	Work supervisor CHSO Employee self
	Possibility of operators dropping items likely to result from difficulty in lifting heavy weights	Head injuries / foot injuries	Others nearby	4	2	8	B-Medium Risk	Work supervisor and CHSO are to control risks associated with lifting heavy loads by taking consideration of the following measures: 1. Communicate risks involved; 2. Reduce the distance between work areas and trucks 3. Encourage workers to clear up obstacles from routes where movement shall take place	Work supervisor CHSO
	Removed rubbish / debris left lying on floor areas causing trip hazards	Fractures / limb dislocation	Operators / other tradesmen	3	3	9	B-Medium Risk	Work supervisor and CHSO are to control risks by implementing the following measures: 1. Provide non-slip safety shoes 2. Tidy up the area daily 3. Ensure walkways are clear of scraps	Work supervisor CHSO

Cleaning the ground	Repetitive motion likely to result in pulling muscles	Muscle pain / disorder	General workers	3			3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO
	Awkward postures form maintaining excessive bending of the body	Lower back pain	General workers	3			3	9	B-Medium Risk	1. Provide employees with training regarding these hazards and preventative measures as per the Ergonomics Regulations 2. Allow adequate rest breaks	CHSO and workers
	Possible exposure to vegetation dust from lack of use of respiratory protection	Respiratory irritation	Operator/s	3			3	9	B-Medium Risk	1. Communicate risks involved 2. Communicate safe working procedures 3. Control dust with water spraying if practicably possible 4. Provide workers with suitable dust masks 5. Monitor and ensure workers use dust masks provided	Site manager CHSO Employee self
Working in external environments with potential presence of biological agents	Exposure to biological agents (i.e. bacteria, viruses, fungi etc)	Allergic reactions to serious medical conditions								1. Site workers must undergo baseline medical examination and testing before start of site activities 2. Provide employees with awareness regarding this hazards and protection measures 3. Site workers must anticipate presence of biological hazards and report exposure when its experienced 4. Provide adequate toilet and hand washing facilities 5. Provide workers taking part in activities with overalls, safety shoes, dust masks, goggles 6. Require employees to use personal protective equipment provided	Site manager CHSO
Open face excavation in earth over sloping site and depositing excavated material in prescribed stock piles on site	Possibility of workers being hit by flying rocks	Serious eye injury / serious head injury	Personnel involved / others nearby	2			2	4	C- Low Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Site manager CHSO Employee self
	Possibility of workers being hit by picks resulting from loose handles	Head injuries and foot injuries	General workers and supervisors	3			3	9	B-Medium Risk	1. Awareness to workers on the hazards and risks involved 2. Communicate and instruct workers on safe working procedures 3. Provide workers with hard hats, safety shoes and require them to use hard hats and safety shoes provided	Site manager CHSO Employee self
	Possibility of stepping on sharp objects due to tools lying about at the work area	Foot pain / foot injury / disabling injury	All site personnel	4			2	8	B-Medium Risk	1. Conduct induction training 2. Communicate safe working procedures 3. Ensure housekeeping is maintained 4. Toolbox talks 5. Provide and use safety shoes	Site manager CHSO Employee self
Manual carting away of excavated material	Stretching, pulling, lifting, repetitive motions, awkward posture	Musculoskeletal injuries /pain including sprains and strains	Personnel involved	3			3	9	B-Medium Risk	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
Piling of excavated materials	Exposure to inhalable ambient dust	Irritation of the throat / eyes	Operator of equipment / others nearby	3			3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self
Manual loading excavated material onto trucks and transportation to dumping site	Stretching, pulling, lifting, repetitive motions, awkward posture	Musculoskeletal injuries /pain including sprains and strains	Personnel involved	3			3	9	B-Medium Risk	1. Document safe work procedures 2. Provide mechanical aids where necessary 3. Encourage team lifts where appropriate	Site manager Contractor
	Exposure to inhalable ambient dust	Irritation of the throat / eyes	Operator of equipment / others nearby	3			3	9	B-Medium Risk	1. Awareness of the hazards among operators and other workers 2. Ensure equipment provided is safe and performs as intended 3. Operators must conduct safety inspections and maintain records 4. First aid treatment and washing facilities must be provided and be accessible 5. Provide all workers with masks, goggles and require them to wear the masks provided	Site manager CHSO Employee self

Inexperienced operators digging with sharp tools	Possibility of people being hit by picks	Head injury	Operators	3	3	3	9	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Tools must be suitable for the task that they are going to perform and for the environment in which they are to be used. 2. Give users appropriate information, instruction and training in the use of tools for their trade. 3. Tools should be visually inspected routinely before use by the user to ensure they are in an acceptable condition. 4. Supervisor to conduct spot checks to ensure users comply and that safe working practices are adhered to. 5. Tools should be maintained in a safe condition 6. Hardhats and safety glasses should be worn at all times	Site manager CHSO Employee self
	Inhalation of ambient dust	Eye allergy Sinuses Tuberculosis	All site workers	3			9	B-Medium Risk	The project supervisor is to take necessary measures to control exposure to inhalable dust as follows: 1. Provide dust masks to workers exposed to dust inhalation 2. Strictly enforce safety rules for the use of dust masks 3. Employ, as far as is reasonably practicable, dust suppression measures such as wetting of dusty areas	Site manager CHSO
	Sharp objects on the ground likely to result in people stepping on sharp objects	Foot injury	PIC	4	2		8	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Make sure all site workers are provided with and in use of safety shoes 2. Apply a safety shoes policy for every individual who is to perform work at the work site 3. Conduct and document risk assessment 4. Make sure all site workers are provided with the hazard awareness information, instruction & training	Site manager CHSO
	Possibility of people being cut by hand tools resulting from working with faulty / damaged hand tools	Hand cuts	Personnel involved	3	2		6	C- Low Risk	Site manager / CHSO are to take implement the following measures: 1. Regular inspection of hand tools 2. Provide suitable for the purpose and location in which they are to be used 3. Discarding or prompt repair of defective tools	Site manager CHSO
	Awkward posture resulting from excessive bending	Back and neck pain	Personnel involved	4	2		8	B-Medium Risk	Site manager / CHSO must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected 2. Allow adequate rest breaks in line with the Basic Conditions of Employment Act	Site manager CHSO
Handling sharp objects	Possibility of objects striking bare hands	Hand cuts	Personnel involved	3	2		6	C- Low Risk	Site manager / CHSO are to take implement the following measures: 1. Prepare risk assessment, document and communicate to all site workers 2. Provide all workers with appropriate safety gloves. 3. Monitor the workers and ensure they wear safety gloves when handling forms to prevent cuts and scrapes	Site manager CHSO
Work at height without fall protection	Fall of persons from height	Serious / fatal injuries Delay in programme	Operators Contractor Client	4	2		8	B-Medium Risk	Site manager / CHSO are to take necessary measures and prevent falls of people from height, by implementing health & safety measures as follows: 1. Undertake hazard analysis and risk assessment before workers can engage in work at heights 2. Communicate risk control measures to workers likely to be affected 3. Provide workers with fall protective equipment and ensure they use it	Site manager CHSO
Performing tasks at overhead positions	There is a possibility of operators striking against fixed structures	Head injuries	Operators	4	2		8	B-Medium Risk	Site manager / CHSO are to take implement the following measures: 1. Site supervisor shall maintain close supervision of activities and provide necessary guidance 2. Operators must follow safe operating procedures and adhere to best practices 3. Provide workers with suitable helmets and ensure operators wear provided helmets where necessary.	Site manager CHSO Employee self

Performing welding without personal protective equipment	Direct skin exposure to UV radiation	Eye / skin burns Dermatitis	Operators	4	2	8	B-Medium Risk	The construction supervisor / main contractor is to take appropriate precautions and control risks associated with arc welding, by implementing safety measures as follows: 1. Undertake risk assessment and communicate results to all employees. 2. Formulate site rules for employees at the planning stage and communicate it to all employees. 3. Permit to work to be used to control and manage welding risks. 4. Provide employees with goggles or visor, safety gloves, aprons, long sleeve overalls suitable to protect people against welding hazards. 5. Monitor and ensure employees conducting welding wear provided PPE.	Site supervisor CHSO Employee self
Lifting heavy items	Items difficult to handle or oversized	Muscular pain / strain	Operators	3	3	9	B-Medium Risk	The project supervisor for the construction stage / main contractor must control risks associated with lifting heavy loads by taking consideration of health & safety measures as follows: 1. Use lift assist devices or equipment. 2. Reduce size of product to lighten the loads. 3. Arrange work activities so that employees can move closer to loads and perform lifts with arms close to the body. 4. Use pallets that can rotate. 5. Put objects to be lifted at waist level. 6. Provide employees with gloves that aid in holding slippery objects, and monitor their use.	Site supervisor CHSO Employee self
Sharp items lying about	Step on sharp objects	Foot injury	Contractors / Site Personnel / Third Parties	4	2	8	B-Medium Risk	1. The project supervisor for the construction stage / main contractor are to make sure all site workers are provided with and wear safety shoes, including sub-contractors workers 2. The project supervisors for the construction stage / main contractor are to apply a safety shoes policy for every individual who is to perform work at the work site 3. The project supervisor for the construction stage / main contractor are to conduct and document risk assessment 4. The project supervisor for the construction stage / main contractor are to make sure all site workers are provided with the hazard awareness information, instruction & training	Site supervisor CHSO Employee self
Operating machine that generates sparks	Fire & smoke	Skin burn Property damage Delay in programme	Contractors / Site Personnel / Client	3	2	6	C-Low Risk	The project supervisor for the construction stage / main contractor must take precautions to protect people if there is a fire, by taking consideration of safety measures as follows: 1. Keep a record of the hazards they have identified and what they have done to remove or reduce them. 2. Make a plan so you and your staff will know what to do if there is a fire. Take into account the findings of your risk assessment. 3. Provide information, instruction and training to ensure people know what to do if there is a fire. 4. Practise the fire drill. 5. Assign a person with a role to play competent to carry out their role? 6. If you share a building with others you should co-ordinate your plan with them. 7. Where dangerous substances are stored or used in large enough quantities to make the risk more than slight, assemble a fire and rescue team.	Site supervisor CHSO Employee self
	Excessive bending resulting in awkward postures	Lower back strain / muscle strain	Site Personnel	3	3	9	B-Medium Risk	The project supervisor for the construction stage / main contractor must ensure protection of workers against risks associated with bending by taking consideration of measures as follows: 1. Conduct risk assessment, document and communicate risks involved to all workers likely to be affected. 2. Allow adequate rest breaks in line of the Basic Conditions of Employment Act.	Site supervisor CHSO Employee self

Using cutting tools without hand protection or/ using blunt cutting tools	Hand contact with moving blades	Hand lacerations	Site Personnel	3	4	12	A- High Risk	The construction supervisor / main contractor is to take appropriate steps to control hazards associated with the use of cutting saws on site by considering control measures as follows: 1. All machines guarded according to manufacturers' instructions. 2. Guards inspected regularly and maintained as necessary to ensure their good condition. 3. Staff monitored by manager to ensure guards always used. 4. All staff trained in safe use of machines by a competent person. 5. All machines have brakes and fitted with necessary safety features, e.g. chip limited tooling etc.	Site supervisor CHSO Employee self	
	Possibility of being hit by flying / falling objects on the head									
	Head injuries	Contractors / Site Personnel / Third Parties	4	2	8	B-Medium Risk				
	Crouching & kneeling resulting in knee contact with ground surfaces	Knee pain Knee trauma	Site Personnel	4	3	12				A- High Risk
	Static posture while lifting loads resulting in a worker applying Force	Sprains / strains	Site Personnel	3	3	9				B-Medium Risk
ELECTRICAL COMMISSIONING AND TESTING										
Electrical commissioning and testing	Possibility of hazards linked to commissioning being experienced due to incorrect procedures / inexperienced operators	Skin burns Fire & explosion	Those testing and commissioning. Others in the immediate area.	5		4	20	A- High Risk	The project supervisor for the construction stage / electrical contractor must provide the necessary protection and consider safety measures as follows: 1. Only authorised and competent electricians will carry out the testing and commissioning and they will be provided with all the information relevant to the work. 2. Suitable, calibrated test equipment will be used for testing and commissioning. 3. Before work begins all switch rooms will be cleared of loose materials and all temporary installations removed. All equipment guards, doors and covers will be fitted. 4. Liaise with other contractors / employees will take place before work begins in order to make everyone aware of the work is taking place, where appropriate a permit to work will be used. 5. All circuits to be worked on will be treated as live until verified dead.	Site manager Work site supervisor (Electrical)

RISK MATRIX

CONSEQUENCES					
Score	1	2	3	4	5
Description	Insignificant	Minor	Moderate	Major	Catastrophic
Example	Minor injury, no first aid required	Harmful injury (first aid required, under 3 days recovery)	Serious injury Medical assistance required. Injury must be reported	Major injury, urgent medical assistance required	Fatality

RISK MATRIX						
RISK RATING		SEVERITY/CONSEQUENCE				
		1	2	3	4	5
		Insignificant	Minor	Moderate	Major	Catastrophic
LIKELIHOOD	1 Rare	1	2	3	4	5
	2 Unlikely	2	4	6	8	10
	3 Possible	3	6	9	12	15
	4 Likely	4	8	12	16	20
	5 Almost certain	5	10	15	20	25

1-4 Low	May be acceptable; however, due care should be employed and task reviewed to see if risk can be reduced further.
7-14 Med	Task should only proceed with appropriate authorisation. Where possible the task should be redefined and/or measures employed to reduce the residual risk.
15-25 High	Task must not proceed. It should be redefined or further control measures put in place to reduce risk. Controls be re-assessed prior to the task commencing.

ABBREVIATIONS

CHSO: Construction CHSO
 dB: Decibels
 HCAs: Hazardous chemical agents
 HIRA: Hazard Identification and Risk Assessment
 H&S: Health and Safety
 LEV: Local exhaust ventilation
 MSDs: Musculoskeletal disorders
 PIC: People in construction
 PPE: Personal Protective Equipment
 RCD: Residual current device
 ULDs: Upper limb disorders



HEALTH AND SAFETY REQUIREMENTS FOR THE BOQ

A. REQUIREMENTS IN RESPECT OF OCCUPATIONAL HEALTH AND SAFETY ACT, 85. 199: ACT, HIV/AIDS AND COVID-19 ON SITE

ID	ITEMS
1.	COIDA (Letter of Good standing)
2.	Risk Assessment
3.	Health & Safety Plan
4.	Health & Safety File
5.	Employees Medical Certificate of Fitness
6.	Employees Security Clearance
7.	Construction Health and Safety Officer
8.	Construction Health and Safety Manager
9.	Personal Protective Equipment (Refer to following items in bold)
10.	Measures for identification of construction workers
11.	Visitors Personal Protective Equipment
12.	Provision of First Aid Facilities
13.	Fire Protection
14.	Fall Protection Plan (including items in bold below)
•	Psychological examination (annually)
•	Drug testing (bi-annually)
•	Pregnancy testing - females
15.	Induction Training
16.	Toolbox talks
17.	Health and Safety Training Needs (comprise of items in bold below)
•	SAQA related training specified by the client
•	Any other legally required OHS training
18.	Facilities for Site Workers (comprise of items in bold below)
•	Changing Facilities (Equipped with safe storage of belongings)
•	Eating Facilities with Chairs

23.	Housekeeping
24.	HIV/AIDS Awareness and Training (Refer to HIV/AIDS bills of quantities)
25.	Compliance with COVID-19 Protocols
•	COVID-19 awareness and training
•	COVID-19 Compliance Coordinator
•	Hand Sanitizers
26.	Emergency Management
27.	Subcontractors Health and Safety Requirements
28.	Review of Risk Assessment (Annually)
29.	Review of Health & Safety Plan (Annually)
30.	Review of Employees Medical Certificate of Fitness (Biannually)
31.	Review of Employees Security Clearance
32.	Review of Personal Protective Equipment (Annually)
33.	Review of Health and Safety Training Needs (Annually)
34.	Review of First Aid Provision

Reviewed and Submitted by

PrCHSA

*Rose Matete
CHSA/078/2018*



2025

HIV/AIDS

HIV/AIDS AWARENESS PROGRAMME

guideline costing

October 2004



NATIONAL DEPARTMENT OF PUBLIC WORKS

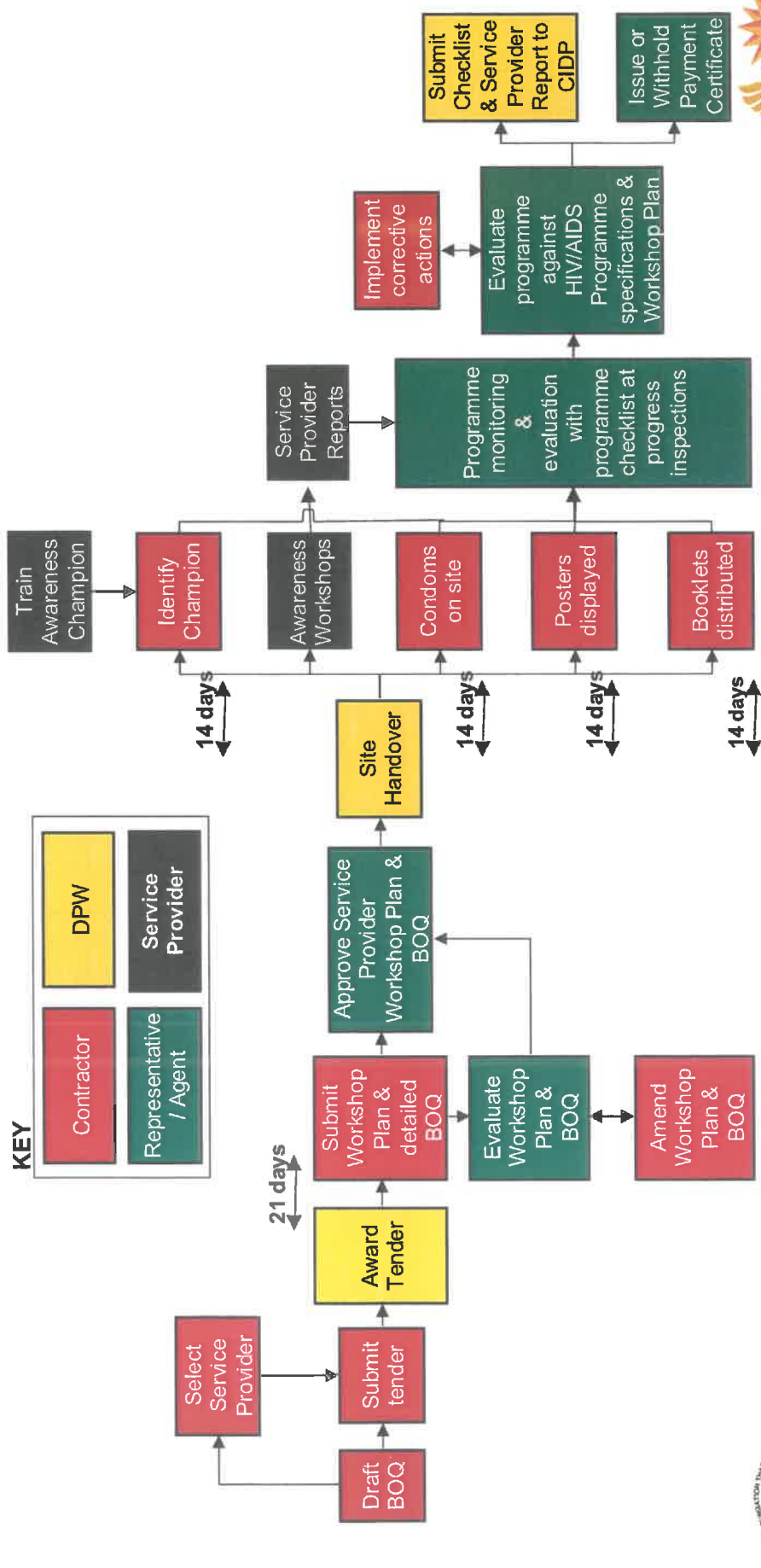
Principles of awareness programme

- **Awareness workshops with workers**
- **Display awareness materials**
- **Distribute condoms on site**
- **Encourage VCT**
- **Awareness Champion to manage programme**



NATIONAL DEPARTMENT OF PUBLIC WORKS

Process of Implementation



NATIONAL DEPARTMENT OF PUBLIC WORKS

Costing Guideline for Pricing Awareness Programme (oct 2004)

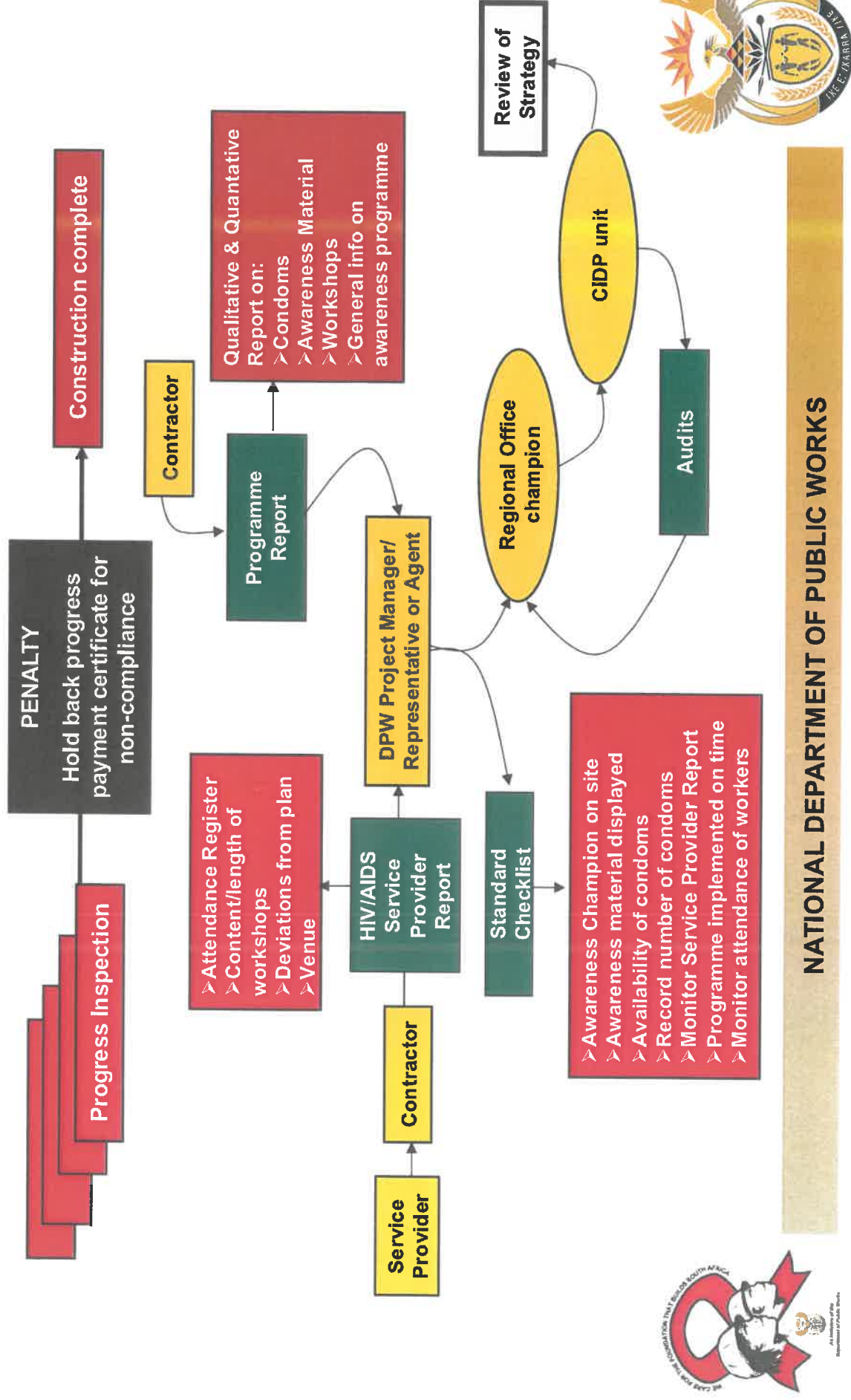
Scenario: Construction Site with 40 male and 10 female construction workers

1)	3 x workshops @ R350/hr (3hr)	R1 050-00 * <u>check cost with training provider</u>
2)	50 x booklets @ R13 per booklet	R 650-00
3)	4 x laminated posters @R53-65 ea.	R 214-60
4)	DPW video	R 25-00
5)	Awareness Champion (time)	*dependant on contractor
6)	Female Condoms @R8 ea.	R 80-00
7)	Male Condoms	free
8)	Condom dispensers @R190 each	R 380-00
9)	Monitoring	*dependant on contractor
	<u>TOTAL</u>	<u>R4099-60</u>



NATIONAL DEPARTMENT OF PUBLIC WORKS

Monitoring and Evaluation





DEPARTMENT OF PUBLIC WORKS

HIV/AIDS

SPECIFICATION

OCTOBER 2004

SECTION

HIV/AIDS SPECIFICATION

HIV/AIDS REQUIREMENTS

1 SCOPE

This specification contains all requirements applicable to the Contractor for creating HIV/AIDS awareness amongst all of the Workers involved in this project for the duration of the construction period, through the following strategies:

- Raising awareness about HIV/AIDS through education and information on the nature of the disease, how it is transmitted, safe sexual behaviour, attitudes towards people affected and people living with HIV/AIDS, how to live a healthy lifestyle with HIV/AIDS, the importance of voluntary testing and counselling, the diagnosis and treatment of Sexually Transmitted Infections and the closest health Service Providers;
- Informing Workers of their rights with regard to HIV/AIDS in the workplace;
- Providing Workers with access to condoms and other awareness material that will enable them to make informed decisions about sexual practices.

2 DEFINITIONS AND ABBREVIATIONS

2.1 Definitions

Service Provider: The natural or juristic person recognised and approved by the Department of Public Works as a specialist in conducting HIV/AIDS awareness programmes.

Service Provider Workshop Plan: A plan outlining the content, process and schedule of the training and education workshops, presented by a Service Provider which has been approved by the Representative/Agent.

Worker: Person in the employ of the Contractor or under the direction or supervision of the Contractor or any of his Sub-contractors, who is on site for a minimum period of 30 days in all.

2.2 Abbreviations

- HIV : Human Immunodeficiency Virus.
- AIDS : Acquired Immune Deficiency Syndrome.
- STI : Sexually Transmitted Infection.

3 BASIC METHOD REQUIREMENT

- 3.1 The Contractor shall, through a Service Provider, conduct onsite workshops with the Workers.

The Service Provider shall develop and compile a Service Provider Workshop Plan to be presented at the workshops and which will be best suited for this project to achieve the specified objectives with regard to HIV/AIDS awareness.

The Service Provider Workshop Plan shall be based on the following information provided by the Contractor:

- Number of Workers and Sub-contractors on site;
- When new Workers or Sub-contractors will join the construction project;
- Duration of Workers and Sub-contractors on site;
- How the maximum number of Workers can be targeted with workshops;
- How the Contractor prefers workshops to be scheduled, e.g. three hourly sessions per Worker, or one 2.5 hour workshop per Worker;
- Profile of Workers, including educational level, age and gender (if available);
- Preferred time of day or month to conduct workshops;
- A Gantt chart reflecting the construction programme, for scheduling of workshops;
- Suitable venues for workshops.

The Contractor shall submit the Service Provider Workshop Plan for approval within 21 days after the tender acceptance date. After approval by the Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training.

3.2 The Service Provider Workshop Plan shall address, but will not be limited to the following:

- 3.2.1 The nature of the disease;
- 3.2.2 How it is transmitted;
- 3.2.3 Safe sexual behaviour;
- 3.2.4 Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- 3.2.5 Attitudes towards other people with HIV/AIDS;
- 3.2.6 Rights of the Worker in the workplace;
- 3.2.7 How the Awareness Champion will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively and confidentially;
- 3.2.8 How the Service Provider will support the Awareness Champion;
- 3.2.9 Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- 3.2.10 How the workshops will be presented, including frequency and duration;
- 3.2.11 How the workshops will fit in with the construction programme;
- 3.2.12 How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;
- 3.2.13 How the video will be used;
- 3.2.14 How the Service Provider will elicit maximum participation from the Workers;
- 3.2.15 A questions and answers slot (interactive session).

The Service Provider Workshop Plan shall encompass the Specific Learning Outcomes (SLO) as stipulated.

4 HIV/ AIDS AWARENESS EDUCATION AND TRAINING

4.1 Workshops

The Contractor shall ensure that all Workers attend the workshops.

The workshops shall adequately deal with all the aspects contained in the Service Provider Workshop Plan. A video of HIV/AIDS in the construction industry, which can be obtained from all Regional Offices of the Department of Public Works, is to be screened to Workers at workshops. In order to enhance the

learning experience, groups of not exceeding 25 people shall attend the interactive sessions of the workshops.

4.2 Recommended practice

4.2.1 Workshop Schedule

Presenting information contained in the Service Provider Workshop Plan can be divided in as many workshop sessions as deemed practicable by the Contractor, provided that all Workers are exposed to all aspects of the workshops as outlined in the Service Provider Workshop Plan.

Breaking down the content of information to be presented to Workers into more than one workshop session however, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for Workers to reflect and test information. Workers will also have an opportunity to ask questions at a following session.

4.2.2 Service Providers

A database of recommended Service Providers is available from all Regional Offices of the Department of Public Works.

4.2.3 HIV/AIDS Specific Learning Outcomes and Assessment Criteria

Workers shall be exposed to workshops for a minimum duration of two-and-a-half hours. In order to set a minimum standard requirement, the following specific learning outcomes and assessment criteria shall be met.

4.2.3.1 UNIT 1: The nature of HIV/AIDS

After studying and understanding this unit, the Worker will be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. The Worker will also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS.

Assessment Criteria:

1. Define and describe HIV and AIDS;
2. List and describe the progression of HIV/AIDS.

4.2.3.2 UNIT 2: Transmission of the HI virus

After studying and understanding this unit, the Worker will be able to identify bodily fluids that carry the HI virus. The Worker will be able to recognise how HIV/AIDS is transmitted and how it is not transmitted.

Assessment Criteria:

1. Record in what bodily fluids the HI virus can be found;
2. Describe how HIV/AIDS can be transmitted;
3. Demonstrate the ability to distinguish between how HIV/AIDS is transmitted and misconceptions around transmittance of HIV/AIDS.

4.2.3.3 UNIT 3: HIV/AIDS preventative measures

After studying and understanding this unit, the Worker will comprehend how to act in a way that would minimise the risk of HIV/AIDS infection and to use measures to prevent the HI virus from entering the bloodstream.

Assessment Criteria:

1. Report on how to minimise the risk of HIV/AIDS infection;
2. Report on precautions that can be taken to prevent HIV/AIDS infection;
3. Explain or demonstrate how to use a male and female condom;
4. List the factors that could jeopardize the safety of condoms provided against HIV/AIDS Transmission.

4.2.3.4 UNIT 4: Voluntary HIV/AIDS counselling and testing

After studying and understanding this unit, the Worker will be able to recognise methods of testing for HIV/AIDS infection. The Worker will be able to understand the purpose of voluntary HIV/AIDS testing and pre- and post-test counseling.

Assessment Criteria:

1. Describe methods of testing for HIV/AIDS infection;
2. Report on why voluntary testing is important;
3. Report on why pre- and post-test counselling is important.

4.2.3.5 UNIT 5: Living with HIV/AIDS

After studying and understanding this unit, the Worker will be able to recognise the importance of caring for people living with HIV/AIDS and be able to manage HIV/AIDS.

Assessment Criteria:

1. List and describe ways to manage HIV/AIDS;
2. Describe nutritional needs of people living with HIV/AIDS;
3. Describe ways to embrace a healthy lifestyle as a person living with HIV/AIDS;
4. Explain the need for counselling and support to people living with HIV/AIDS.

4.2.3.6 UNIT 6: Treatment options for people with HIV/AIDS

After studying and understanding this unit, the Worker will be familiar with the various treatments available to HIV/AIDS infected or potentially HIV/AIDS infected people.

Assessment Criteria:

1. Discuss anti-retroviral therapy;
2. List methods of treatment to prevent HIV/AIDS transmission from mother-to-child;
3. Describe the need for treatment of opportunistic diseases for people living with HIV/AIDS;
4. Describe post exposure prophylactics.

4.2.3.7 UNIT 7: The rights and responsibilities of Workers in the workplace with regard to HIV/AIDS

After studying and understanding this unit, the Worker will be able to identify the rights and responsibilities of the Worker living with HIV/AIDS in the workplace. The Worker will recognise the importance of accepting colleagues living with HIV/AIDS and treating them in a non-discriminative way.

Assessment Criteria:

1. Discuss the rights of a person living with HIV/AIDS in the workplace;
2. Discuss the responsibilities of a person living with HIV/AIDS in the workplace;
3. Report on why acceptance and non-discrimination of colleagues living with HIV/AIDS is important.

4.3 Displaying of plastic laminated posters and distribution of information booklets

The Contractor shall obtain a set of four laminated posters conveying different key messages and information booklets. The contractor should include the costs of posters and information booklets in his/her tender price.

The above-mentioned posters and information booklets have been prepared to raise awareness and to share information about HIV/AIDS and STI's.

Posters or display stands shall be displayed on site as soon as possible, but not later than 14 days after the date of site handover.

Posters shall be displayed in areas highly trafficked by Workers, including toilets, rest areas, the site office and compounds.

The posters on display must always be intact, clear and readable.

Information booklets must be distributed to all Workers as soon as possible, but not later than 14 days after site handover, or as soon as the Worker joins the site.

5 PROVIDING WORKERS WITH ACCESS TO CONDOMS

The Contractor shall provide and maintain condom dispensers and make both male and female condoms, complying with the requirements of SABS ISO 4074, available at all times to all Workers at readily accessible points on site, for the duration of the contract. The Contractor may obtain condom dispensers from the Department of Health and condoms may be obtained from the Local Clinic or the Department of Health.

At least one male and one female condom dispenser and a sufficient supply of condoms, all to the approval of the Representative/Agent, shall be made available on site within 14 days of site hand over. Contractors should note that arrangements to obtain condoms from the Department of Health Clinics prior to site hand over may be necessary, to ensure that condoms are available within 14 days of site handover.

Condoms shall be made available in areas highly trafficked by Workers, including toilets, the site office and compounds.

6 ENSURING ACCESS TO HIV/AIDS TESTING AND COUNSELLING FACILITIES AND TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS (STI)

The Contractor shall provide Workers with the names of the closest Service Providers that provide HIV/AIDS testing and counselling and Clinics providing Sexually Transmitted Infection (STI) diagnosis and treatment. Information on these Service Providers and Clinics must be displayed on a poster of a size not smaller than A1 in an area highly trafficked by Workers.

7 APPOINTMENT OF AN HIV/AIDS AWARENESS CHAMPION

- 7.1 Within 14 days of site handover the Contractor shall appoint an Awareness Champion from amongst the Workers, who speaks, reads and writes English, who speaks and understands all the local languages spoken by the Workers and who shall be on site during all stages of the construction period. The Contractor shall ensure that the Awareness Champion has been trained by the Service Provider on basic HIV/AIDS information, the support services available and the necessary skills to handle questions regarding the HIV/AIDS programme in a sensitive and confidential manner.

7.2 The Awareness Champion shall be responsible for:

- 7.2.1 Liaising with the Service Provider on organising awareness workshops;
- 7.2.2 Filling condom dispensers and monitoring condom distribution;
- 7.2.3 Handing out information booklets;
- 7.2.4 Placing and maintaining posters.

8 MONITORING

The Contractor shall grant to the Representative/Agent reasonable access to the construction site, in order to establish that the Contractor complies with his obligations regarding HIV/AIDS awareness under this contract.

The Contractor must report problems experienced in implementing the HIV/AIDS requirements to the Representative/Agent.

The attached SITE CHECKLIST (SCHEDULE A) shall be completed and submitted at every construction progress inspection to the Representative/Agent.

The attached SERVICE PROVIDER REPORT (SCHEDULE B) shall be completed and submitted on a monthly basis to the Department's Project Manager, through the Representative/Agent.

The attached CONTRACTOR HIV/AIDS PROGRAMME REPORT (SCHEDULE C), a close out programme report, shall be completed by the Contractor at the end of the contract.

SCHEDULE A

HIV/AIDS PROGRAMME: SITE CHECKLIST

When did construction commence: _____

Name of Departmental Project Manager: _____

Please refer to HIV/AIDS Programme activities during the reporting period

		Tick the block if Contractor satisfactorily complied with specifications																	
		PI			PI			PI			PI			PI					
DATE		D	D	M	D	D	M	D	D	M	D	D	M	D	D	M	D	D	M
	Programme implemented within 14 days of site handover																		
	Awareness champion on site																		
	HIV/AIDS awareness service provider report																		
	Male condom dispenser																		
	Sufficient male condoms available																		
	Male condom dispenser in a highly trafficked area																		
	Female condom dispenser																		
	Sufficient female condoms available																		
	Female condom dispenser in a highly trafficked area																		
	All four types of posters displayed																		
	Posters in a good condition																		
	Posters in a highly trafficked area																		
	Posters displayed on local support services: clinic & VCT centre																		
	Support service poster/s in highly trafficked area																		
	Support service poster/s in a good condition																		

Please indicate the applicable number for the reporting period									
Workers on payroll (at PI)									
Sub-Contractors who will be on site for longer than 30 days (at PI)									
Workshop attendees									
Number of workshops held									
Scheduled workshops according to approved workshop plan									
Booklets distributed									
Male condoms distributed									
Female condoms distributed									

Representative/Agent _____ Date _____

Contractor _____ Date _____

Date of progress inspection: (ccyy/mm/dd)

Reporting period: (ccyy/mm/dd) _____ to (ccyy/mm/dd) _____

Deviations from HIV/AIDS awareness programme plan:

Corrective actions:

Representative/Agent

Departmental Project Manager

Date

Date

SCHEDULE B

HIV/AIDS AWARENESS PROGRAMME: SERVICE PROVIDER REPORT

Reporting period: (ccyy/mm/dd) _____ to (ccyy/mm/dd) _____

Number of workshops conducted in reporting period: _____

Number of scheduled workshops according to approved workshop plan: _____

Deviations from workshop plan:

State reasons for deviating from workshop plan:

Corrective actions:

Service Provider

Date

Date

HIV/AIDS AWARENESS PROGRAMME : WORKSHOP CONTENT ADDRESSED

Fill in the applicable information with regard to each workshop conducted																																
DATE	W/S						W/S						W/S						W/S						W/S							
	D	D	M	M	D	D	D	D	M	M	D	D	D	D	M	M	D	D	D	D	M	M	D	D	D	D	M	M	D	D	M	M
Content of workshop: (Mark the content included)																																
SLO1																																
SLO2																																
SLO3																																
SLO4																																
SLO5																																
SLO6																																
SLO7																																
HIV/AIDS in construction video																																
Indicate the duration of the workshop in hours																																
Total number of Workers																																
Indicate workshop venue																																

SCHEDULE C**CONTRACTOR HIV/AIDS PROGRAMME REPORT**

Project name: _____

Project Location: _____

Contract value of project: R _____

Department of Public Works Project Manager: _____

HIV/AIDS Programme duration: (ccyy/mm/dd) _____ to (ccyy/mm/dd) _____

AWARENESS MATERIAL

Describe location of posters displayed during the programme: _____

Comments on posters: _____

Indicate total number of booklets distributed: _____

Comments on booklets: _____

CONDOMS

Indicate total number of male condoms distributed: _____

Indicate total number of female condoms distributed: _____

Describe where male condom dispenser was placed: _____

Describe where female condom dispenser was placed: _____

HIV/AIDS WORKSHOPS

Indicate the total number of HIV/AIDS workshops conducted: _____

Indicate the duration of workshops: _____

Indicate the total number of Workers that participated in the HIV/AIDS workshops: _____

Indicate the total number of Workers that were exposed to the video on HIV/AIDS in the Construction Industry: _____

Comments on HIV/AIDS workshops on site: _____

GENERAL

Briefly describe programme activities and satisfaction with outcome: _____

Additional comments, suggestions or needs with regard to the HIV/AIDS awareness programmes on site:

Please indicate if your company has a formal HIV/AIDS policy focussing on HIV/AIDS awareness raising and care and support of HIV/AIDS Workers:

Yes	No	Currently developing one
-----	----	--------------------------

Please indicate if, to your knowledge, you have lost any workers during the duration of the project to HIV/AIDS related sicknesses. One or more of the following might indicate an HIV/AIDS related death:

Excessive weight loss
Reactive TB
Hair loss
Severe tiredness

Coughing or chest pain
Pain when swallowing
Persistent fever
Diarrhoea

Vomiting
Meningitis
Memory loss
Pneumonia

Number of HIV/AIDS-related deaths: _____

Contractor

Date

Departmental Project Manager

Date



DEPARTMENT OF PUBLIC WORKS

HIV/AIDS

SPECIFICATION FOR

CIVIL CONTRACTS

APRIL 2004

NOTES TO CONSULTANTS

Please include the following note to tenderers, Preliminary and General items and HIV/AIDS Specification with the attached schedules in the appropriate Sections in the Bill of Quantities.

NOTES TO TENDERERS

HIV/AIDS AWARENESS

These Bills of Quantities contain items relating to HIV/AIDS awareness. The items have been included under "Section 1: Preliminary and General" to enable tenderers to allow for the implementation of prescribed HIV/AIDS awareness specifications for the benefit of all workers under this Contract.

Tenderers must take note that compliance with the HIV/AIDS awareness programme is compulsory.

SECTION 1: PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						R	C
		HIV/AIDS AWARENESS					
1. ...		It is required of the Contractor to thoroughly study the HIV/AIDS Specification (PW 1544) of the Department that must be read together with and is deemed to be incorporated under this Section of the Bills of Quantities. Provision for pricing of HIV/AIDS awareness is made under items 1. to 1. ... hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained The Contractor must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the Representative/Agent, notwithstanding the provisions of Clause 52 of the General Conditions of Contract for Works of Civil Engineering Construction or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the Contractor provides satisfactory proof of compliance. The Contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment					
1. ...		AWARENESS CHAMPION Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification	Sum				
1. ...		AWARENESS WORKSHOPS Selection and appointment of a competent Service Provider approved by the Representative/Agent, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multi-media techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification	Sum				
1. ...		POSTERS, BOOKLETS, VIDEOS, ETC. Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the construction period, all in accordance with the HIV/AIDS Specification	Sum				
1. ...		ACCESS TO CONDOMS Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the construction period, all in accordance with the HIV/AIDS Specification	Sum				
1....		MONITORING Monitoring HIV/AIDS awareness of workers, providing the Representative/Agent with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the construction period and close out, all in accordance with the HIV/AIDS Specification	Sum				

SECTION

HIV/AIDS SPECIFICATION

HIV/AIDS REQUIREMENTS

1 SCOPE

This specification contains all requirements applicable to the Contractor for creating HIV/AIDS awareness amongst all of the Workers involved in this project for the duration of the construction period, through the following strategies:

- Raising awareness about HIV/AIDS through education and information on the nature of the disease, how it is transmitted, safe sexual behaviour, attitudes towards people affected and people living with HIV/AIDS, how to live a healthy lifestyle with HIV/AIDS, the importance of voluntary testing and counselling, the diagnosis and treatment of Sexually Transmitted Infections and the closest health Service Providers
- Informing Workers of their rights with regard to HIV/AIDS in the workplace
- Providing Workers with access to condoms and other awareness material that will enable them to make informed decisions about sexual practices

2 DEFINITIONS AND ABBREVIATIONS

2.1 Definitions

Service Provider: The natural or juristic person recognised and approved by the Department of Public Works as a specialist in conducting HIV/AIDS awareness programmes

Service Provider Workshop Plan: A plan outlining the content, process and schedule of the training and education workshops, presented by a Service Provider which has been approved by the Representative/Agent

Worker: Person in the employ of the Contractor or under the direction or supervision of the Contractor or any of his Sub-contractors, who is on site for a minimum period of 30 days in all

2.2 Abbreviations

HIV	:	Human Immunodeficiency Virus
AIDS	:	Acquired Immune Deficiency Syndrome
STI	:	Sexually Transmitted Infection

3 BASIC METHOD REQUIREMENT

The Contractor shall, through a Service Provider, conduct onsite workshops with the Workers

The Service Provider shall develop and compile a Service Provider Workshop Plan to be presented at the workshops and which will be best suited for this project to achieve the specified objectives with regard to HIV/AIDS awareness.

The Service Provider Workshop Plan shall be based on the following information provided by the Contractor:

- Number of Workers and Sub-contractors on site
- When new Workers or Sub-contractors will join the construction project
- Duration of Workers and Sub-contractors on site

- How the maximum number of Workers can be targeted with workshops
- How the Contractor prefers workshops to be scheduled, e.g. three hourly sessions per Worker, or one 2.5 hour workshop per Worker
- Profile of Workers, including educational level, age and gender (if available)
- Preferred time of day or month to conduct workshops
- A Gantt chart reflecting the construction programme, for scheduling of workshops
- Suitable venues for workshops

The Contractor shall submit the Service Provider Workshop Plan for approval within 21 days after the tender acceptance date. After approval by the Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training

The Service Provider Workshop Plan shall address, but will not be limited to the following:

- 3.1 The nature of the disease;
- 3.2 How it is transmitted;
- 3.3 Safe sexual behaviour;
- 3.4 Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- 3.5 Attitudes towards other people with HIV/AIDS;
- 3.6 Rights of the Worker in the workplace;
- 3.7 How the Awareness Champion will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively and confidentially;
- 3.8 How the Service Provider will support the Awareness Champion;
- 3.9 Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- 3.10 How the workshops will be presented, including frequency and duration;
- 3.11 How the workshops will fit in with the construction programme;
- 3.12 How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;
- 3.13 How the video will be used;
- 3.14 How the Service Provider will elicit maximum participation from the Workers;
- 3.15 A questions and answers slot (interactive session)

The Service Provider Workshop Plan shall encompass the Specific Learning Outcomes (SLO) as stipulated

4 HIV/ AIDS AWARENESS EDUCATION AND TRAINING

4.1 Workshops

The Contractor shall ensure that all Workers attend the workshops

The workshops shall adequately deal with all the aspects contained in the Service Provider Workshop Plan. A video of HIV/AIDS in the construction industry, which can be obtained from all Regional Offices of the Department of Public Works, is to be screened to Workers at workshops. In order to enhance the learning experience, groups of not exceeding 25 people shall attend the interactive sessions of the workshops

4.2 Recommended practice

4.2.1 Workshop Schedule

Presenting information contained in the Service Provider Workshop Plan can be divided in as many workshop sessions as deemed practicable by the Contractor, provided that all Workers are exposed to all aspects of the workshops as outlined in the Service Provider Workshop Plan

Breaking down the content of information to be presented to Workers into more than one workshop session however, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for Workers to reflect and test information. Workers will also have an opportunity to ask questions at a following session

4.2.2 Service Providers

A database of recommended Service Providers is available from all Regional Offices of the Department of Public Works

4.2.3 HIV/AIDS Specific Learning Outcomes and Assessment Criteria

Workers shall be exposed to workshops for a minimum duration of two-and-a-half hours. In order to set a minimum standard requirement, the following specific learning outcomes and assessment criteria shall be met

4.2.3.1 UNIT 1: The nature of HIV/AIDS

After studying and understanding this unit, the Worker will be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. The Worker will also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS

Assessment Criteria:

1. Define and describe HIV and AIDS
2. List and describe the progression of HIV/AIDS

4.2.3.2 UNIT 2: Transmission of the HI virus

After studying and understanding this unit, the Worker will be able to identify bodily fluids that carry the HI virus. The Worker will be able to recognise how HIV/AIDS is transmitted and how it is not transmitted

Assessment Criteria:

1. Record in what bodily fluids the HI virus can be found
2. Describe how HIV/AIDS can be transmitted
3. Demonstrate the ability to distinguish between how HIV/AIDS is transmitted and misconceptions around transmittance of HIV/AIDS

4.2.3.3 UNIT 3: HIV/AIDS preventative measures

After studying and understanding this unit, the Worker will comprehend how to act in a way that would minimise the risk of HIV/AIDS infection and to use measures to prevent the HI virus from entering the bloodstream

Assessment Criteria:

1. Report on how to minimise the risk of HIV/AIDS infection
2. Report on precautions that can be taken to prevent HIV/AIDS infection
3. Explain or demonstrate how to use a male and female condom
4. List the factors that could jeopardize the safety of condoms provided against HIV/AIDS transmission

4.2.3.4 UNIT 4: Voluntary HIV/AIDS counselling and testing

After studying and understanding this unit, the Worker will be able to recognise methods of testing for HIV/AIDS infection. The Worker will be able to understand the purpose of voluntary HIV/AIDS testing and pre- and post-test counselling

Assessment Criteria:

1. Describe methods of testing for HIV/AIDS infection
2. Report on why voluntary testing is important
3. Report on why pre- and post-test counselling is important

4.2.3.5 UNIT 5: Living with HIV/AIDS

After studying and understanding this unit, the Worker will be able to recognise the importance of caring for people living with HIV/AIDS and be able to manage HIV/AIDS

Assessment Criteria

1. List and describe ways to manage HIV/AIDS
2. Describe nutritional needs of people living with HIV/AIDS
3. Describe ways to embrace a healthy lifestyle as a person living with HIV/AIDS
4. Explain the need for counselling and support to people living with HIV/AIDS

4.2.3.6 UNIT 6: Treatment options for people with HIV/AIDS

After studying and understanding this unit, the Worker will be familiar with the various treatments available to HIV/AIDS infected or potentially HIV/AIDS infected people

Assessment Criteria

1. Discuss anti-retroviral therapy
2. List methods of treatment to prevent HIV/AIDS transmission from mother-to-child
3. Describe the need for treatment of opportunistic diseases for people living with HIV/AIDS
4. Describe post exposure prophylactics

4.2.3.7 UNIT 7: The rights and responsibilities of Workers in the workplace with regard to HIV/AIDS

After studying and understanding this unit, the Worker will be able to identify the rights and responsibilities of the Worker living with HIV/AIDS in the workplace. The Worker will recognise the importance of accepting colleagues living with HIV/AIDS and treating them in a non-discriminative way

Assessment Criteria:

1. Discuss the rights of a person living with HIV/AIDS in the workplace
2. Discuss the responsibilities of a person living with HIV/AIDS in the workplace
3. Report on why acceptance and non-discrimination of colleagues living with HIV/AIDS is important

4.3 Displaying of plastic laminated posters and distribution of information booklets

The Contractor shall obtain a set of four laminated posters conveying different key messages and information booklets, which are available from all Regional Offices of the Department of Public Works

The above-mentioned posters and information booklets have been prepared to raise awareness and to share information about HIV/AIDS and STI's

Posters or display stands shall be displayed on site as soon as possible, but not later than 14 days after the date of site handover

Posters shall be displayed in areas highly trafficked by Workers, including toilets, rest areas, the site office and compounds

The posters on display must always be intact, clear and readable

Information booklets must be distributed to all Workers as soon as possible, but not later than 14 days after site handover, or as soon as the Worker joins the site

5 PROVIDING WORKERS WITH ACCESS TO CONDOMS

The Contractor shall provide and maintain condom dispensers and make both male and female condoms, complying with the requirements of SABS ISO 4074, available at all times to all Workers at readily accessible points on site, for the duration of the contract. The Contractor may obtain condom dispensers from the Department of Health and condoms may be obtained from the Local Clinic or the Department of Health

At least one male and one female condom dispenser and a sufficient supply of condoms, all to the approval of the Representative/Agent, shall be made available on site within 14 days of site hand over. Contractors should note that arrangements to obtain condoms from the Department of Health Clinics prior to site hand over may be necessary, to ensure that condoms are available within 14 days of site handover

Condoms shall be made available in areas highly trafficked by Workers, including toilets, the site office and compounds

6 ENSURING ACCESS TO HIV/AIDS TESTING AND COUNSELLING FACILITIES AND TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS (STI)

The Contractor shall provide Workers with the names of the closest Service Providers that provide HIV/AIDS testing and counselling and Clinics providing Sexually Transmitted Infection (STI) diagnosis and treatment. Information on these Service Providers and Clinics must be displayed on a poster of a size not smaller than A1 in an area highly trafficked by Workers

7 APPOINTMENT OF AN HIV/AIDS AWARENESS CHAMPION

Within 14 days of site handover the Contractor shall appoint an Awareness Champion from amongst the Workers, who speaks, reads and writes English, who speaks and understands all the local languages spoken by the Workers and who shall be on site during all stages of the construction period. The Contractor shall ensure that the Awareness Champion has been trained by the Service Provider on basic HIV/AIDS information, the support services available and the necessary skills to handle questions regarding the HIV/AIDS programme in a sensitive and confidential manner

The Awareness Champion shall be responsible for:

- 7.1 Liaising with the Service Provider on organising awareness workshops;
- 7.2 Filling condom dispensers and monitoring condom distribution;
- 7.3 Handing out information booklets;
- 7.4 Placing and maintaining posters

8 MONITORING

The Contractor shall grant to the Representative/Agent reasonable access to the construction site, in order to establish that the Contractor complies with his obligations regarding HIV/AIDS awareness under this contract

The Contractor must report problems experienced in implementing the HIV/AIDS requirements to the Representative/Agent

The attached SITE CHECKLIST (SCHEDULE A) shall be completed and submitted at every construction progress inspection to the Representative/Agent

The attached SERVICE PROVIDER REPORT (SCHEDULE B) shall be completed and submitted on a monthly basis to the Department's Project Manager, through the Representative/Agent

The attached CONTRACTOR HIV/AIDS PROGRAMME REPORT (SCHEDULE C), a close out programme report, shall be completed by the Contractor at the end of the contract

SCHEDULE A

HIV/AIDS PROGRAMME : SITE CHECKLIST

When did construction commence _____

Name of Departmental Project Manager _____

Please refer to HIV/AIDS Programme activities during the reporting period

DATE		Tick the block if Contractor satisfactorily complied with specifications																							
		P1			P1			P1			P1			P1			P1								
		D	D	M	M	D	D	M	M	D	D	M	M	D	D	M	M	D	D	M	M	D	D	M	M
Programme implemented within 14 days of site handover																									
Awareness champion on site																									
HIV/AIDS awareness service provider report																									
Male condom dispenser																									
Sufficient male condoms available																									
Male condom dispenser in a highly trafficked area																									
Female condom dispenser																									
Sufficient female condoms available																									
Female condom dispenser in a highly trafficked area																									
All four types of posters displayed																									
Posters in a good condition																									
Posters in a highly trafficked area																									
Posters displayed on local support services: clinic & VCT centre																									
Support service poster/s in highly trafficked area																									
Support service poster/s in a good condition																									

Please indicate the applicable number for the reporting period								
Workers on payroll (at PI)								
Sub-Contractors who will be on site for longer than 30 days (at PI)								
Workshop attendees								
Number of workshops held								
Scheduled workshops according to approved workshop plan								
Booklets distributed								
Male condoms distributed								
Female condoms distributed								
Representative/Agent								
Contractor								

Date of progress inspection (dd/mm/yy) _____

Reporting period: (dd/mm/yy) _____ to (dd/mm/yy) _____

Deviations from HIV/AIDS awareness programme plan:

Corrective actions

Representative/Agent

Departmental Project Manager

Date

Date

SCHEDULE B**HIV/AIDS AWARENESS PROGRAMME: SERVICE PROVIDER REPORT**

Reporting period: (dd/mm/yy)_____ to (dd/mm/yy) _____

Number of workshops conducted in reporting period _____

Number of scheduled workshops according to approved workshop plan _____

Deviations from workshop plan:

State reasons for deviating from workshop plan:

Corrective actions:

Service Provider_____
Contractor_____
Date_____
Date

HIV/AIDS AWARENESS PROGRAMME : WORKSHOP CONTENT ADDRESSED

Fill in the applicable information with regard to each workshop conducted		W/S			W/S			W/S			W/S			W/S			W/S				
DATE		D	D	M	M	D	D	M	M	D	D	M	M	D	D	M	M	D	D	M	M
Content of workshop: (Mark the content included)																					
SLO1																					
SLO2																					
SLO3																					
SLO4																					
SLO5																					
SLO6																					
SLO7																					
HIV/AIDS in construction video																					
Indicate the duration of the workshop in hours																					
Total number of Workers																					
Indicate workshop venue																					

SCHEDULE C**CONTRACTOR HIV/AIDS PROGRAMME REPORT**

Project name _____

Project Location _____

Contract value of project (R) _____

Department of Public Works Project Manager _____

HIV/AIDS Programme duration: (dd/mm/yy) _____ to (dd/mm/yy) _____

AWARENESS MATERIAL

Describe location of posters displayed during the programme _____

Comments on posters _____

Indicate total number of booklets distributed _____

Comments on booklets _____

CONDOMS

Indicate total number of male condoms distributed _____

Indicate total number of female condoms distributed _____

Describe where male condom dispenser was placed _____

Describe where female condom dispenser was placed _____

HIV/AIDS WORKSHOPS

Indicate the total number of HIV/AIDS workshops conducted _____

Indicate the duration of workshops _____

Indicate the total number of Workers that participated in the HIV/AIDS workshops _____

Indicate the total number of Workers that were exposed to the video on HIV/AIDS in the Construction Industry _____

Comments on HIV/AIDS workshops on site _____

GENERAL

Briefly describe programme activities and satisfaction with outcome _____

Additional comments, suggestions or needs with regard to the HIV/AIDS awareness programmes on site

Yes	No	Currently developing one
-----	----	--------------------------------

Please indicate if your company has a formal HIV/AIDS policy focussing on HIV/AIDS awareness raising and care and support of HIV/AIDS Workers

Please indicate if, to your knowledge, you have lost any workers during the duration of the project to HIV/AIDS related sicknesses. One or more of the following might indicate an HIV/AIDS related death:

Excessive weight loss
Reactive TB
Hair loss
Severe tiredness

Coughing or chest pain
Pain when swallowing
Persistent fever
Diarrhoea

Vomiting
Meningitis
Memory loss
Pneumonia

Number of HIV/AIDS-related deaths _____

Contractor

Date

Departmental Project Manager

Date



DEPARTMENT OF PUBLIC WORKS

HIV/AIDS AWARENESS PROGRAMME

TRAINING MANUAL

OCTOBER 2004

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Background

HIV/AIDS in SA

The HIV/AIDS pandemic in South Africa is one of the fastest growing in the world and it constitutes one of the most formidable challenges to development and social progress.

At the end of 2002, 42 million people worldwide were living with HIV/AIDS. Around 70 % of these cases are living in Sub Saharan Africa (UNAIDS/WHO, AIDS Epidemic Update, 2002).

HIV/AIDS in construction

Research conducted by various construction industry stakeholders indicate that the construction industry has the third highest incidence rate of HIV/AIDS per sector in South Africa, with very little being done to address the problem in this particular sector.

The construction industry has a predominant migratory labour force, making it the prime contributor to the spread of HIV/AIDS. Labour camps are a breeding ground for the spread of HIV/AIDS and STIs, this being compounded by the lack of need for migrant workers to face any consequence to casual sexual relationships while on a contract.

Failure to address the situation will impact negatively on the South African economy especially in relation to:

- Increases in absenteeism
- Accidents
- Skills shortages of up to 35%
- Cost of retraining
- Decreased levels of productivity
- Demand for construction services and products, and
- Capability to effectively and efficiently manage the provision of infrastructure

The construction industry not only stands to be affected by the epidemic, but is also poised to be a high contributor to the spread of the virus, in the absence of a co-ordinated and effective intervention.

DPW has a responsibility...

There are currently no legal requirements that force businesses to implement programmes focused on minimising the impact of HIV/AIDS on its workforce. As leaders of the construction industry, the Department of Public Works is required to lead by example and to champion and promote best practices that would enhance growth and development of the industry. Guiding their efforts is the need to ensure that policy positions of the Department of Public Works is consistent with the challenges facing the construction industry

DPW's response to the HIV/AIDS epidemic

In response to the threat of HIV/AIDS to the construction industry – to protect and support the industry's workforce – the Department of Public Works has developed a strategy to address the effects of the disease on the industry. As part of the Strategy, the Department will enforce the implementation of HIV/AIDS programmes in the construction work it commissions.

On project level, the practical implementation of the HIV/AIDS Strategy entails an HIV/AIDS awareness programme that has been developed to be implemented in all Bill of Quantities contracts with a contract period of more than six (6) months.

For the Department of Public Works to lead the construction industry in the fight against the epidemic within its spheres of influence, managers operating at both policy and technical levels need to be aware in a personal and professional way of the disease, its impacts and the Department's approach in combating it.

The HIV/AIDS Strategy for the construction industry

The overall goal of the strategy is to improve health and safety in the construction industry. This can be achieved by:

- Ensuring that HIV/AIDS infection rates in the industry are reduced, and
- The impact of the disease is successfully and pro-actively managed.

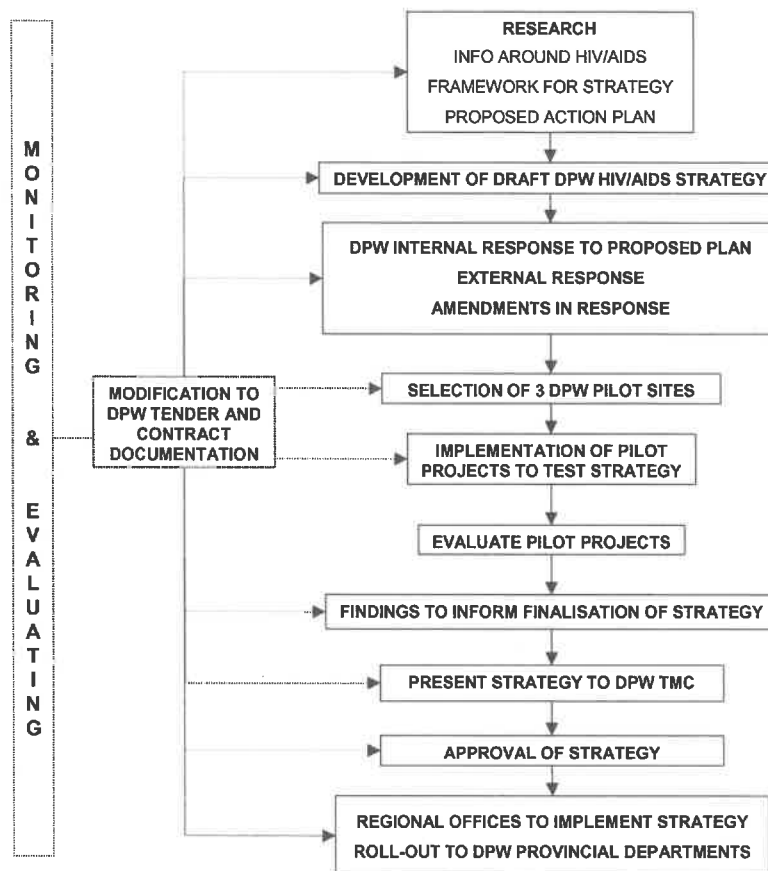
With the Strategy, the Department specifically aims to

- Reduce the rate of new HIV infections in the industry
- Ensure appropriate management of construction workers affected and infected by HIV/AIDS
- Facilitate access to Voluntary Counselling and Testing (VCT)
- Facilitate access to Sexually Transmitted Infection (STI) treatment
- Capacitate the industry with the necessary knowledge on treatment, self care and wellness as HIV infected
- Reduce the stigma and discrimination attached to construction workers suffering from HIV/AIDS
- Encourage safe working environments on construction sites
- Position the industry to respond to the risks of direct and indirect costs incurred as a result of the disease
- Aim to reduce HIV/AIDS infection in the communities in which the industry works
- Monitor, evaluate and review the Strategy continuously to ensure relevancy and effectiveness

Strategy development process

Best practice in addressing HIV/AIDS in the construction industry was thoroughly researched and investigated as the strategy was developed. A consultative process was followed in this regard.

A graphic representation of the strategy development process



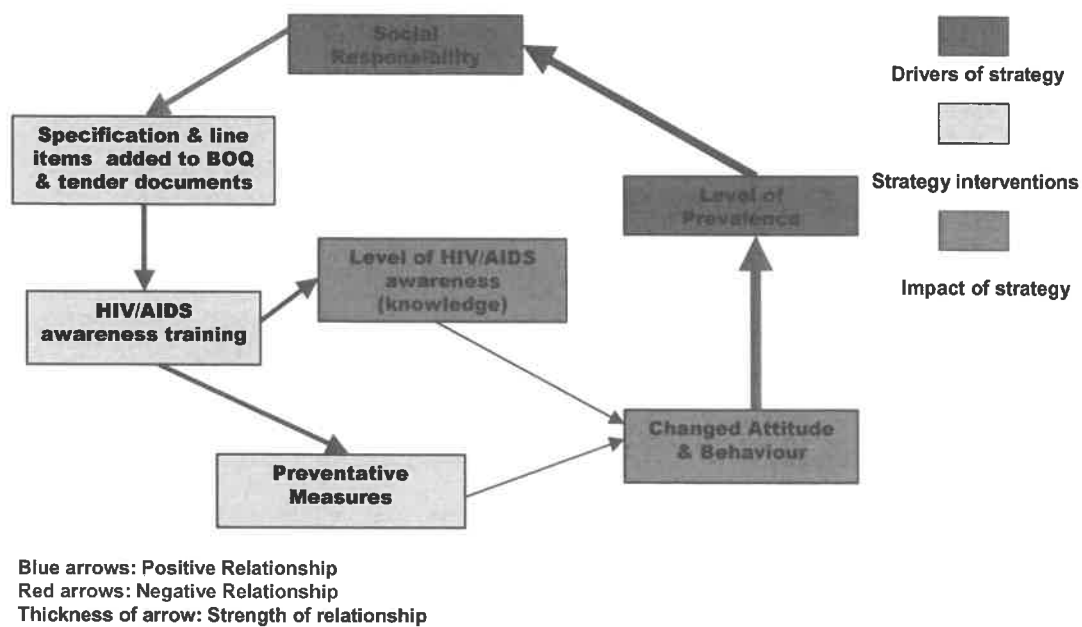
Three Public Works projects were selected in conjunction with the Development Operations directorate and the Provincial Department of Public Works offices, to inform the Strategy. The purpose of the pilot projects was to test the Strategy and to ensure that the Strategy is consistent with the challenges facing the construction industry. Pilot projects also informed modification to the tender and contract documentation.

The three projects that were selected were:

- The construction of the Nelson Mandela Museum in Qunu, Eastern Cape Province, commissioned by the National Department of Public Works
- The construction of a social services office in Gugulethu, Western Cape Province, commissioned by the Western Cape Department of Public Works
- A labour intensive road maintenance project in the Bochum area, Limpopo Province, commissioned by the Northern Province Road Agency. The project had four contractors that each worked on a part of the road.

Strategy model

Based on the findings from the three pilot projects in which the Strategy were implemented, a model was developed in which the relationships between the different elements of the Strategy were investigated. The model confirmed the validity of the Strategy. The dynamics of the Department's HIV/AIDS Strategy are illustrated in the figure below. It is important to strengthen the weak relationships in the strategy to ensure successful implementation of the Strategy.



As custodian of the industry, the Department has a *social responsibility* towards the industry to address the current and future impact of HIV/AIDS. This responsibility together with the belief that the industry is faced with *increased HIV prevalence* numbers amongst its workforce, urged the Department to implement a Strategy in response.

Interventions were designed *to raise awareness levels* on HIV/AIDS and to equip the industry with the necessary knowledge to *change attitudes and behaviour*¹ that fuel the spread of the disease. Strategy interventions in the model are outlined as:

- The *Department* enforcing HIV/AIDS programme implementation on projects of size
- *Training and awareness training* on construction sites
- Implementation of HIV/AIDS *programmes* on site e.g. condom distribution

Principles of the HIV/AIDS Awareness Programme

Awareness workshops with workers

Contractors will have to provide awareness workshops to all of the workers that will be on site for 30 days or longer.

- The content of workshops should comply with a list of Specific Learning Outcomes (SLOs) that focus on HIV/AIDS
- Workers should be exposed to workshops for a minimum of two-and-a-half hours

¹ AB in diagram: attitude and behaviour

- Sessions should be interactive and not more than 25 people should attend a session
- A video of HIV/AIDS in the construction industry, obtained from the Department of Public Works is to be screened to construction workers at workshops.

Awareness materials and condoms

Awareness material should be obtained from the National Department of Public Works.

Awareness posters



- Four awareness posters were developed for the programme containing key HIV/AIDS messages.
- The information on the closest VCT facility and the closest clinic should be displayed on a poster on site.
- Posters should be displayed in highly trafficked areas on site.
- An HIV/AIDS information booklet was developed for the programme and should be distributed to all workers on site.
- Both male and female condoms should be readily available on site and kept in condom dispensers.

Pictures of the information booklet (left) and one of the awareness posters

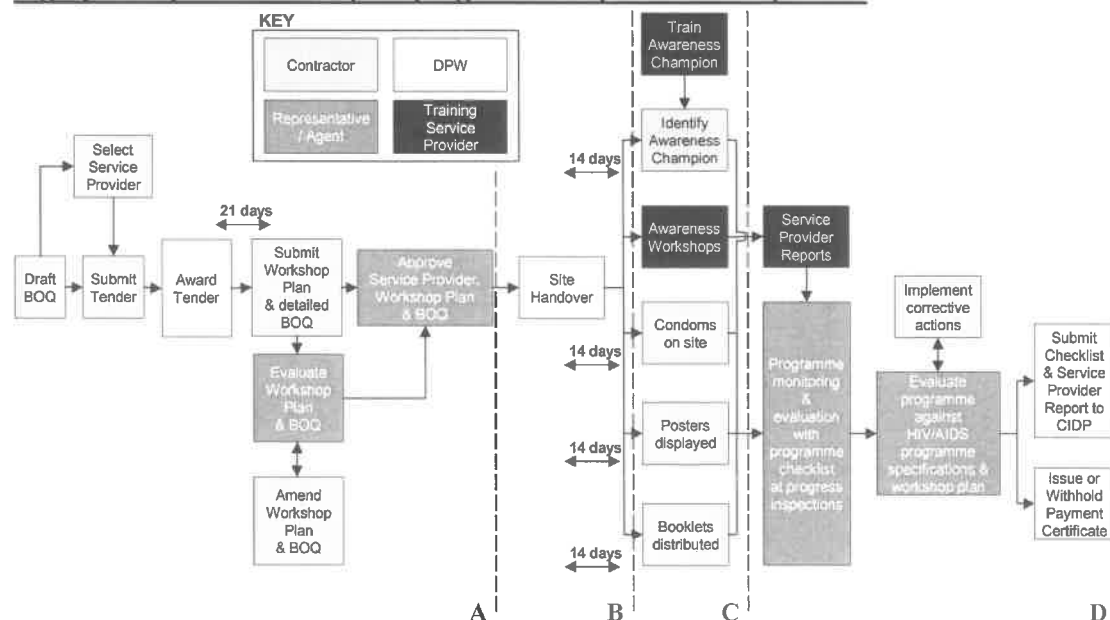


Responsibility

All Department of Public Works Bill of Quantities contracts exceeding a value of R2 million will be required to implement the HIV/AIDS awareness programme on site. Contractors will submit tenders for the applicable construction projects, including the implementation of the HIV/AIDS awareness programme on site in the tender price. The tender should be submitted to the Department, complying with the normal tender requirements. The Department's Tender Committee will award the tender based on the Department's specified adjudication criteria.

The contractor would thus have the ultimate responsibility to draft the bill of quantities for the HIV/AIDS awareness programme and to select a service provider that would conduct the awareness workshops on site. The Department's representative or agent would evaluate the submitted bill of quantities and workshop plan as prepared by the training service provider. The representative or agent's primary responsibility is however to monitor and evaluate the HIV/AIDS Awareness Programme on site.

A graphic representation of the programme implementation process



The following elements constitute the different aspects of programme implementation as indicated on the diagram

- Procurement procedure
- Preparation for implementation
- On-site programme implementation
- Monitoring and evaluation

Procurement procedures

Workshop plan

After the tender has been awarded the contractor must submit to the Department its detailed bill of quantities and a workshop plan, prepared by the training service provider. The plan will outline how workshop requirements will be met. It will also present the credentials of the service provider, the content of workshops, how it will be conducted and scheduled, and the support that will be provided by the service provider in programme implementation. The Department's representative or agent will use the Service Provider's Workshop Plan to monitor programme implementation. Only after the workshop plan has been submitted, will the training service provider be approved.

CHECKLIST :The workshop plan should contain information on...

- ✓ The different knowledge areas to be addressed in training
- ✓ How the awareness champion (a worker identified on site, that will be responsible for practical arrangements in programme implementation) will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively
- ✓ How the service provider will support the awareness champion
- ✓ Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems. A complete list of VCT facilities could be obtained from the Department of Health or the CIDP
- ✓ How the workshops will be presented, including frequency and duration
- ✓ How the workshops will fit in with the construction programme (scheduling of workshops)
- ✓ How the service provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly
- ✓ How the video will be used
- ✓ How the service provider will elicit maximum participation from the workers
- ✓ A questions and answers slot (interactive session) in training.

The Department's representative or agent should make sure that the workshop plan corresponds with the minimum requirement as outlined in the contract documentation. The most important is that all workers that are on site for a minimum total period of 30 days, should be exposed to at least 2,5 hours of HIV/AIDS training in groups of not more than 25 workers.

CHECKLIST: Scheduling workshops

- ✓ Number of workers and subcontractors on site
- ✓ When will new workers or subcontractors join the construction project?
- ✓ For how long will workers and subcontractors be staying on site?
- ✓ How can a maximum number of workers be targeted with workshops?
- ✓ How the contractor prefer workshops to be scheduled, e.g. three hourly sessions per worker, or one 2.5 hour workshop per worker

- ✓ Profile of the workers, including educational level, age and gender (if available) to assist the service provider in preparing workshops
- ✓ Preferred time of day or time of the month to conduct workshops
- ✓ A Gantt chart representing the construction programme could be valuable in scheduling workshops
- ✓ Where will workshops be conducted? A suitable venue should
 - ✓ be close to site (or on site)
 - ✓ have sufficient seating
 - ✓ have low noise levels
 - ✓ have electricity to screen the video
 - ✓ be well ventilated
 - ✓ be such that workers are not distracted from training (preferably inside a building)

Communication between the contractor and the service provider is of the utmost importance to ensure that implementation plans are continually aligned to the construction programme.

Breaking down the content of information to be presented to workers into more than one workshop session, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for workers to reflect and test information. Workers will also have an opportunity to ask questions at a next session.

Identifying and approving a training service provider

To ensure quality of training, it is preferable for a contractor to use a SAQA accredited training service provider in the HIV/AIDS field. A list of Construction SETA or Health and Welfare SETA (HWSETA) approved service providers could be obtained from the CIDP or on the Health and Welfare SETA website: www.hwseta.org.za.

A contractor might not be able to find an accredited or provisionally accredited training service provider to conduct training on site. If a contractor can *prove* that the service provider that it identified is a specialist in HIV training and it uses experienced trainers, such a service provider can be approved to conduct on-site workshops.

CHECKLIST: Approving a HIV/AIDS service provider

- ✓ Request proof of the service provider's relevant experience in HIV/AIDS training
- ✓ Obtain facilitators' CVs and make sure they have experience in HIV/AIDS training
- ✓ Experience or accreditation in offering training related to HIV/AIDS in the workplace is the ideal background to conduct training on site
- ✓ If unsure about the credibility of the service provider – contact the Health and Welfare SETA at Tel (011) 622 66852 or get guidance from the Construction CETA at Tel (011) 265 5900

Support services

For reference purposes it is important to have information on support services handy.

Support service	Who should know	Where to get	Contact Number
Training service providers	Contractor Department's agents Regional offices	Health & Welfare SETA Construction SETA CIDP AIDS Consortium	011- 622 66852 011- 265 5900 012-337 2322 011-403 0265
Awareness materials	Contractor Regional offices	CIDP	012-337 2322
Condom dispensers	Contractor	Department of Health	012-312 0000
Condoms	Contractor Awareness Champion	Department of Health CIDP	012-312 0000 012-337 2322
Local clinics	Contractor Awareness Champion Service Provider	Local Community Department of Health	012-312 0000
Closest VCT facility	Contractor Awareness Champion Service Provider	Department of Health	012-312 0000

Quantifying the cost of the programme

When evaluating the bill of quantities, the following should be kept in mind:

- Time should be allowed for the selection, appointment and education of the awareness champion. Four hours is a reasonable amount of time to be spent on training the awareness champion
- In pricing the awareness workshops, if no additional services are rendered, the service provider can allow for the following reasonable expenses / costs:
 - * Appointing the service provider
 - * Renting a suitable training venue
 - * Time lost due to training (about 3 hours per worker)
 - * Service provider's time cost @ about R350 / hour. Total training time could be calculated by: (Total number of workers / 25)*3. Also allow for scheduling difficulties
 - * Service provider's travelling time and cost
 - * Provision of video machine at training
- Prices for provision of awareness materials are fixed and could be ordered from the CIDP, Department of Public Works. In its price, contractors could allow for time and cost of ordering materials

Awareness material	Units	Cost / Unit
Posters	4	R 53.65
Information booklet	Total number of workers	R 13.00
Awareness video	1	R 25.00

- Contractors must ensure that there are both male and female condoms on site for the duration of the project. Condoms and dispensers have fixed prices but the time to get condoms and fill up condoms could differ

Material	Units	Cost / Unit
Condom dispenser	2	R xxxxx
Male condoms	Number of male workers*10 / month	Free
Female condoms	Number of female workers*5 / month	R 8.00

- Contractors should also allow time for monitoring and the HIV/AIDS awareness programme. Time will be spent on completing reports and giving information to the professional team

The following variables were found to impact on the price of the programme:

- The number of workers
- The workers' hourly rate due to the standing time as a result of training
- How often workshops are scheduled to ensure 100% attendance – it might be necessary to conduct a number of workshops to train workers that will only be on site for a short period of time
- Proximity of a suitable service provider – travelling time and cost to remote areas might be a substantial cost of the programme
- Number of female workers on site (it would determine the number of female condoms distributed) – female condoms are produced in the United Kingdom and are expensive due to the relatively high cost of the material from which it is made
- Infrastructure support – in remote rural areas it might be expensive to get to site and provide electricity / power to screen the video and find a suitable venue
- Proximity/availability of condom distribution centres.

The cost of implementing the HIV/AIDS programme at the pilot projects were between 0.12% and 0.8% of the total project cost and was influenced by factors outlined above.

Approval of the service provider, the detailed bill of quantities, and the workshop plan

It is the responsibility of the Department's representative or agent to thoroughly study the contractor's documentation and to guide the contractor regarding implementation of the programme. All monitoring and evaluation will be done, against the proposed process outlined in the workshop plan.

CASE STUDY – WESTERN CAPE PILOT PROJECT

Western Cape Provincial Department of Public Works commissioned the building of a R3.3 million social services office in Gugulethu, City of Cape Town. An emerging contractor from the Western Cape was commissioned to construct the building. For the duration of the HIV/AIDS awareness campaign on site, an average of between 30 and 40 construction workers were working on the project at any given time. The area around the site was well serviced by support services pertaining to HIV/AIDS. Opposite the site, a community centre provided a suitable venue for the HIV/AIDS training workshops and situated next to the construction site, a community clinic offered VCT and STI treatment. The City of Cape Town's HIV/AIDS unit was selected as the awareness training service provider. Training was conducted at four training sessions that lasted between one and two hours each. The pilot projects were monitored for a four months period.

The contractor selected an awareness champion that was responsible for the HIV/AIDS activities on site. The awareness champion was a young male Technicon student, doing his practical year at the construction site.

Apart from addressing how workshops will be facilitated and the content of the workshops, the City of Cape Town also offered the following services:

- Utilising persons living with AIDS (PWA) to share their experiences and motivate attendees at workshops
- Provision of male and female condoms to the site
- Provision of two condom dispensers
- Provision of additional educational materials pertaining to HIV/AIDS, TB and STIs, to be distributed at workshops.

Two peer educators from Gugulethu that were trained by the City of Cape Town conducted the HIV/AIDS training workshops in Xhosa. These trainers were chosen due to their ability to present workshops in Xhosa, their cultural knowledge of the predominant young, male, and Xhosa speaking workforce, and their social and community involvement in Gugulethu.

Workshop scheduling

Dates	# of Workers	Presentation Topics
8 th May 2003	35 Old	Revision Voluntary Counselling and Testing and Resources Positive living & Healthy lifestyle with HIV/AIDS Opportunistic Diseases like TB Acceptance and Non-Discrimination Rights of workers in the workplace Person living with HIV/AIDS Questions.
5 th June 2003	10 New (Internal Plasterers) 2 New (Joiners & Ironmongery)	What is HIV and AIDS Transmission Stages of HIV/AIDS Prevention Condom Demonstration Sexually Transmitted Infections Person living with HIV/AIDS Rights of workers in the workplace Questions
3 rd July 2003	16 New (Painters)	What is HIV and AIDS Transmission Stages of HIV/AIDS Prevention Condom Demonstration Sexually Transmitted Infections Person living with HIV/AIDS Rights of workers in the workplace

10th July 2003	25 Old (Snag & Cleaning group)	Questions Revision Voluntary Counselling and Testing and Resources Positive living & Healthy lifestyle with HIV/AIDS Opportunistic Diseases like TB Acceptance and Non-Discrimination Person living with HIV/AIDS Rights of workers in the workplace Questions
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Basic cost of the project

Training (4 workshops)	R 1,200.00	
		TOTAL CONTRACT VALUE = R 3,300,000.00
Booklets	R 896.88	
Awareness champion	FREE	
		HIV/AIDS=0.12% OF TOTAL CONTRACT VALUE
Video	R 24.61	
Posters	R 129.92	
Condom dispensers	R 390.00	
CONDOMS (200 female)	R 1,224.00	
Monitoring	FREE	
Tools down	FREE	
APPROXIMATE TOTAL COST	R 3,865.41	

Preparation for on-site implementation

The awareness champion

From amongst the workers, the contractor must appoint an Awareness Champion to manage the implementation process on site. The person will be responsible for

- Liaising with the service provider on organising awareness workshops
- Filling condom dispensers and monitoring condom distribution
- Handing out information booklets
- Placing and maintaining posters.

CHECKLIST: Identification of an awareness champion

- ✓ The person must be literate and able to speak, read and write in English
- ✓ Fluent in the local language spoken by the majority of contract workers
- ✓ Need to be highly motivated since they perform a difficult task
- ✓ Be mature enough to handle sensitive and confidential issues
- ✓ Have good communication skills

- ✓ Have the ability and confidence to interact with the contractor
- ✓ Preferably be a role model or leadership figure amongst his/her peers
- ✓ Has to work on the construction site for the duration of the project.

Training of the awareness champion

To offer the necessary support to the champion, the training service provider should provide to the awareness champion, prior to the implementation of the HIV/AIDS awareness programme on site, training on:

- Basic HIV/AIDS information addressing the specific learning outcomes outlined in the specifications document
- How to store condoms and ensure its safety
- Information on the closest clinic and VCT facility
- How to handle questions from workers sensitively
- How to refer workers to the relevant support services
- The nature of the support offered by the service provider.

A four hour training session to the awareness champion should be adequate in equipping him / her with the necessary knowledge and skills.

Obtaining awareness materials, condoms and condom dispensers

All awareness materials (posters, information booklets and the awareness video) could be obtained from the CIDP, Department of Public Works. And condoms could be obtained from the Department of Health and Female condoms. Contractors should be advised that materials should be ordered well in advance to ensure that the programme is implemented on time.

Programme implementation

Workshops

All workers that are employed for a total period of 30 days or more should be exposed to the awareness workshops on site.

That means that the subcontractor that will work 2 days per month on site on a 2 year contract needs to be informed that he / she must attend the awareness workshops. The Department's representative or agent must ensure that such people are exposed to all the aspects to be covered in the workshop.

The following should be covered in the awareness workshops:

The nature of HIV/AIDS. After finishing this module of training, workers should be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. They should also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS.

Transmission of the HI virus. After this module workers should be able to identify bodily fluids that carry the HI virus. They should also be able to recognise how HIV is transmitted and how it is not transmitted.

HIV preventative measures. After training on this aspect workers should be able to comprehend how to act in a way that would minimise the risk of HIV infection and to use measures to prevent the HI virus to enter the blood stream.

Voluntary HIV/AIDS counselling and testing. After finishing this module, workers should be able to recognise methods of testing for HIV infection. They should be able to understand the purpose of voluntary HIV testing and pre- and post-test counselling.

Living with HIV/AIDS. After the workshops, workers should be able to recognise the importance of caring for the HIV infected and be able to manage HIV/AIDS.

Treatment options for people with HIV/AIDS. After this module, workers should be familiar with the various treatments available to HIV infected or potentially HIV infected people.

The rights and responsibilities of workers in the workplace with regards to HIV/AIDS. After training on this module, workers should be able to identify the rights and responsibilities of the HIV infected worker in the workplace. They should be able to recognise the importance of accepting HIV infected colleagues and treating them in a non-discriminative way.

Display and distribution of awareness materials and condoms

Posters, including the 4 posters with the key messages and the poster on the closest VCT facility should be displayed within 14 days of site handover. It should be displayed in areas highly trafficked by workers, including toilets, rest areas, the site office and compounds. The Department's representative or agent should ensure that the posters on display should always be intact, clear and readable. Both male and female condoms should be available on site within 14 days of site handover and for the duration of the project.

CHECKLIST: Awareness materials and condoms

- ✓ Make sure the expiry dates of condoms are regularly checked
- ✓ The awareness champion should know how many condoms were sourced and take stock on a monthly basis to determine how many were distributed
- ✓ Condoms should be appropriately stored e.g. it should not be stored or displayed in direct sun
- ✓ Encourage the awareness champion to use the information booklet as reference
- ✓ Booklets should be distributed when a worker joins the site to ensure that everybody receives a copy.

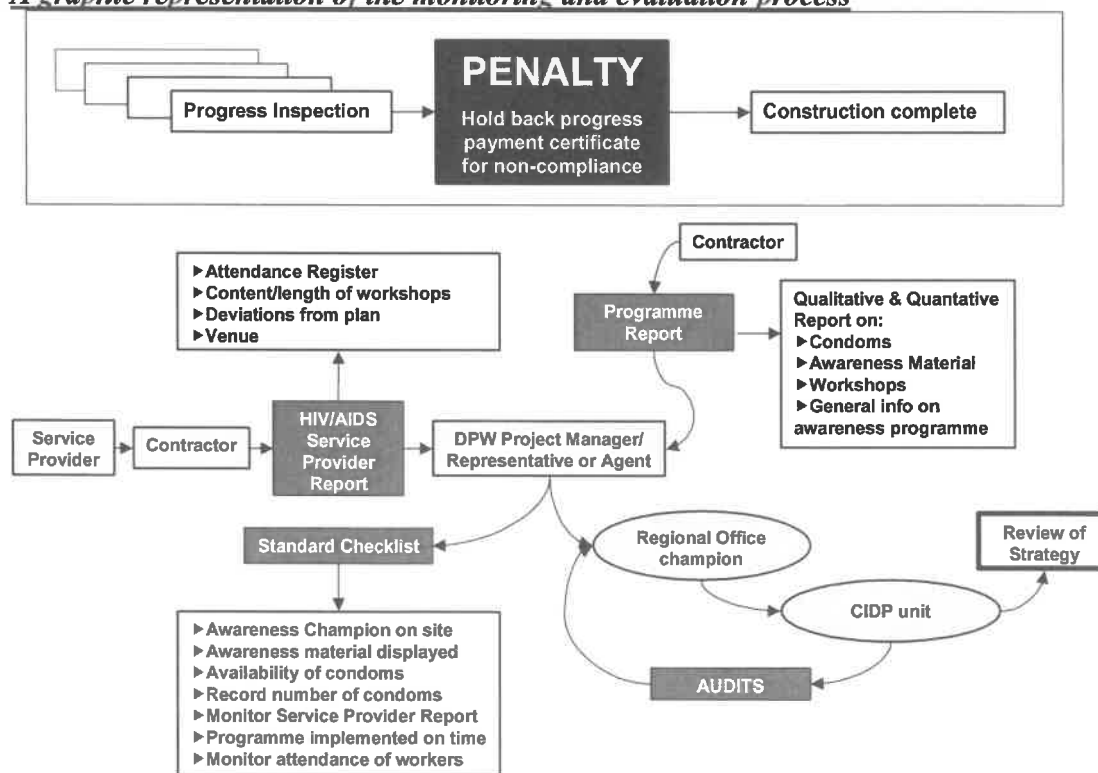
Some ideas for effective programme implementation

- Screen the video as part of the workshop and use it to stimulate discussion around different issues
- Use the posters in workshop to explain relevant topics
- Although the minimum requirements to contractors stipulate 2,5 hours' exposure to HIV/AIDS education, it is recommended that enough time is allowed for workshops to ensure workers understand all the difficult concepts

- It might not always be possible to locate a covered workshop venue close to the construction site. Contractors should however ensure that the venue is conducive to the learning experience
- Adequate support services (VCT, clinics) in close proximity to the site area can't be ensured. Contractors should try to make alternative arrangements when necessary. These could include measures like providing transport to support services far removed from the site, or lobbying for support services
- Where possible, service providers could include a talk by a PWA in their workshop plan to reduce the stigma and discrimination attached to these people.

Monitoring and evaluation on site

A graphic representation of the monitoring and evaluation process



The Department's representative or agent, during each progress inspection, will verify conformance to the HIV/AIDS awareness programme specifications and the contractor's workshop plan. Standardised forms have been developed using simplified measures to check programme implementation on a continuous basis. With these monitoring forms, activities on site can be tracked from one progress inspection to the next, and then compared to the submitted workshop plan for compliance.

Service Provider Report

Compliance to workshop specifications will be monitored with the submission of a standard Service Provider Report at progress inspection. Information will be verified at the progress inspection. The report will include:

- An attendance register according to the workshops that have been conducted. The Department's representative or agent will compare attendance to the contractor's payroll
- Content and length of each workshop
- The venue at which workshops were conducted
- Deviations from workshop plans as submitted at the start of the project.

Checklist

A standard Checklist has been developed to be completed by the representative or agent at the progress inspection by observing site activities and verifying information with the contractor. The Checklist will:

- Ensure that an awareness champion has been identified and is on site
- Ensure that awareness materials are displayed and distributed according to specifications
- Monitor the availability of condoms and ensure that it is distributed according to specifications
- Record the number of condoms distributed between progress inspections for monitoring purposes
- Track actual implementation of workshops against the workshop plan,
- Note deviations from the programme plans.

Programme Report

With completion of the project, the contractor will submit a Programme Report, summarising programme activities and providing qualitative feedback on programme implementation.

Non-compliance

The contractor's payment certificate should only be issued if the contractor satisfactorily complied with HIV/AIDS programme specifications. In the event of partial or total non-compliance, issuing a progress payment certificate should be withheld until the contractor provides satisfactory proof of compliance.

Monitoring and evaluation of the Strategy

The Strategy will be monitored and evaluated to ensure effectiveness and efficiency of implementation. Baseline indicators will be determined according to programme objectives, against which the Strategy's success will be measured.

The Checklist, the Service Provider Report, and the Contractor Programme Report will be used by the CIDP to monitor and evaluate the HIV/AIDS Strategy in the industry. Regional offices will send a quarterly report to the CIDP based on these completed forms. Challenges and successes of the programme should be outlined in the report.

From time to time, the Department could commission an audit on a sample of the contracts to ensure adherence to the actions stipulated in workshop plans and requirements outlined in the HIV/AIDS specifications. This could be executed by CIDP or an external agency.

Attachments

- Include the HIV specifications as it will be included in the tender documentation
- Attach the Monitoring and Evaluation tools to the document
- Attach Western Cape's complete workshop plan

PART C4: SITE INFORMATION

PG-03.2 (EC) SITE INFORMATION – JBCC 2000 PRINCIPAL BUILDING AGREEMENT (EDITION 6.2 OF MAY 2018)

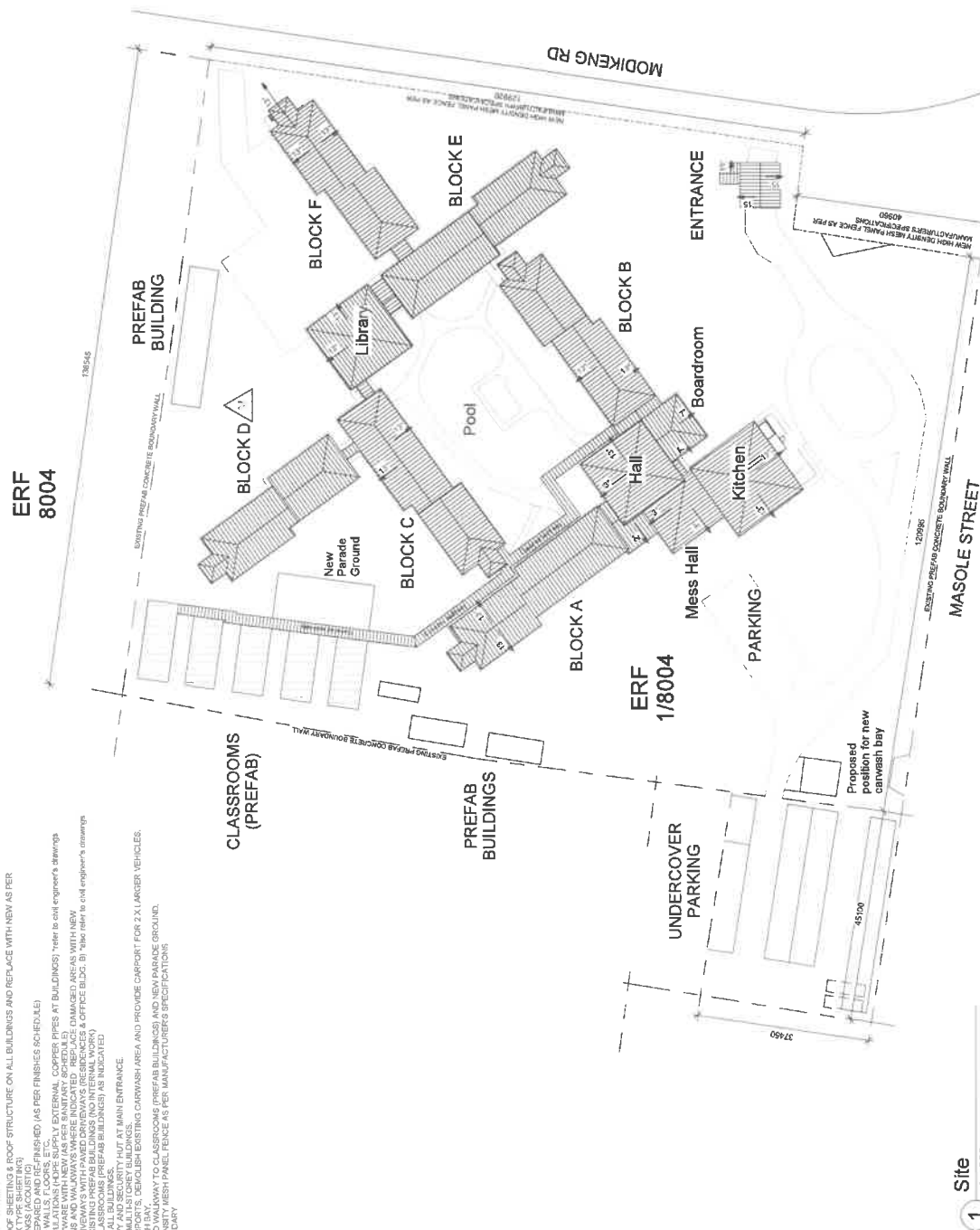
Project title:	INSTALLATION AND CONNECTION TO A BACKUP GENERATOR, PROVISION OF EMERGENCY WATER STORAGE, FIRE ESCAPES AND COMPLETE REPAIR OF ROOF STRUCTURE				
Tender no:	BL25/015	WCS no:		Reference no:	14/2/1/4/12/6835/1

C4 Site Information

1. The site is situated at the Police Training college, located in Welkom: Thabong, Modikeng Road as per attached google photo.
2. The site consists of various single and double-storey office blocks and residential units for training purposes.
3. Other buildings on the property is a kitchen, library, swimming pool, carports and paving as well as a guard house.
4. In general the work consists of replacement of the boundary wall, roofs complete of all the buildings and renovations to all. A watertank will also be added as well as work to existing fire reticulation, water reticulation, electrical reticulation and mechanical work. Staircases on piles will be added at the end of each double-storey building.
5. Easy access to the site is available and once the contractor is appointed, a demarcated area will be pointed out by the Principal Agent for site establishment.
6. The premises will be partially occupied during construction, and program of the work will be discussed with the user client

DRAWINGS

- SCOPE OF WORK - GENERAL ITEMS:**
- REMOVE EXISTING ROOF SHEETING & ROOF STRUCTURE ON ALL BUILDINGS AND REPLACE WITH NEW AS PER DETAIL (ENCLOSED) (ATT. 1) PER SHEET (K).
- NEW BUILT-UP ROOFING (AS PER FINISHES SCHEDULE)
- INCLUDING REPAIRS TO WALLS & FLOORS, ETC.
- REPLACE WATER TREATING TANKS (HIDE SUPPLY) EXTERNAL. COPPER PIPES AT BUILDINGS) refer to civil engineer's drawings
- NEW CONCRETE APRONS AND WALLWAYS WHERE INDICATED. REPLACE DAMAGED WALLS WITH NEW
- REPLACE DAMAGED DRIVEWAYS WITH NEW DRIVEWAYS (REFER TO CIVIL ENGINEER'S OFFICE FILE. B) *also refer to civil engineer's drawings
- NEW DRIVEWAYS WITH NEW WALLS AND DRIVEWAYS (REFER TO CIVIL ENGINEER'S OFFICE FILE. B)
- NEW PAVED AREA AT CLASSROOMS (PREPAB BUILDINGS) AS INDICATED
- NEW PREPAB BUILDINGS
- NEW PREPAB SCHOOL YARD AND SECURITY HUT AT MAIN ENTRANCE
- NEW WINDOWS AT ALL MAIN STORE BUILDINGS
- NEW DRIVEWAY HUT. DEMOLISH EXISTING CARWASH AREA AND PROVIDE CARPORT FOR 2 X LARGER VEHICLES.
- PROVIDE NEW CARWASH HUT.
- PROVIDE NEW CARPORT TO CLASSROOMS (PREPAB BUILDINGS) AND NEW PARADE GROUND.
- NEW DRIVEWAY HUT. NEW PAVED AREA AT MAIN ENTRANCE
- NEW DRIVEWAY HUT. NEW PAVED AREA AT MAIN ENTRANCE
- AT EASTERN SITE BUILDINGS



Site
1 : 500

[illegible]

No.	Description	Date

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Department:
Public Works
REPUBLIC OF SOUTH AFRICA

Approved: _____ Date: _____

Welkom - Thabong - SAPS
Academy R&R

Site

Project number	2255
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Date	6/06/2019
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Drawn by LF/JD

Approved by _____ DATE: _____
L Fourie SACAP # 4852

Scale 1 : 500