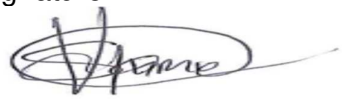
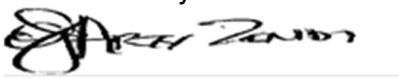
**ETHEKWINI MUNICIPALITY**
**Occupational Health & Safety Unit**

# Site Specific Health and Safety Specification in terms of 2014 Construction Regulations 5.1(b)

| | |
|---|---|
| Document Title | Baseline Risk Assessment |
| Client | eThekwini Municipality- Road Provision |
| Project Name | UPGRADING – GRAVEL TO SURFACE OF 108316 STR, WARD 45, KWA MASHU |
| Contract Number | 1R-36714 |
| Date | 11/08/2026 |
| Internal Reference no. | BRA 05/08/2026 |
| Compiled by (Safety officer) | Name and surname: Siziwe Chiliza<br>Signature:  |
| Reviewed by (Manager: Safety& Risk) | Name and surname: Arty Zondi<br>Signature:  |

UPGRADING – GRAVEL TO SURFACE OF 108316STR, WARD 45, KWA MASHU

Roadworks is to upgrade existing 220m length of gravel track / roadway to 4.5m hardening surface concrete passage / footpath. This will involve earthworks, stormwater upgrade, Kerbing, concrete surfacing, and retaining walls / gabions

**TABLE OF CONTENTS** (refer to Baseline Risk Assessment attached)


1. Project Title
2. Executive Summary
3. Scope of Works
    - Description of works
    - Description of Site and Access
4. Baseline Risk Assessment
    - Introduction
    - Purpose
    - Scope
    - Abbreviations, Acronym or Definition
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## 1 PROJECT TITLE

Upgrade and widening and widening of Upgrading – Gravel To Surface of 108316STR, Ward 45, Kwa Mashu.

The Assessment was conducted on **8/07/2026**, during normal working hours.

## 3 EXECUTIVE SUMMARIES

The Occupational Health and Safety Act of 1993, and its relevant regulations require Employers to conduct a Baseline Risk Assessment prior to the work being performed.

This assessment and observations were made at the above site under the conditions which prevailed on the date of the assessment. Detailed conclusions are given in the relevant sections of this report**.**

## 4 SCOPE OF WORK

The works consist of the following:

- Site Clearance, General Clearance of the area of works.
- Relocation of services and other works
- Concrete Works
- Earthworks and Excavation for Roadworks and
- Drainage
- Stormwater
- Kerbing

5 BASELINE RISK ASSESSMENT

a) **INTRODUCTION:** In accordance with the Occupational Health and Safety Act, (Act 85 of 1993) the Legislator places specific requirements on an Employer. One of these is prescribed in Section 8(i) of the Act where it requires the Employer to ascertain the risks and dangers which may occur within the workplace or section of the workplace and then goes on to establish working procedures or practices.

b) **PURPOSE:** This is conducted to create a benchmark of the potential risks that apply to the whole project or business operation.

c) **SCOPE:** This assessment could be approached on a site, regional or national level concerning any facet of the business operation or process or activity.

d) **ABREVIATIONS, ACRONYMS AND DEFINITIONS**

| **ABREVIATION, ACRONYMN OR DEFINITION** | **MEANING** |
|---|---|
| **Risk** | Uncertain future events that can influence the achievement of the company's objective. Chance of loss |
| **Exposure** | Is a condition or practice which involves the employee being subjected to the Hazard or Danger while being **normally unprotected** |
| **Likelihood or Probability** | (inevitable to almost impossible) the **Frequency** of the exposure (constant to rarely) being one of the parameters |
| **Consequence or Severity** | This could be either having a financial, injury and or illness outcome |

| | |
|---|---|
| **Risk Ranking** | There are three stages namely:<br>**IDETIFYING the RISK: -** in terms of the hazard, threats<br>**EVALUATING: -** the hazard, threats and or exposures identified to establish the potential magnitude of the RISK involved<br>**VALUE JUDGEMENT or APPRAISING: -** the acceptability and potential impact as well as the magnitude of the hazards, exposure and evaluating the outcome on the business, operations and or the health and safety of people and processes |

| **ABREVIATION, ACRONYMN OR DEFINITION** | **MEANING** |
|---|---|
| **Risk Rating** | **Equals = Severity + Frequency + Exposure** |
| **Baseline Risk Assessment** | This is conducted to create a benchmark of the potential risks that apply to the whole project or business operation. |
| **Issue based** | This is normally focused at operational activities, processes, systems and functions and focuses on identifying the risks within a certain task, process or activity |
| **Continuous Risk Assessment** | The processes, systems and activities monitored on an ongoing basis |
| **Hazard** | A chemical, physical, social or political condition that has the potential<br>of causing damage or any kind of harm to people, property the environment or business continuity. |
| **OHS Act** | Occupational Health and Safety Act, Act 85 of 1993 |
| **Task based Risk Assessment** | The appointed Contractor develops a Risk Assessment based on the Clients Baseline and project specific activities |
| **Severity / Consequence** | The degree of harm, the potential severity of the injuries or ill health and or the number of people potentially affected |

| | |
|---|---|
| **Exposure** | Chance that a person or persons will be harmed during the exposure period |
| **Frequency** | A measure of the rate of occurrence of an event expressed as the number of occurrences in a given time |

| **ABREVIATION, ACRONYMN OR DEFINITION** | **MEANING** |
|---|---|
| **Frequency** | A measure of the rate of occurrence of an event expressed as the number of occurrences in a given time |
| **Intolerable Risk** | Risk is intolerable and cannot be justified on any grounds |
| **Significant Risk** | Risk in which benefit outweighs cost |
| **Moderate Risk** | Risk is if cost of reduction would exceed improvement |
| **Tolerable Risk** | A Risk that has been reduced to a level that can be endured by the organization having regard to its legal obligations and its own Safety and Health Policy |
| **Residual Risk** | The risk that remain after taking into account the effect of the existing controls that have been applied |
| **Average Daily Traffic ADT)** | The average daily traffic count is used as a method to determine how many vehicles travel on a road on a given day |
| **Bollard** | Rigid posts that can be arranged in a line to close a road or path to vehicles above a certain width |

| | |
|---|---|
| **Flag person** | The workers who carry these signs provide traffic control in the construction zone. |
| **Median** | A median is a barrier, constructed of concrete, asphalt or landscaping that separates two directions of traffic |
| **New Jersey Barrier** | A jersey barrier is a concrete barrier that acts as a traffic control device to separate traffic flow |
| **PPE** | Personal protective equipment e.g. gloves, hard hat boots etc. |
| **Shoulder** | Reserved area by the verge of a road, generally it is kept clear of all traffic |
| **Sub - Base** | Is the layer between the top and the selected layers and the bottom |
| **Base** | Is the layer immediately below the surfacing and has to meet stringent requirements regarding material quantities and compaction |

| ABREVIATION, ACRONYMN OR DEFINITION | MEANING |
|---|---|
| **Cut** | Consist of all excavations from the existing ground line to the roadbed and includes the side (table) drains |
| **Fill** | Consist of imported material above the roadbed |
| **Side drain** | Run parallel to the road |
| **Culvert** | Conveys water safely from the upper side of the road to the lower side |

### 6.1 RISK ASSESSMENT METHODOLOGY

All Risk identified during Risk Identification has to be assessed for significance in terms of probability of the Risk event to occur and the impact of the event.
Ranking of the Risk can be based on a simple scale ranging from:

- Very likely to almost certainly
- Actual numerical probabilities can be used
- Risk that are ranking High receives highest priority

**The approach and process**:

a) Identify the risk / hazards associated with the work activities
b) Assess the risk in terms of severity, likelihood of occurring and controllability
c) Evaluate the risks / hazards
d) Determine the level of control
e) Implement controls
f) Monitor the effectiveness of controls

## 6.2 RISK ESTIMATION AND EVALUATION

RISK CLASSIFICATION USING A RISK SCORE TECHNIQUE

**Exposure (E) How frequently does the hazardous event occur**
**Risk classification**

| | |
|---|---|
| Continuously …… | 10 |
| Frequently (daily) …… | 6 |
| Occasionally (weekly) …… | 3 |
| Unusually (monthly) …… | 2 |
| Rarely (few a year) …… | 1 |

**Probability (P) The probability of a loss when the hazardous event does occur**
**Risk classification**

| | |
|---|---|
| Frequent (happens often) …… | 10 |
| Probable (quite possible) …… | 6 |
| Occasional (unusual, but possible) …..…… | 3 |
| Remotely possible (has happened somewhere) …..…… | 1 |
| Improbable (practically impossible) …… | 0.5 |

**Severity (S) Consequences of the hazardous event**
**Risk classification**

**Catastrophic** many fatalities; or interruption of longer than 2 weeks; or asset or environmental damage (or both) exceeding R100m… 100

**Disaster** (few fatalities; or interruption between one and 2 weeks; or asset or environmental damage (or both) exceeding R10m) … 40

**Very serious** (one fatality; or interruption of 6 days; or asset or environmental damage (or both) exceeding R100,000…….…… 7

**Important** (temporary disability; or interruption between 6 and 24 hours; or damage exceeding R10,000 …… 3

**Noticeable** (first aid needed; or interruption of less than 6 hours; damage exceeding R1000) …… 1

**Risk classification (Risk score = E x P x S)**

| **Risk score** | **Risk classification** |
|---|---|
| Over 400---------5 | Very high risk – discontinue operation or activity |
| 200 to 400 ------ 4 | High risk – immediate correction needed |
| 70 to 200------- 3 | Substantial risk – correction needed |
| 20 to 70--------- 2 | Possible risk – attention needed |
| Under 20 -------- 1 | Risk accepted |

| | |
|---|---|
| **5** | |
| **4** | |
| **3** | |
| **2** | |
| **1** | |

**ETHEKWINI MUNICIPALITY**
Occupational Health & Safety Unit

**CONTRACT NUMBER : 1R – CBP**

**BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS**

**WORK PROCESS CATEGORY: ACCESS TO THE SITE**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 1 | Accessing the site using construction vehicles | Transportation of staff to and from the site | Construction vehicles could crash into other vehicles / buildings resulting in damage to equipment or employees being injured | 6 | 6 | 7 | 252 | High | 4 | The Construction Manager must develop a Driving Policy which incorporates the use of cell phones whilst driving and adherence to speed limits. The Contract Manager must ensure all construction |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | vehicles and staff comply to CR23 |
| 2 | Delivering of equipment to the site | Pedestrian /children using public road | Vehicles/trucks could crash into pedestrians walking along the roadside resulting in critical injuries or fatalities | 6 | 6 | 7 | 252 | High Risk | 4 | Construction Manager to ensure the truck is deemed roadworthy. Ensure the Environmental Management Plan is adhered to and the vehicle is equipped with a spill control kit. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | | Oil or petrol spill | Oil and petrol spill could cause ground contamination | 6 | 6 | 1 | 36 | Possible Risk | 2 | Construction Manager to ensure the truck is deemed roadworthy. Ensure the Environmental Management Plan is adhered to and the vehicle is equipped with a spill control kit. |

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 2 | Ablutions for male / females | Inadequate Welfare Facilities<br>Inadequate or insufficient Toilet Facilities | Inadequate or insufficient Ablution Facilities may result in employees using areas not designated for the use thereof<br>Unhygienic condition | 6 | 6 | 3 | 108 | Substant ial Risk | 3 | CR 28 1 per30 NBR prescribe chemical toilets for construction site. Sufficient showers and changing facilities for both male and female |

WORK PROCESS CATEGORY: **SITE ESTABLISHMENT**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Sheltered eating facilities | Unsafe positioning of ablution and sheltered eating areas | Unsafe positioning of ablutions and sheltered eating areas may result in vehicles veering of the road and into the facilities and resulting in critical injuries | 6 | 6 | 7 | 252 | High | 4 | Refuse bins with lids provided. Facilities clean and hygienic |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Clearing of the site area | Snakes | The presence of the snakes may result in snake bites causing fatalities | | | | | | | Snake awareness training developed |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Maintenance workshop Secure / safe storage of materials / plant and equipment | Incorrect stacking of parts and spares could cause tripping hazards | Slips, trips and falls | 6 | 6 | 3 | 108 | Substantial Risk | 3 | Adequately ventilated ignition free Emergency shower / eye wash provided |
| | | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Site clearing using Earthmoving equipment/ machinery | Protected vegetation | Damage to protected vegetation could result in damage to the ecosystem | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Construction Manager must ensure that protected vegetation is clearly demarcated and the Environmental Plan is adhered to |
| | Site induction | Injuries to person not familiar to site | Property damage Sustainable injuries | 6 | 6 | 3 | 54 | Substantial Risk | 3 | Construction Manager to ensure all on site is inducted |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | The storage /usage of flammable liquid/gasses and combustible materials | The incorrect storage of flammable liquids/gasses and combustible materials | The incorrect storage could lead to Environmental spillages | | | | | | | The Construction Manager must ensure that they adhere to the Client H&S Specification with regards to combustible substances. |
| 8 | Vehicle leaving / entering the site | Traffic disruption, injury to people | Damage to property | 6 | 6 | 3 | 108 | Substantial Risk | 3 | Competent operators/ drivers, use of flag person |
| 9 | Unsafe stacking and storage practices | Collapse of stored materials | Collapse of stored materials may result in injury of personnel | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Construction Manager must ensure that they adhere to stacking and storage principles as contained in the |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | General Safety Regulations |
| 10 | Installation of Temporary Electrical Installations | Exposed Electrical Cables/ Wires | Contact with exposed electrical cables may result in electrocution | 6 | 6 | 7 | 252 | High | 4 | CoC, appointments, registers, competent person |
| 11 | Housekeeping | Slips, trips and falls | Tripping and falling on superfluous materials can cause cuts on hands, injury to feet | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Construction Manager must ensure that waste is removed periodically, and work areas kept clean at all times |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Fencing | Access to unauthorized persons | Injury to persons | 6 | 6 | 3 | 108 | Substantial Risk | 3 | Construction manager to put system of control in place. No unauthorized entry signs to be posted and access controlled |
| 12 | Essential emergency equipment<br><br>Firefighting equipment<br>First Aid Boxes<br>Drinking water | Not having the essential services on hand | Health / loss of property through fire | 6 | 6 | 3 | 108 | Substantial Risk | 3 | Construction manager to ensure these requirements are on site from the day site is established |

**BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS**

**WORK PROCESS CATEGORY: TRAFFIC ACCOMODATION**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 13 | Setting up of temporary road works signage | Placing of incorrect signage at locations | Misinformation may cause drivers to become unable to discern what to do resulting in accidents and irate members of the public | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Construction Manager must ensure that a suitable site specific Traffic Management Plan is developed and implemented, and a competent Traffic Safety Officer is appointed for the duration of the contract. All temporary road traffic signage must comply with the SARTSM |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 | | Handling and placement of signage without wearing the correct PPE | Handling of signage without gloves, reflective vests and safety | 3 | 3 | 1 | 9 | Risk Accepted d | 1 | The Construction Manager must ensure that a task specific risk assessment for PPE |
| | | | boots may result in injuries | | | | | | | control is implemented |
| 15 | Public vehicular and pedestrian traffic travelling on the public road during construction work | Workers injured by passing traffic | Collision of public vehicles and workers | 10 | 6 | 7 | 420 | Very High | 5 | The Construction Manager must ensure that a competent Traffic Safety Officer is appointed and a site specific Traffic Management Plan is implemented |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | | Limited or no advanced warning area may result in accidents | Collision of public vehicles and workers | 6 | 6 | 7 | 252 | High | 4 | The Traffic Safety Officer must ensure that temporary road works signage is laid out as per the SARTSM and approved Traffic Management Plan |

**WORK PROCESS CATEGORY: MATERIALS DELIVERY TO THE SITE**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 17 | | incompetent Operators | The use of incompetent operators may result in accidents | 6 | 6 | 7 | 252 | High | 4 | The Construction Manager must verify that the Operators are deemed competent to operate the Tippers and are medically fit |
| 18 | | Reversing into public vehicles or property | Reversing into vehicles and property resulting in damages | 6 | 6 | 3 | 108 | Substant Risk | 3 | The Contract Manager must ensure that each driver is accompanied by a competent banks man and designated safe areas for offloading demarcated |

**BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | | Uneven ground, soft soil, | Damage to plant and equipment as well as crushing injuries or fatalities | 6 | 6 | 7 | 252 | High | 4 | The Construction Manager must ensure that each driver is accompanied by a competent banks man when working in high risk areas |
| 20 | Cement / concrete dust | Inhalation. Contact with skin , eyes | Severe irritation, burns, long term damage | 6 | 6 | 3 | 108 | Substant Risk | 3 | Wash immediately if coming into contact |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Loading / off loading the truck | Incorrect slings being used | Property damage and serious injury or fatality | 6 | 6 | 7 | 252 | High | 4 | Rigging to be done by a trained and competent rigger and the task to be supervised by the supervisor |
| 22 | Aggregate / sand and other materials delivered | Uneven ground, soft soil, | Damage to plant and equipment | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Construction Manager must assess steep gradients on foot before plant is moved onto the site to determine if the area is safe |
| 23 | Manual handling Ergonomics | Incorrect posture | Back strain Skeletal damage | 3 | 6 | 3 | 54 | Possible Risk | 2 | Employees to be trained in the correct lifting technique |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | Mechanical handling | Employee being struck | Serious injury | 3 | 6 | 3 | 198 | Substantial Risk | 3 | Constant supervision |
| 25 | Lifting / lowering operation | Employee being struck by the load | Serious injury Fatality | 10 | 6 | 7 | 420 | Very High | 5 | Rigging to be done by a trained and competent rigger and the task to be supervised by the supervisor |

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **EXCAVATION**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 26 | Transporting of material to and from the site | Defective tipper trucks, excavators and front-end loaders | The use of defective plant /equipment may result in accidents | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Contraction Manager must verify that all Tipper trucks utilized on site has a recent service inspection register in place and is signed off by the relevant Technical Manager |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 | Manual excavation | Open Excavation >1.5m | Excavations > 1.5m caving in may result in multiple fatalities | 6 | 6 | 7 | 252 | High | 4 | Daily check of the excavation by the appointed excavation supervisor and recorded in a register |
| 28 | | Unauthorized entry | Unauthorized access to site may result in critical injury to people | 6 | 6 | 7 | 252 | High | 4 | Daily check of the excavation by the appointed excavation supervisor and recorded in a register |
| 29 | | The use of Hand tools (picks, spades) | An employee using a pick could strike the employee in front/rear resulting in injury | 6 | 6 | 7 | 252 | High | 4 | The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of the site specific risk assessment |
| 30 | | | | 6 | 6 | 7 | 252 | High | 4 | Proper PPE to be issued |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 | | Working in natural elements, sun, rain, glare & wind | Prolonged exposure to extreme high temperatures may result in heat stroke | | | | | | | |
| | | Fast moving vehicles | Passing traffic could crash into employees working in an existing excavation | 6 | 6 | 7 | 252 | High | 4 | The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of the site specific risk assessment |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 32 | | Poor Ergonomics | Poor Ergonomics may result in muscular skeletal injuries | 3 | 6 | 3 | 54 | Possible Risk | 2 | The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of the site specific risk assessment |
| 33 | Mechanical Excavation | The use of Defective Plant | The use of defective plant may result in accidents | 6 | 6 | 3 | 108 | Sustantial Risk | 3 | The Construction Manager must verify that all plant utilized on site has a recent service inspection register in place and signed off by the relevant technical manager |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 34 | | untrained operator | The use of an untrained operator may result in accidents | 6 | 6 | **7** | 252 | High | 4 | The Construction Manager must verify that the Operator is deemed competent to operate that specific plant and is medically fit The Safety Officer must take cognizance of the requirements of the Driven Machinery Regulations 2015 |
| 35 | | Public / Contractor interface | Public accessing the work area could result in injuries | 6 | 6 | **3** | 108 | Sustanti Risk | 3 | The Construction Supervisor must ensure all work are adequately barricaded / cordoned off to prevent member of the public from entering |

**BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS**

WORK PROCESS CATEGORY: **EARTHWORKS**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 36 | Layer works and Asphalt layer | Traffic accidents on site when transporting materials.<br>Reversing of trucks and mobile plant<br><br>Dust inhalation<br>High temperature of product | Damage to property<br><br>Respiratory failure<br><br>Burns | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Speed limit to be adhered to Enforced reverse alarms to be fitted Application of dust masks |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 37 | Backfilling | Suitable access and egress in and out of excavations deeper than 1 meter not provided.<br><br>Collapse of excavation during backfilling operations | Injury to persons<br><br>Injury to persons Fatality | 6 | 6 | **7** | 252 | High | 4 | Competent excavation supervisor to ensure that access is provided, employees informed of requirements<br><br>Only authorized |

**DRIVING / OPERATING OF CONSTRUCTION VEHICLES AND MOBILE PLANT**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 37 | Excavator | Unauthorized opr incompetent person operating the machine | Injury to persons, damage to property | 6 | 6 | **7** | 252 | High | 4 | Only competent operator to be appointed |
| 38 | Bomag roller | Unauthorized opr incompetent person operating the machine | Injury to persons, damage to property | 6 | 6 | **7** | 252 | High | 4 | Only competent operator to be appointed |
| 39 | Plate compactor | Operator working with plate compactor not trained, running over workers feet | Foot injury and bruises | 6 | 6 | **7** | 252 | High | 4 | Only competent operator to be appointed |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Front end loader | Unauthorized operator incompetent person operating the machine | Injury to persons, damage to property | 6 | 6 | **7** | 252 | High | 4 | |
| 41 | Concrete breaker (Jack hammer) | Noise | Noise Induced hearing Loss | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Employee to make use of SABS approved hearing protection, supervisor to ensure that the correct P.P.E is used. Task to be supervised by a competent supervisor |

**WORKPLACE ENVIRONMENT , HEALTH AND HYGIENE**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 42 | Working in close proximity to moving machinery Exposure to noise | Noise | Noise Induced hearing Loss | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Employee to make use of SABS approved hearing protection, supervisor to ensure that the correct P.P.E is used. Task to be supervised by a competent supervisor |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 43 | Exposure to vibration | Vibration | White finger | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Supervisor to rotate employees and allow for frequent breaks |
| 44 | Protection against dehydration and heat exhaustion | Dehydration/collapse | Health consequences to workers | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Measures in place to prevent heat exhaustion in heat stress problem areas |
| 45 | Wet / cold condition | Affecting ability to work safely | Injury to workers | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Provide rain wear / wellingtons where necessary Provide protection against the cold |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 46 | Hazardous chemical substances | Contact with skin/ eyes<br><br>Inhalation or indigestion | Skin irritation, burns or infections Could cause loss in eyesight | 6 | 6 | **3** | 108 | Substantial Risk | 3 | All substances identified and list available. MSD's Substances stored safely |
| 47 | Dust | Inhalation / respiratory problems | Respiratory failure | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Application of dust masks |

**PUBLIC SAFETY**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 48 | Public exposed to the nature of the construction activities | Emission of HCS, dust and noise | Health risk impact | 6 | 6 | **3** | 108 | Substantial Risk | 3 | Communication with neighboring businesses is critical. Health risk must be communicated to all employees Dust, noise generated out of the construction work must be managed |

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **PUBLIC SAFETY, SECURITY MEASURES AND EMERGENCY PREPARENESS**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 49 | Notices and signs | Appropriate signage not displayed | Person /s not aware of the danger Injury / serious injury | 6 | 6 | **7** | 252 | High | 4 | No unauthorized Entry General warning signs |
| 50 | Emergency Preparedness | No Emergency Plan in place | Person/s unprepared to respond to the emergency at hand | 6 | 6 | **3** | 108 | Substant ial Risk | 3 | Emergency contact numbers displayed with designated person |
| 51 | Emergency Drill & Evacuation | No training No implementation Planning done | Person/s unprepared to respond to the emergency at hand | 6 | 6 | **3** | 108 | Substant Risk | 3 | Adequate number of employees trained in the use of fire equipment |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 52 | Development and implementation of an Emergency Management Plan | Failure to have a basic site-specific Emergency Management Plan | Failure to have a basic, site specific Emergency Management Plan may result in injury and damage to property | 6 | 6 | **3** | 108 | Substant Risk | 3 | The Construction Manager must ensure that a site specific Emergency Management Plan is developed for implementation |
| 53 | | Workers not trained in the Emergency Plan | Workers not trained in the Emergency Plan may result in their inability to respond to Emergencies | 6 | 6 | **3** | 108 | Substantial Risk | 3 | The Construction Manager must ensure that those workers are adequately and regularly trained to respond to Emergencies. |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 54 | | Insufficient or no Emergency equipment or personnel | Insufficient or no Emergency equipment or personnel on site may result in Emergencies being critical | 6 | 6 | **7** | 252 | High | 4 | The Construction Manager must ensure that a suitable number of employees are appointed to the Emergency Team and that First Aid boxes, First Aiders, Fire Team members and any other equipment as identified during the risk assessment process is on site. |

WORK PROCESS CATEGORY: **COMMUNITY MANAGEMENT**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 55 | Poor liaison with the CLO | Failure to adequately monitor and manage the multi faced social issues | Failure to manage social issues could result in violent protests and | 6 | 6 | **3** | 108 | Substantial Risk | 3 | The Construction Manager must ensure that a Community Liaison Officer (CLO) and project steering |
| | | | injury to employees | | | | | | | Committee is appointed to manage social issues |

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|---|---|---|---|---|---|---|---|---|---|---|
| 56 | | Roads blocked off due to community protest | Construction trucks and vehicles could crash into barricades resulting in damage to equipment or severe injuries | 6 | 6 | **7** | 252 | High | 4 | The Contraction Manager must ensure that close communication is kept with the local authorities and the appointed Community Liaison Officer to ensure that all personnel accessing the site are timeously alerted. |

WORK PROCESS CATEGORY: **SUB – CONTRACTOR MANAGEMENT**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 57 | No proper management control | Failure to adequately assess Sub Contractors S.H.E Management System before work commences and at regular intervals | Failure to manage Sub Contractors may result in injury and | 6 | 6 | **3** | 108 | Substant ial Risk | 3 | The Safety Officer must ensure that the appointed Sub Contractors S.H.E system is audited monthly and on site |
| | | | noncompliance to Legislation | | | | | | | activities supervised or monitored |

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|---|---|---|---|---|---|---|---|---|---|---|
| 58 | Inadequate supervision | Inadequate Supervision may result in a high level of employee unsafe behavior | Injury / property damage | 6 | 6 | **3** | 108 | Substant ial Risk | 3 | The Construction Manager must ensure that Sub Contractors have adequate competent Supervision on site at all times |
| 59 | Utilizing incompetent Sub-Contractors | Utilizing incompetent Sub Contractors may result in accidents | | 6 | 6 | **7** | 252 | High | 4 | The Construction Manager must be reasonably satisfied that the Sub Contractors intended to be appointed have the necessary competencies and resources to carry out the work safely |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 60 | Utilizing incompetent Sub-Contractors | Utilizing incompetent Sub Contractors may result in damage to the Environment | | 6 | 6 | **7** | 252 | High | 4 | The Construction Manager must be reasonably satisfied that the Sub Contractors intended to be appointed have the necessary competencies and resources to carry out the work safely |

WORK PROCESS CATEGORY: **CONSTRUCTION ACTIVITIES**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 61 | Brickwork at manholes | Repetitive strain injuries | Poor ergonomics may result in muscular skeletal injuries | 6 | 6 | 3 | 108 | Substantial Risk | 3 | The Construction Manager must ensure that a SWP is developed implemented and that all employees are instructed in the content of this SWP. |

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|---|---|---|---|---|---|---|---|---|---|---|
| 62 | Mixing mortar | Repetitive strain injuries | Loading / unloading material | 3 | 6 | 3 | 54 | Possible Risk | 2 | The Construction Manager must ensure that a SWP is developed implemented about safe lifting and loading procedures. |
| 63 | Clean, grout and seal joints | Pressure equipment dislodge from source | Injury to persons | 6 | 6 | **7** | 252 | High | | |
| | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| 64 | Removal of asphalt inter layer using conventional method | Poor Ergonomics | Poor Ergonomics may result in muscular skeletal injuries | 3 | 6 | **3** | 54 | Possible Risk | 2 | The Construction Manager must ensure that workers are trained in the risk of ergonomically injuries and methods to mitigate the risks |
| 65 | Clear and grub pavement areas | Poor Ergonomics | Poor Ergonomics may result in muscular skeletal injuries | 3 | 6 | **3** | 54 | Possible Risk | 2 | The construction Manager must ensure that workers are trained in the risk of ergonomically |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | injuries and methods to mitigate the risks |
| 66 | Placing of, plastic pipes for underground services | Operating of TLB or Excavator in close proximity to workers and public vehicles | Critical injuries caused by TLB/ Excavator striking workers or TLB rolling over | 6 | 6 | **7** | 252 | High Risk | 4 | The Construction Manager must ensure that the TLB/ Excavator Operator utilize a banks man |
| 67 | | Using TLB for lifting pipes or other material | Critical injuries caused by the TLB or Excavator striking workers or rolling over | 6 | 6 | **7** | 252 | High Risk | 4 | The Construction Manager must ensure that the TLB/ Excavator has been modified or designed to be used as lifting equipment and the load test certificates provided. |

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|---|---|---|---|---|---|---|---|---|---|---|
| 68 | | Incorrect use of defective hand tools | The incorrect and or defective hand tools could result in non-disabling/ first aid case i.e. the hand or eyes | 6 | 6 | **3** | 108 | Substantial Risk | 3 | The Construction Supervisors must ensure that all hand tools are inspected monthly and recorded in an applicable register with all defective hand tools removed from the site |
| 69 | | Incorrect use of defective electrical tools | The incorrect and or defective hand tools could result in non-disabling/ first aid case i.e. the hand or eyes | 6 | 6 | **3** | 108 | Substantial Risk | 3 | The Construction Supervisors must ensure that all portable electrical tools are inspected monthly and recorded in an applicable register with all defective equipment removed from the site |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 70 | Construction of drains | Poor Ergonomics | Poor Ergonomics may result in muscular | 3 | 6 | **3** | 54 | Possible Risk | 2 | The Construction Manager must ensure that workers are |
| | | | skeletal injuries | | | | | | | trained in the risk of ergonomically<br><br>injuries and methods to mitigate the risks |

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **CONSTRUCTION ACTIVITIES**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 71 | Pouring Ready Mix concrete | Concrete truck tipping over | Concrete truck tipping over could result in serious injury to the operator and workers close by | 6 | 6 | **7** | 252 | High | 4 | The Construction Manager must ensure that safe access to the pouring platform is created before the truck arrives on the site |

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|---|---|---|---|---|---|---|---|---|---|---|
| 73 | Excavation of trenches | Excavation collapse | Plant striking operatives Public falling into it | 6 | 6 | **7** | 252 | High | 4 | Suitable protection to be installed around the excavation |
| 74 | Use of hand tools | Defective tools | Injury to person | 6 | 6 | **7** | 252 | High | 4 | Visual check before tool is used. Tool to be stored if not in use |
| 75 | Waste removal | Falling materials grab striking persons/ property | Injury to persons /damage to property | 6 | 6 | **7** | 252 | High | 4 | Only use grab or excavator, when operator has clear view of surroundings. No person allowed within the working range of the grab or excavator |

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

WORK PROCESS CATEGORY: **CONSTRUCTION ACTIVITIES**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 76 | Relocation of water Sewer and Electrical cables | Disruption of essential services | Community effected | 6 | 6 | 3 | 108 | Substantial Risk | 3 | Notification of supply service being disrupted to be communicated well in advance |

**BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS**

WORK PROCESS CATEGORY: CONSTRUCTION ACTIVITIES

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 78 | Kerb inlet | Work zone not demarcated | Persons/s struck by vehicle | 6 | 6 | 7 | 252 | High | 4 | Traffic Management Plan to be fully implemented |
| 79 | Cut off drains | Work zone not demarcated | Persons/s struck by vehicle | 6 | 6 | 7 | 252 | High | 4 | Traffic Management Plan to be fully implemented |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | Inlet and outlet structures | Work zone not demarcated | Persons/s struck by vehicle | 6 | 6 | 7 | 252 | High | 4 | Traffic Management Plan to be fully implemented |
| 81 | Applying tack | Contamination | Eye injury | 6 | 6 | **7** | 252 | High | 4 | Close supervision at all times |
| 82 | Disposal of waste | Contamination | illness | 6 | 6 | **7** | 252 | High | 4 | Close supervision at all times |
| 83 | Working with hot asphalt | Heat stress / Burns | Injury to persons | 6 | 6 | **7** | 252 | High | 4 | Close supervision at all times |
| 84 | Cleaning tools with solvent | Use of chemical substance | Injury to persons | 6 | 6 | **7** | 252 | High | 4 | Close supervision at all times |

WORK PROCESS CATEGORY: **ROAD PATCHING**

| RISK REF | ACTIVITY | POTENTIAL HAZARD | RISK | RISK EVALUATION | | | RISK SCORE ExPxS | RISK LEVEL | RISK RANK | CONTROL MEASURE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | E | P | S | | | | |
| 85 | Use of jackhammer to open patch | Crushing and pinching<br>Slip, trip, falls in loose material | Incompetent employee working the jackhammer can cause injury to body parts | 6 | 6 | 3 | 108 | Substantial Risk | 3 | Employees using the jackhammer need to be trained by competent person |
| 86 | Filling of the road patch with cold mix or approved mix | Manual handling<br>Back injury | Poor work performance. Back sprains and strains | 6 | 6 | 7 | 252 | High | 4 | Handling of asphalt bags need to be done by two employees.<br>Training must be done to employees concerning manual handling |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 87 | Compaction with small ride on roller | vibration | Operator losing control and hitting employees | 6 | 6 | 7 | 252 | High | 4 | All employees need to be trained not to stand close to moving plant. They need to stand 20m cleared of the work zone |

8 REFERENCE

| **REFERENCE DOCUMENT** |
| --- |
| **Occupational Health and Safety Act, Act 85 of 1993** |
| **Environmental Act** |
| **Construction Regulations 2014** |

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