





## 6.9 Annexure J - Occupational Health and Safety Specifications


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#### DOCUMENT CHANGE HISTORY

REVISION NUMBER & DATE	AUTHOR	CHANGE DESCRIPTION
e.g. Rev 00  6 February 2012	J.Benjamin	New document
Rev 01  7 February 2015	D. Makalima	Construction regulation update – CR14
Rev 03  19 May 2020	S. Mahlase	Document Management Procedure Update – Rev05  Inclusion of COVID-19 (C19 OHS) 2020


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## 1. Purpose

The purpose of this document is to outline CSIR compliance requirements in line with Occupational Health and Safety Act (OHSA 85 of 1993) and Construction Regulation (CR of 2014)) when contractors are undertaking maintenance and construction activities.

## 2. Scope

The specification covers activities relating to maintenance and construction work at CSIR sites.


## 3. Applicability

This specification is applicable to areas where CSIR is using contractors to undertake construction and maintenance work or projects.

## 4. References

This document is to be read and understood in conjunction with the following, inter-alia:

- Occupational Health and Safety Act 85 of 1993 (OHS Act).
- All regulations published in terms of the OHS Act.
- Construction Regulations, 2014
- SABS codes referred to by the OHS Act.
- Contract Documents
- Basic Conditions of Employment Act (Act 75 of 1997)

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- COVID-16 Occupational Health and Safety Measures in Workplaces; COVID -19(C19OHS), 2020.
- Compensation for Occupational Injuries and Diseases (COIDA) Act no. 130 of 1993.

## 5. Responsibility and authority


Only contractors who have their files approved and issued with permit to work by the approved CSIR representative can undertake that particular work in the area indicated on the permit and within the prescribed days. It remains the decision of the project planning office in discussion with the affected parties to decide when such work activity will take place.

## 6. Acronyms and definitions:

### 6.1 Acronyms

Abbreviation	Explanation
AIA	Approved Inspection Authority
CEO	Chief Executive Officer
CHSO	Construction Health and Safety Officer
CR	Construction Regulation
COVID 19	Corona virus of 2019
CSIR	Council for Scientific and Industrial Research
DEL	Department of Employment and Labour
HCS	Hazardous Chemical Substances




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Abbreviation	Explanation
HBA	Hazardous Biological Agents
HSS	Health and Safety Specifications
HSP	Health and Safety Plan
HSF	Health and Safety File
MSDS	Material Safety Data Sheet
OEL	Occupational Exposure Limit
OHS	Occupational Health and Safety
PPE	Personal protective equipment
SARS	Severe Acute Respiratory Syndrome
SHE	Safety Health and Environment

## 6.2 Definitions


Keyword/ Term	Definition
Chief Executive Officer	In relation to a body corporate or an enterprise conducted by the State, means the person who is responsible for the overall management and control of the business of such body corporate or enterprise.
Danger	Means anything that may cause injury or damage to persons or property.
Employee	Means, subject to the provisions of Subsection (2), any person who is employed by or works for any employer

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<b>Keyword/ Term</b>	<b>Definition</b>
	and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person.
Employer	Means, subject to the provisions of Subsection (2), any person who employs or provides work for any person or remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in Section 1(1) of the Labour Relations Act, 1953 (Act No. 28 of 1956).
Healthy	Means free from illness or injury attributable to occupational causes.
Machinery	Means any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy to performing work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, confining, transforming, transmitting, transferring or controlling any form of energy.
Medical Surveillance	Means a planned programme of periodic examination (which may include clinical examinations, biological monitoring or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner.
Plant	Includes fixtures, fittings, implements, equipment, tools and appliances, and anything, which is used for any

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Keyword/ Term	Definition
	purpose in connection with such plant.
Properly Used	Means used with reasonable care, and with due regard to any information, instruction or advice supplied by the designer, manufacturer, importer, seller or supplier.
User	In relation to plant or machinery, means the person who uses plant or machinery for his own benefit or who has the right of control over the use of plant or machinery, but does not include a lessor of, or any person employed in connection with, the plant or machinery.
Reasonably Practicable	<ul style="list-style-type: none"> <li>a. the severity and scope of the hazard or risk concerned,</li> <li>b. The state of knowledge reasonably available concerning that hazard or risk and of any means to remove or mitigate that hazard or risk.</li> <li>c. the availability and suitability of means to remove or mitigate that hazard or risk; and</li> <li>d. d) The cost of removing or mitigating that hazard or risk in relation to the benefits deriving there from.</li> </ul>
Risk	Means the probability that injury or damage will occur.
Safe	Means free from any hazard.
Standard	<p>Means any provision occurring:</p> <ul style="list-style-type: none"> <li>• in a specification, compulsory specification, code of practice or standard method as defined in Section 1 of the Standards Act, 1993 (Act No. 29 of 1993); OR</li> </ul>

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Keyword/ Term	Definition
	in any specification, code or any other directive having standardization as its aim and issued by an institution or organization inside or outside the Republic which, whether generally or with respect to any particular article or matter and whether internationally or in any particular country or territory, seeks to promote standardization.
Agent	Means any competent person who acts as a representative for a client.
Competent Person	Means any person having the knowledge, training, experience and qualifications specific to the work or task being performed:  Provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995), these qualifications and training shall be deemed to be the required qualifications and training.
Construction Work	Means any work in connection with:  the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering

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<b>Keyword/ Term</b>	<b>Definition</b>
	<p>structure; or the moving of earth, clearing of land, the making of an excavation, piling or any similar civil engineering structure or type of work.</p> <p>Construction work permit means a document issued in terms of regulation 3.</p>
Contractor	Means an employer who performs construction work.
Hazard Identification	Means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed.
Health and Safety File	Means a file, or other record containing the information required in these regulations.
Health and Safety Plan	Means a site, activity or project specific documented plan in accordance with the client's health and safety specification.
Health and Safety Specification	Means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work.
Method Statement	Means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment.
Principal Contractor	Means an employer appointed by the client to perform construction work.

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Keyword/ Term	Definition
Risk Assessment	Means a program to determine any risk associated with any hazard or aspect at a construction site, in order to identify the steps to be taken to remove, reduce or control such hazard.

## 8. Procedure/ Process

### 8.1 Application of the Construction Regulations – CR 2014.

Where intended construction work falls within the scope of “construction work” as defined in the Construction Regulations, 2014 (CR) made under the Occupational Health and Safety Act 1993, as amended (“OHS Act”), the contractor or principal contractor must adhere to the following procedure as detailed in the construction regulation.


#### 8.1.1 Application of Work Permit

Where the construction work;

- (i) Exceeds 180 days;
- (ii) Involves more than 1800 person days of construction work; or
- (iii) The works contract is equal to or exceeds R13 Million or Construction Industry Development Board grading level 6

CSIR as the client, must at least 30 days prior to construction work; apply to the Department of Employment and Labour (DEL) for a construction work permit in the form of CR Annexure 1.

#### 8.1.2 Notification of Construction Work


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- The principal Contractor shall notify the local relevant Provincial Director of the DEL, before commencing with construction work, of the intended work in the form of Annexure 2 of the Construction Regulations.
- A copy of the completed Annexure 2 of the Construction Regulations, as well as proof of notification shall be included in the Health and Safety Plan. (Proof of fax or proof of hand delivery)
- A copy of the completed Annexure 2 is to be kept on site by the Principal Contractor.

## 9. Legal Documentation / Appointments

The following documents must be provided in the Health and Safety Plan (HSP):

- Health and Safety Policy signed by CEO or statement of commitment to Safety, Health and the Environment (SHE).
- Valid Letter of good standing with the Compensation Commissioner, Federated Employers or similar insurer.
- SHE Organogram (or table), outlining the SHE Team, as well as the appointment(s) they have under the Act and Regulations (reference to specific section/regulation applicable to appointment).
- The competency of each member of the SHE Team must be provided and should include knowledge, training, experience & qualifications specific to the appointment.
- **Valid Fitness to Work certificates for staff that will be working on-site**

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**Signed copies of the following legal appointments must be provided in the HSP:**

APPOINTMENT	OHS-ACT / REGULATION REFERENCE
Section 16.2 appointment	Section 16.2
HSE Representative (if necessary)	Section 17(1)
Incident Investigator	GAR 9(2)
First Aiders	GSR 3(4)
Fire Fighters	ER 9 & CR 29
Risk Assessor	HCS Reg (Incl. Asbestos & Lead); CR 9

The following information must be provided in the HSP:


- Indicate the estimated number of employees to be working on site.
- Indicate the expected number of sub-contractors to be appointed by the Principal Contractor.

The below competent persons, **where applicable**, shall be appointed in writing by the Principal Contractor, prior to any work being carried out, and shall adhere to the requirements of the specific sub-regulations.


**The competency of each of these appointed competent persons must be provided and should include knowledge, training, experience & qualifications specific to the appointment.**

The table below indicates the applicability of the appointments but contractors should by no means be limited to these indications.



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APPOINTMENT	OHS-ACT / REGULATION REFERENCE
Construction Manager	CR 8 (1)
Assistant Construction Manager	CR 8 (2)
Construction H&S Officer where applicable	CR 8 (5)
Construction Supervisor	CR 8 (7)
Construction Assistant Supervisor	CR 8(8)
Risk assessor	CR 9(1)
Fall Protection Competent Person	CR 10 (1)
Temporary works competent person	CR12 (2)
Excavation Work Supervisor	CR 13 (1)(a)
Demolition Work Competent Person	CR 14 (1)
Competent Person (Use of Explosives for Demolition Work)	CR14(11)
Scaffolding Erector/ Team Leader/ Inspector	CR 16 (1)
Suspended platform Competent Person	CR 17(1)
Rope Access Work Competent Person	CR 18 (1) (a)
Material Hoist Competent Person	CR 19(8)(a)
Bulk Mixing Plant Competent Person	CR 20 (1)
Explosive Powered Tools Competent Person	CR 21(2)(b)
Construction Vehicle and Mobile Plant Competent Person	CR23 (1)(d)
Electrical Machinery Competent Person	CR 24 (c)
Stacking and Storage Supervisor	CR 28 (a)

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Fire Equipment Inspector	CR 29(h)
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- **Indicate in the HSP, which of these listed appointments are applicable to the construction work in question.**
- No work involving any of the listed appointments may be performed without the knowledge and approval of an appointed competent person.


## 10. Environment, Health and Safety

### 10.1 General Duties of Principal Contractor

- The principal contractor will be responsible for co-operation between all contractors to ensure compliance to the OHS –Act and Regulations on site.
- To ensure the above, the Principal Contractor must carry out the following and provide proof of such in his HSP:
- Proof that Contractors HSP has been approved, implemented and maintained.
- Proof that Contractors are registered with the Compensation Commissioner or similar insurer.
- A comprehensive & updated list of all contractors on site, also indicating the type of work being done

### 10.2 Designer General Duties

- The designer of a structure must comply with CR 6 and in particular ensure that cognizance is taken of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of the structure such as maintenance and cleaning after completion and

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commissioning of the structure.


### 10.3 Potential Sources of Risk

The following potential sources of risk to the health and safety of persons on site have been identified, as per the risk assessment which accompanies this health and safety specification, and must, as a minimum, be appropriately addressed by the Principal Contactor's HSP.

In addition, the Principal Contractor must perform its own risk assessments to enable it to take precautions to protect the health and safety of persons on site, to comply with the Principal Contractor's obligations under the Act and all Regulations made there under, including the Construction Regulations.

All such precautionary measures and procedures must be included in the Principal Contactor's HSP, which must be submitted to the Client for review and approval and where applicable should include:

- Noise
- Potential presence of asbestos that forms part of the structure (cement fibre)
- Dust
- Working at height (fall protection)
- Drilling ( Breaking of walls )
- Formwork and support work
- Scaffolding
- Construction vehicles and mobile equipment
- Electrical installations and electrical machinery
- Housekeeping
- Stacking and storage practices

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- Fire risks and fire precautions
- Use of jackhammers
- Hot work (steel cutting and welding)
- Portable electrical tools
- Intoxicated persons on site
- Use of ladders
- Impact of construction work upon occupants of buildings not evacuated for the duration of the work
- Compliance with COVID-19 regulations at Workplace


The risk assessment to be included in the HSP must clearly indicate:

- The methodology used to do the risk assessments.
- Breakdown of processes and activities covered.
- Subsequent hazards identified
- Risk calculations (considering consequence, frequency and likelihood)

All risk assessments are to be conducted by a competent person as appointed under paragraph 9 of this document. The plan must include a declaration in this regard or the risk assessment must contain the signature(s) of this appointed persons.

Risk assessments are to cover safety as well as health hazards and shall include environmental aspects and impacts.

The contractor must be provided with available information about site services and their location, e.g. underground services by the CSIR Project Manager. The CSIR Project manager must further provide any information about ground conditions and underground structures or water courses, such as culverts, where this might affect the safe use of plants such as cranes or the safety of groundwork e.g. in the

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construction of trenches.


## 11. Safe Work Procedures

The safe work procedures must address the following elements:

- The work method to be followed to conduct work safely
- Control measures implemented to mitigation & reduce the risks
- Responsibilities of competent persons
- Required personal protective equipment
- Correct equipment/tools/machinery to be used
- Completed Risk Registers
- Completed Risk Assessments

The following Safe Work Procedures are to form part of the HSP and **must be compiled for all the above-identified activities**, and that is:

- Removals / demolitions
- Floor repairs and construction
- External walling
- Internal Divisions
- Internal Wall finishing's
- Ceilings
- Electrical Installations
- Fire Services
- Air-conditioning
- Waste management
- Working at Heights

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## 12. Environmental

### 12.1 Pollution

Any impacts on the environment must be minimized, environmental pollution prevented, efficient use of natural resources and conserving biodiversity during the duration of the contract

### 12.2 Resource Use

Consideration must also be taken for the following;


- Waste minimization
- Energy and water efficiency
- Prevention of water and soil contamination
- Managing air emissions

## 13. Safety of Pedestrians


- Access to the construction site must be cordoned off as much as possible in all work areas.
- All excavations are to be fenced / barricaded to prevent access by public / pedestrians.
- Work must be planned in such a manner as to ensure that the minimum amount of trenches are left open after hours or during weekends.
- No trenches in which water has accumulated may be left open.

## 14. Risk registers

- Examples of the registers listed below must be provided in the HSP.
- All registers must be available at the site offices at all times for inspection.
- The list of registers to be kept is by no means exhaustive and the HSP should list all the registers that are applicable and at what frequency they are going to be maintained.

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ACTIVITY	FREQUENCY	FORMAT
Form work / Support work	Daily, prior to any shift	
Screening for Covid 19	daily	
Hand washing and sanitising	(depends on RA)	
Excavation work	Daily, prior to any shift, after rain or blasting or after unexpected fall of ground	
Scaffolding	Daily, prior to any shift, after Rain or blasting.	
Material hoist	Daily	
Construction vehicles and mobile plant	Daily	
Temporary electrical installation	Weekly	
Stacking	Weekly	
Ablution facilities	Weekly	
Ladders	Weekly	
Incident register in terms of GAR 9	As Required	Annexure 1 WCL 2
Fall protection equipment	Daily	
Portable electrical tools	Weekly	
Suspended platforms	Daily	
Accommodation of traffic	Daily	
Firefighting equipment	Weekly	
Hand tools	Weekly	
Visitor induction	Daily	
Proof of medical surveillance for every construction worker has been done	Annually	Annexure 3 of CR

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## 15. TRAINING

**Each HSP shall indicate the following regarding training:**

- A copy of the content to be used for Induction training.
- Attendance registers must be included as proof of training provided for:
  - Induction training
  - Safe work procedure training
  - Risk assessment outcome training
- Method of informing visitors and other persons entering the site of hazards prevalent on site.
- Method of providing personal protective equipment to visitors and non-employees.
- Methodology to be used in the issuing and communication of written instructions/safe work procedures.
- Interventions to prevent spread of Covid-19 among employees and to the public.

## 16. Monitoring - Health and Safety Audits


- Health and safety audits will be conducted by the client at intervals mutually agreed between the client and principle contractor but at least monthly. All Health and Safety instructions will be given via the Safety Office in writing within 7 days of audits.
- The Principal Contractor shall be required to sign the instruction to acknowledge any instructions issued and rectify the deviations.

## 17. General Requirements

### 17.1 Personal Protective Equipment

The procedures for issuing and control over PPE shall be indicated in the HSP, as well as the enforcement for the wearing thereof



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**17.2 Hired Plant**

The responsibility for the safe condition and use of all hired plant shall be that of the contractor.

**17.3 Transport for employees**

Transport of employees shall be carried out in terms of the National Road ordinances. The HSP shall detail the arrangements and methods of the transportation of workers.

**17.4 Signs**


The Principal Contractor shall indicate in his HSP the arrangements regarding the posting of danger signs.

**17.5 Certificates of Fitness**

The Principal Contractor and the subcontractors shall include in their Health and Safety files valid copies of all the worker's medical certificates of fitness signed off by an Occupational Health Medical Practitioner.

**17.6 Site Visitors**

- A site visitor's register is to be kept on site and steps are to be taken to ensure that all visitors sign the visitors' register before entering the site.
- An induction must be given to all visitors entering the site and proof thereof must be kept in the health and safety file.
- Visitor's PPE must be made available and at the cost of the contractor.
- A sign should also be provided directing all visitors to report to the site office.

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### 17.7 **Housekeeping**

- CR 27 and CR 28 shall be complied with regarding sustained provision of good housekeeping, stacking and storage practices.
- Chutes shall be used for waste and debris removal from high places.
- The site shall be suitably cordoned off and access controlled.
- Catch platforms or nets shall be used where necessary.


### 17.8 **Welfare Facilities**

- The Contractor will ensure that adequate ablution and changing facilities are made available to the workers.
- The Contractor will also provide appropriate hygienic eating facilities for the workers.


## 18. **Hazardous Chemical Substances**

In addition to the requirements in the Regulations for HCS, the principal contractor must provide proof in the HSP that:

- Material Safety Data Sheets (MSDS's) of the relevant materials/hazardous chemical substances are available prior to use by the contractor. Mention should be made how the principal contractor is going to act according to special/unique requirements made in the relevant MSDS's. All MSDS's shall be available for inspection by the client at all times.
- Risk assessments must be done for this construction project.

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- Exposure monitoring where required shall be undertaken by an Approved Inspection Authority (AIA) and that the medical surveillance programme is based on the outcomes of the exposure monitoring.
- How records are going to be kept safe for the stipulated period of 30 years.
- How the relevant HCS's are being/going to be controlled by referring to:
  - Limiting the amount of HCS
  - Limiting the number of employees
  - Limiting the period of exposure
  - Substituting the HCS
  - Using engineering controls
  - Using appropriate written work procedures
- The correct PPE is being used.
- HCS are stored and transported according to SABS 072 and 0228.
- Training with regards to these regulations was given.
- The H&SP should make reference to the disposal of hazardous waste on classified sites and the location thereof (where applicable).

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## 19. Asbestos

Given the age of our buildings within the CSIR, it is assumed that asbestos may well form part of the structure of our buildings. Where refurbishment is going to occur, it must be established through sampling whether asbestos forms part of the structure or not before proceeding with any building work. If asbestos is present, the following must be included in the HSP:

- Notification to the Provincial Director in writing, prior to commencement of asbestos work.
- Proof of a structured medical surveillance programme, drawn up by an occupational medicine practitioner.
- Proof that an occupational health practitioner carried out an initial health evaluation within 14 days after commencement of work.
- Copies of the results of all assessments, exposure monitoring and the written inventory of the location of the asbestos at the workplace.
- Only proof that medical surveillance has been conducted and not the actual medical records as these are of a confidential nature.
- How records are going to be kept safe for the stipulated period of 40 years.
- Proof that asbestos demolition (if applicable) is going to be done by a registered asbestos contractor and provide proof that a plan of work for such demolition is submitted to an Approved Asbestos Inspection Authority 30 days prior to commencement of the demolition.
- Provide proof that the plan of work was approved by the asbestos AIA and submitted to the provincial director 14 days prior to commencement of demolition work together with the approved standardised procedures for demolition work.

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## 20. Noise Induced Hearing Loss


Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included/ referred to in the HSP:

- Proof of training with regards to these regulations.
- Risk assessment done within 1 month of commencement of work.
- That monitoring carried out by an AIA and done according to SANS 083.
- Medical surveillance programme established and maintained for the necessary employees.
- Control of noise by referring to:
  - Engineering methods considered
  - Admin control (number of employees exposed) considered
  - Personal protective equipment considered/decided

## 21. Lighting

Where poor or lack of illumination is identified as a hazard the lighting regulations must be complied with and the following must be included in the HSP:

- How lighting will be ensured/ provided where daylight is not sufficient and /or after hours are worked.
- Planned maintenance programme for replacing luminaries.
- Proof of illumination levels of artificial illumination equipment

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## 22. Fall Protection Plan

In addition to the requirements of this regulation the following shall apply:

- The fall protection plan for all roof work is to be prepared by a competent person. This competent person must sign the fall protection plan.
- Contents of the fall protection plan must cover all the requirements as stated in the sub-regulation.
- The level of supervision is to be stated in the fall protection plan.
- Medical certificates, work near edges, presence of dew, dangerous walking areas etc. should be addressed in the fall protection plan. Inclement weather conditions must be provided for in the fall protection plan.

## 23. Health and Safety Philosophy


The client is required to ensure a working environment which, as far as reasonably practicable, is safe and without risk to the health persons on the site.

### 23.1 Contractor health and safety management system

- The Principal Contractor will ensure and demonstrate to the Client that he, and all contractors to be appointed on this construction project, has adequately allowed for the cost of health and safety measures which may be required during the construction work

### 23.2 Client's Health and Safety Department

- The Clients Safety Department will visit the site regularly to monitor and audit the execution of the contractor's HSPs on behalf of the Client, without thereby limiting the contractor's own responsibility for health and safety, or attracting any

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vicarious responsibility or liability for the contractor's acts or omissions

### **23.3 Occupational Health and Safety Act Section 37(2) agreements**

- The Principal Contractor as well as all contractors must sign the Client's Section 37(2) agreement before commencement of their particular work


### **23.4 Contractor Health and Safety Plans**

Each contractor and sub-contractor working on the site must prepare a HSP to address and manage all applicable sources of risk as per items under Section 11 of this specification as well as any other sources of risk which are identified during the contractor's own risk assessment.

The Principal Contractor shall incorporate these into a single HSP for the execution of the entire contract works. Should any further risks be identified in the course of the construction work, such risks must be assessed and addressed in amended HSP, which must then be submitted to the Client for approval.

#### **23.4.1 The HSP must also address the following matters:**

- Procedures for compliance with all requirements of the OHS Act and in particular Sections 8 and 9 of the Act.
- Undertaking and procedure to stop any work which endangers the safety or health of any person.
- Systems for recording and reporting of incidents both internal and external to the DEL.
- Copy of the Act and its Regulations to be kept on the site and to be readily available to employees.
- Incident registers to be kept on the site.


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- Employment and appointment of any people who are competent and have the necessary knowledge, training, qualifications and experience to perform the required construction work safely and effectively.
- Procedures and arrangements for first aid facilities on the site.
- Procedures and arrangements for prompt reporting of injuries and other losses/incidents.
- Emergency plans to deal effectively with potential site emergencies.
- Use of effective processes for the identification and close out of root causes of incidents and accidents.
- Attendance by all contractors of monthly site health and safety meetings.
- Demonstration by all contractors of their health and safety monitoring and auditing system to ensure compliance with their HSP, as part of their HSP.
- If construction work is going to be undertaken while the building is still occupied, methods of limiting the impact upon occupants with noise, dust and other nuisance factors.
- Occupational Health and Safety Protocol.

#### **24. Occupational Health and Safety Measures in Workplaces – COVID-19 (C19 OHS), 2020**

The Department of Employment and Labour appealed to employers to use the prescriptions of the OHS Act in particular the Regulations for Hazardous Biological Agents governing workplaces in relation to Coronavirus Disease 2019 caused by the SARS-CoV-2 virus.




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#### 24.1 Administrative Measures - Health and safety measures

Every Employer must establish the following administrative measures in line with COVID-19 exposures:

- It must undertake a risk assessment to give effect to the minimum measures required by the COVID-19 H &S at Workplace directive, taking into account the specific circumstances of the workplace.
- Employer must submit a record of its risk assessment together with a written policy concerning the protection of the health and safety of its employees from COVID-19 as contemplated in section 7(1) of OHSA to
  - Its health and safety committee established in terms of section 19 of OHSA; and
  - The Department of Employment and Labour.
  - **and copy to the client as proof of having complied with the requirements.**
- Minimize the number of workers on at the workplace at any given time through rotation, staggered working hours, shift systems, remote working arrangements or similar measures in order to achieve social distancing
- It must take measures to minimize contact between workers as well as between workers and members of the public
- If a worker has been diagnosed with COVID-19, an employer must
  - Inform the Department of Health and the Department of Employment and Labour; and
  - Investigate the cause including any control failure and review its risk assessment to ensure that the necessary controls and PPE requirements are in place; and
  - It must give administrative support to any contact-tracing measures implemented by the Department of Health.

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## 24.2 Social Distancing

Every employer must arrange the workplace to ensure minimal contact between workers and as far as practicable ensure that there is a minimum of **one and a half metres** between workers while they are working, for example, at their workstations.


Depending on the circumstances of the workplace or the nature of the sector, the minimum distance may need to be longer.

If it is not practicable to arrange workstations to be spaced at least one and a half metres apart, the employer must **arrange physical barriers** to be placed between workstations or erected on workstations to form a solid physical barrier between workers while they are working.

## 24.3 Symptom screening

Every employer must take measures to

- screen any worker, at the time that they report for work,
- require every worker to report whether they suffer from any of the following additional symptoms: body aches, loss of smell or loss of taste, nausea, vomiting, diarrhoea, fatigue, weakness or tiredness
- require workers to immediately inform the employer if they experience any of the symptoms associated with those of COVID-19.
- if a worker presents with those symptoms, or advises the employer of these symptoms, the employer must –
  - Not permit the worker to enter the workplace or report for work;
  - If the worker is already at work

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- immediately
- isolate the worker, provide the worker with a FFP1 surgical mask and arrange for the worker to be transported in a manner that does not place other workers or members of the public at risk.

#### 24.4 Sanitizers, disinfectants and other measures


Every employer must, free of charge, ensure that –

- there are sufficient quantities of hand sanitizer (70% alcohol) based on the number of workers or other persons who access the **workplace at the entrance of**, and in, the workplace which the workers or other persons are required to use;
- Every employee who works away from the workplace, other than at home, must be provided with an adequate supply of hand sanitizer.

#### 24.5 Cleaning (Ablution Facilities, kitchen and Common Areas)

Employer must ensure that

- all work surfaces and equipment are disinfected before work begins, regularly during the working period and after work ends
- all areas such as toilets, common areas, door handles, shared electronic equipment are regularly cleaned and disinfected;

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- there are adequate facilities for the washing of hands with soap and clean water;
- only paper towels are provided to dry hands after washing – **the use of fabric towelling is prohibited;**
- the workers are required to wash their hands and sanitize their hands regularly while at work;
- the workers interacting with the public are instructed to sanitize their hands between each interaction with public;
- surfaces that workers and members of the public come into contact with are routinely cleaned and disinfected.

#### 24.6 **Personal protective Equipment**

For the reasons underlying the Department of Health's requirement, every employer must:

- provide each of its employees, free of charge, with a minimum of two cloth masks, for the employee to wear while at work and while commuting to and from work
- require any other worker to wear masks in the workplace
- .Every employer must ensure that workers are informed, instructed, trained and instructed as to the correct use of cloth masks

**NB: The general requirement for workers to wear masks does not derogate from the fact that, where a risk assessment indicates that PPE is required, those categories of workers must be provided with the accredited PPE in accordance with Department of Health guidelines.**

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#### 24.7 Worker obligations

In addition to the obligations of employees under the OHSA, every worker is obliged to comply with measures introduced by their employer as required by the COVID-19 Directive.

#### 24.8 Statutory Inspections

Employer must assign, in writing, an employee or any other suitable competent person, as the compliance officer, who must ensure compliance with the measures in accordance to the Department of Employment and Labour COVID-19 Directive.


### 25. General

- Nothing contained in or omitted from this Health and Safety Specification, or the HSP based on this specification, shall relieve the Principal Contractor of any of its obligations or liabilities.
- The client shall not be liable for any civil claim because of anything contained in or omitted from this Health and Safety Specification.

### 26. Records and Data Management

List all records that will be generated when following the procedure or process using the table below:


<b>Name of Record</b>	<b>Storage Location</b>	<b>Responsible Person</b>	<b>Minimum Storage Period</b>
Risk Assessments	H&SF	Contractor	50 years
H & S Policy	H&SF	Contractor	As long as is valid

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<b>Name of Record</b>	<b>Storage Location</b>	<b>Responsible Person</b>	<b>Minimum Storage Period</b>
37.2 Principal Agreement	SRCO Office (SHEQ)	SRCO	Indefinitely

**NB: Upon completion of the construction work, a principal contractor must hand over to the Safety Department, a health and safety file including a record of all drawings, designs, materials used and other similar information concerning the completed structure, in accordance to Construction Regulations 7(1) (e).**

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**Minimum requirements – SHE File in accordance to Construction Regulations 2014 of Occupational Health and Safety Act and Regulations 85 of 1993.**

Item	Regulation	Yes	No	N/A
1	<p><b>Proof of notification of construction work to the Department of Employment and Labour, 7 days before commencement of the work.</b></p> <p>- Must have a stamp from the Department of Employment and Labour local office.</p>			
2	<p><b>Safety, Health and Environmental Plan</b></p> <p>- To cover the scope of works i.e. renovations - demolition work, plastering, painting etc.</p>			
3	<p><b>Waste Management Plan</b></p> <p>- to cover safe handling, proper storage and provide proof of safe disposal i.e. types of waste to be generated, storage of waste, safe disposal certificate to be issued to a client, as per NEMWA 59 of 2008.</p>			
4	<p><b>Site specific SHE risk assessment (to include environmental aspects and impacts)</b></p> <p>- Clearly indicate all the activities on construction site i.e. site establishment, scaffolding use, bricklaying, plastering, paintwork, use of portable electrical tools etc.</p> <p>- To have a proof of signatures of the team performing the SHE risk assessment, the workers to sign off, include the date, and review date.</p> <p>- <b>COVID-19 Risk Assessment in terms of Department of Employment and Labour COVID-19 Directive.</b></p> <p>- <b>Workplace Plan in accordance to COVID-19 + COVID-19 Daily screening register of personnel.</b></p>			
5	<p><b>Legal Appointment letters;</b></p> <p>- Construction Manager/Supervisor, Scaffolding Supervisor etc.</p> <p>- A Fall Protection Planner/ Excavation Supervisor etc</p> <p>- Full time/part time competent health and safety officer.</p> <p>- <b>COVID-19 Compliance Manager/Officer.</b></p>			
6	<p><b>Incident recording, reporting and investigation procedure</b></p> <p>- blank forms - WCL 2 and Annexure 1</p>			
7	<p><b>Fall Protection Plan</b></p>			



	<ul style="list-style-type: none"> <li>- to cover the scope of work and appoint a fall protection plan developer, as per CR 10(1)(a).</li> <li>- a copy of a competency certificate of a fall protection plan developer must be included.</li> </ul>			
8	<p><b>Medical certificates of fitness</b></p> <ul style="list-style-type: none"> <li>- All the workers shall have valid medical certificates of fitness issued by a registered Occupational Health Nursing Practitioner.</li> </ul>			
9	<b>SHE structure/organogram</b>			
10	<b>Proof of induction training</b>			
11	<b>A valid “letter of good standing” from Compensation Fund or any other private insurer</b>			
12	<p><b>Competency certificates;</b></p> <ul style="list-style-type: none"> <li>(i) Qualified artisans such as bricklayers, air conditioners, electricians, plumbers etc.</li> <li>(ii) Construction manager, Site Supervisor, Safety Officer etc.</li> <li>(iii) Scaffolding inspector/erector/team leader</li> <li>(iv) Health and safety representative (20 workers and more – on site)</li> <li>(v) First Aider and a provision of a first aid box on site</li> <li>(vi) Other (please specify).....</li> </ul>			
13	<p><b>List of registers;</b></p> <ul style="list-style-type: none"> <li>(i) Tool box talks</li> <li>(ii) PPE issuing</li> <li>(iii) Scaffolding checklist</li> <li>(iv) Ladder checklist</li> <li>(v) Portable electrical tools</li> <li>(vi) General attendance register</li> <li>(vii) Attendance register for visitors</li> <li>(viii) Construction vehicles and mobile plants</li> <li>(ix) Hand tools</li> <li>(x) Monthly SHE rep reports</li> <li>(xi) Minutes of the safety committee meetings</li> <li>(xii) SHE audit reports</li> <li>(xiii) Other (please specify).....</li> </ul>			
13	<b>All employees must be in proof of SHE induction training conducted by CSIR safety department before commencement of the work. (duration +/- 15min)</b>			

14	<p><b>APPROVAL OF A SAFETY FILE;</b></p> <ul style="list-style-type: none"> <li>- <b>A Contractor shall receive a letter of appointment from the Client as per Construction Regulations 5(1)(k)</b></li> </ul> <p><b>and</b></p> <ul style="list-style-type: none"> <li>- <b>Sign off a 37(2) Mandatory agreement before commencement of the work. (Every page shall have a signature or initials).</b></li> </ul> <p><b>NB</b> <b>No work shall commence without a SHE file approval.</b></p>			



## 6.10 Annexure K - Environmental Management Plan



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	<b>Publication Date:</b> September 2021

## Document approval

<b>Compiled by</b>	Manager: SHE P Naidoo	Signature	Date
<b>Reviewed and recommended by</b>	Manager: OPS and SHE Implementation M Mmolai	Signature	Date
<b>Approved by</b>	Group Manager - SHEQ M Moshoeshoe	Signature	Date

### Document Change History

Date	Author	Revision No.	Change Description
18 November 2021	P Naidoo	0	New document

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## Acronyms and Definitions

### Acronyms

Abbreviation	Explanation
EMP	Environmental Management Plan
CSIR	Council For Scientific and Industrial Research
HIP	Hot Isostatic Press
SHEQ	Safety Health Environment Quality

### Definitions

Key term	Definition
Health	Means free from illness or injury attributable to occupational causes.
Risk	Means the probability that injury or damage will occur.
Safe	Means free from any hazard.

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## 1. Introduction

As per the Hot Isostatic Press (HIP) report (document number 12964-R01), the CSIR has procured an HIP to operate at its facility in Pretoria. The HIP requires facility readiness and supporting equipment and infrastructure to enable it to function as intended. The CSIR has procured the services of a professional team to ensure building and services readiness for the installation of the HIP.

THE CSIR is committed to managing the environmental impacts associated with the HIP Project and ensuring there is minimal negative impact to the environment throughout the duration of the project. The HIP Project activities will be guided by the environmental management plan.

The purpose of this Environmental Management Plan (EMP) is to:

- Ensure compliance with all relevant and applicable legislation & statutory controls;
- Ensure Conformance with the CSIR Safety, Health and Environmental (SHE) Policy;
- Ensure alignment with the CSIR environmental objectives and targets;
- Follow best practicable environmental performance – this means preventing pollution, minimising adverse environmental impacts and securing the potential benefits associated with higher standards of environmental performance.

This EMP has been prepared in accordance with the CSIR SHE Policy. It identifies specific environmental issues associated with the designated CSIR site and stipulates core procedures that will be used to manage them. Relevant environmental information will be communicated as required.

All amendments to this EMP must be made by project management in consultation with the Safety, Health and Environmental Manager or a representative of the CSIR SHEQ team.

## 2. General project environmental requirements

### 8.1 Waste Management



<b>Responsible Department:</b> SHEQ	<b>Page 6 of 12</b>
	<b>Doc. ID.:</b>
<b>Doc. Title:</b> Environmental Management Plan (EMP) for the HIP Inception Project – B16 Pretoria Campus	<b>Revision No:</b> 0
	<b>Publication Date:</b> September 2021

The principal contractor will manage waste through the development and implementation of HIP inception Project Plan. The project team will use this plan to identify waste streams, forecast waste volumes and identify suitable methods to eliminate, or where this is not practicable, reduce waste generated by the project.

When considering management options for identified waste streams, the CSIR and contracted service providers will adhere to the principles outlined in the waste hierarchy below.



The CSIR and contracted service providers will ensure waste is stored away from drains, boreholes, wells and controlled waters. Storage containers/skips shall be in good condition and, where required, covered to prevent dust and litter being blown out. If there is any likelihood of stored waste contaminating the surrounding environment, all necessary steps will be taken to ensure no contamination occurs. This may include the use of containment bunds with rain shelters and the use of sealed containers, i.e. clip-top drums and covered skips/bins.

Before waste is treated and / or removed from the CSIR site, all subcontractors / waste contractors must provide the project team with legible copies of the following documentation:

- Environmental permits and exemption certificates authorizing on-site crushing and screening activities;
- Waste Carriers Registration Certificates;
- Environmental Permits, (Waste Management Licences /Permits);
- Waste Manifestos ( signed in triplicate)

The construction service provider and, where applicable, subcontractors will ensure that the removal of all inert / non-hazardous waste is recorded and handed over to the SHEQ office for record keeping. These documents will be stored on site and made available on request.

The construction service provider and, where applicable, subcontractors will ensure the removal of all hazardous waste is recorded and must be handed over to the SHEQ office for record keeping. These documents will be stored on site and made available on request.

## **2.1 Storage of fuel, oils and building chemicals**

Containers must be stored within a spill tray (or similar), bund or any other suitable secondary containment system. All containers must be located in a safe place to minimise the risk of damage and locked-off when not in use.

For oil tanks, intermediate bulk containers and mobile bowsers the SCS must be able to hold:

- Where one container is being stored - a minimum of 110% of the total volume;
- Where more than one container is being stored - a minimum of 110% of the largest container's storage volume, or at least 25% of their total volume (whichever is greater);
- For drum storage, the interceptor tray must be able to hold at least 25% of the total storage capacity of the drums.

Bunded areas must be made impermeable to water and oil. The base and walls must not be penetrated by any valve, pipe or opening that is used for draining the system.

Areas used to store fuel / oil and other potential contaminants are identified in the Fire Safety & Other Emergencies Plan.

## **2.2 Particulate Matter (Dust) & Noise**

### **2.2.1 Demolition and Construction Process**

The construction service provider must take utmost effort in preventing or, where this is not

practicable, reducing emissions from the demolition and installation process. The following items must be considered when attempting to reduce the environmental impact of this process:

- Location;
- Operation times;
- Maintenance;
- On-site transfer of dusty materials;
- Stockpiling materials and removal of construction debris.

### **2.2.2 General Site Activities**

With regard to nuisance noise, the methodology in which work activities are undertaken must apply Best Practicable Means (BPM) in order to minimise negative impact on the immediate environment including staff based in the building and other nearby buildings. However, if measures to reduce excessive dust and noise are unsuccessful, work must stop and an alternative method devised before work can resume.

The following measures must be considered when attempting to reduce noise and dust:

- Use sheeted lorries and sealed / covered skips;
- Use dust extraction equipment when drilling and cutting;
- Damp down dusty areas and stockpiled materials in dry or windy weather;
- Sweep out demolition work areas regularly;
- Grass over topsoil which is being stockpiled for landscaping or off-site re-use;
- Locate plant and equipment away from buildings where practical;
- Use screens as acoustic barriers for excessive noise;
- Isolate plant and equipment when not in use;

### **2.3 Previously Unidentified Issues**

If one or more of the following is discovered, work in that location must stop immediately and the SHEQ office must be informed:

- Contaminated soils;
- Suspicious objects;
- Underground storage tanks;
- Invasive species,
- Protected species;
- Heavy vibration due to drilling/demolition activities.

### **2.4 Contractor and subcontractor Environmental Reporting**

All contractors and subcontractors will provide weekly updates to the Project team and SHEQ office on environmental activities.

Any activities resulting in major environmental impacts must be immediately reported to the Project Manager and SHEQ office. Work must be immediately stopped and pending the outcome of an investigation and findings, work may resume with the permission of the SHEQ

office incorporating any additional requirements to the risk register.

### **2.4.1 Emergency & Incident Preparedness**

In order to minimise the risk of a pollution incident, all contractors and subcontractors must ensure all operatives understand the environmental risks associated with their work activity and what control measures are in place to eliminate or reduce negative environmental impact.

All contractors and subcontractors - Should an environmental incident occur, follow the SHE Accident / Incident Management & Investigation Process Flowchart (Appendix H Fire Safety & Other Emergencies Plan) and CSIR Incident Management Procedure.

## **3. Specific project environmental requirements**

This section will focus on activities to be carried out during the Construction Phase and will be guided by the relevant project plans and guidelines:

### **3.1 External (client / enforcing authority) requirements**

- Monitoring requirements, i.e. noise, dust, vibration, tree protection, protected species, waste, power use age, water consumption, commercial deliveries, etc.

### **3.2 Watercourses and wells**

- Protection required, i.e. measures to prevent run-off
- Minimum distance required for protection
- Consents required / obtained as needed

### **3.3 Waste (significant waste streams that will be generated)**

- Re-use of demolition materials, i.e. soil & stones, crushed concrete, etc
- Reclaim demolition materials, i.e. bricks, tiles and architectural features
- Waste segregation on / off site
- Use of prefabricated materials
- Identification and management of any hazardous waste – including identification of asbestos containing material

### **3.4 Contaminated ground, issues with groundwater & dewatering**

- Drainage and disposal of contaminated water
- Areas used for the disposal of other wastes, i.e. asbestos
- Re-use or disposal of groundwater, i.e. required discharge consents

### **3.5 Standing heritage & archaeology**

- Listed buildings, i.e. consents required / obtained if needed
- Protection of heritage sites

- Archaeological investigations & sensitive areas

### **3.6 Materials & design**

- materials with recycled content & low embodied energy
- use of sustainable and green building practices
- consideration of eco materials & construction techniques
- Local supply chain (reducing nuisance noise, carbon emissions & simultaneously bringing socio-economic benefits to the immediate and surrounding area)

### **3.7 Sensitive neighbors (if info provided elsewhere, reference where)**

- Nearby buildings
- Tenants
- Schools
- Healthcare facilities
- Places of worship
- Residential areas
- Local community meetings

### **3.8 Ecology & biodiversity**

- Tree protection & tree protection orders
- Protected plant species, protection / translocation required
- Protected species, i.e. animals, birds, etc.

Measures will be taken to protect animals during construction; trenches will be covered overnight or left with a suitable means of escape (such as ramps or sloping ends) in order to allow any animals that may fall into the trenches to escape; and that any exposed pipe ends of 200mm diameter or above will be capped off overnight.

- Include protection required, specific demolition requirements, demarcation of work areas, nest boxes, etc.
- Removal of invasive species in the area: to be done with in conjunction with the CSIR landscaping service provider
- Protection of indigenous flora in the area: any removals of flora to be done in conjunction with the CSIR landscaping service provider
- Rehabilitation of ground, soil, flora in work areas

#### **Impact on indigenous flora:**

A request has been made to remove two large trees on the side of the building where two generator units will be installed. Upon investigation by the landscaper it was confirmed that these are indigenous trees and there are two options to consider:

- 1) Trim the current trees and build a shelter to house the two units **or**

- 2) Cut down and remove the two trees - we will need to replace these with similar saplings at another point on campus.

**Option 1 is recommended** by the SHE office as it maintains the flora in the area, however, the project team/owner can decide on the final option they would like to go for. Both options have financial implications which need to be carried by the project.

The project team recommended option 2.

## **4. Environmental aspects & impacts**

The project Risk Register has identified elements of its work which will have an impact on the environment.

The Aspects & Impacts Registers will be provided to all contractors and subcontractors. These parties must manage all risks associated with their work activity in accordance with this document.

Where the contractor or subcontractor identifies additional environmental risk, it is their responsibility to inform the Project Coordinator and where necessary the register will be reviewed and amended.

The CSIR SHEQ office will **conduct site inspections** to ensure that the work being done is carried in alignment with the environmental aspects and impacts register requirements.

### **4.1 Planning conditions specifically relating to Environmental Management**

#### **(a) Measures for the control of noise, vibration and dust emissions (including mitigation in the event of a complaint).**

- The control of noise, vibration and dust emissions will be considered in the planning of all activity at all times.
- If there is a complaint then work will stop immediately and the activity will be investigated and re-assessed. The SHEQ Office must be called for advice and to make them aware of the situation.

#### **(b) Plan for recycling/disposal of surplus soils and waste resulting from Construction.**

- The project plan must identify the measures put in place for recycling and disposal of waste.

#### **(c) Construction site management practice to safeguard against risk to mammals (protected species) throughout the period of construction**

- Measures will be taken to protect animals during construction; trenches should be covered overnight or left with a suitable means of escape (such as ramps or sloping ends) in order to allow any animals that may fall into the trenches to escape;

- Any exposed pipe ends of 200mm diameter or above will be capped off overnight.

## **5. Reference documents:**

1. HIP Inception Project Plan
2. CSIR SHE Policy
3. HIP Inception Project Risk Register

Any queries on the content of this document can be directed to:

Prashanth Naidoo  
CSIR SHE Manager

e-mail: [pnaidoo3@csir.co.za](mailto:pnaidoo3@csir.co.za)  
office tel: 012 841 4916



## 6.11 Annexure L - Waiver of Contractor's Lien





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# Waiver of the Contractor's Lien

for use with the:

**Principal Building Agreement**

Edition used:

**Minor Works Agreement**

Edition used:

**Small & Simple Works Contract**

Edition used:

Contractor

Employer

Works

Site

## AGREEMENT

The **contractor** waives in favour of the **employer** any lien or right of retention that is or may be held in respect of the **works** to be executed on the **site**

This waiver shall only come into effect on provision by the **employer** of a **security for payment** in fulfilment of obligations in terms of the identified **agreement**

This done and signed at

Date

Name of Signatory

Capacity

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

Signature of Witness

Contractor

Street Address

Code

Postal Address

Code

E-mail

Mobile

Fax

Telephone



## 6.12 Annexure M - Design Indemnity Form



**Request for Proposals for the Engineering and Construction of Facilities to House a Hot Isostatic Press (HIP) Machine at the CSIR Scientia Campus, Pretoria**  
**Form of Indemnity for Design Work**  
**Date: February 2022**

**FORM OF INDEMNITY FOR DESIGN WORK**

I/ We, the undersigned, hereby:

1. Warrant and undertake unto and in favour of the, Employer, the Architect, the Consulting Engineer and other agents that:
  - a) I/We, insofar as the contract works relating to my/our foregoing tender have been or will be designed by me/us, have exercised and shall exercise due and proper skill and care in such design; and
  - b) I/We, insofar as any part of the materials or goods for the contract works relating to my/our foregoing tender have been or will be selected by me/us, have exercised and shall exercise due and proper skill and care in such
  - c) I/We shall comply with and satisfy any performance specification or requirement insofar as such performance specification or requirement is included or referred to in my/our foregoing tender.
2. Undertake and shall be obliged to pay and make good to the Employer all damages which the Employer may suffer as a result of my/our non-compliance with the warranties as set out in paragraph 1 above.
3. Indemnify the Employer, the Architect, the Consulting Engineer and other agents and hold them blameless and free of claims and proceedings of whatsoever nature, instituted against them or any one or more of them by any person whatsoever (included by the Employer) in respect of or arising from the design of the contract works relating to my/our foregoing tender, insofar as such design has or shall be made by me/us or from the use of any materials or goods for the contract works relating to my/our foregoing tender insofar as such material or goods have been or shall be selected by me/us, or from my/our failure to comply with and satisfy any performance specification or requirement used included or referred to in my/our foregoing tender.

**For purposes of this warranty and indemnity the terms: the Employer, the Architect, the Consulting Engineer and other agents shall mean the persons so appointed by the Employer for the purposes of this contract.**

Except to the extent as set out in this warranty and indemnity, nothing herein contained shall create any privity of contract between the Employer and myself/ourselves. This warranty and indemnity shall become of force and effect in the event of my/our foregoing tender being accepted by the Employer with or without any modification, and shall in such an event for all purposes be deemed to have been accepted by the Employer, the Architect, the Consulting Engineer and other agents.

<b>Date:</b>	
<b>Signature:</b>	
<b>Name of Signatory:</b>	
<b>Name of Contractor represented by Signatory:</b>	