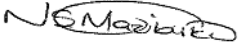



ETHEKWINI MUNICIPALITY
Occupational Health & Safety Unit



SITE BASELINE RISK ASSESSMENT

Construction Regulations 5.1.(a)

Document Title	Baseline S.H.E. Risk Assessment
Client	EThekweni Municipality- COASTAL STORMWATER & CATCHMENT MANAGEMENT
Project Name	Along 121908 STR, Amaoti, Inanda: Culvert inlet Works and Bank Erosion Protection Works – Ward 57
Contract Number	1D-35032
Date	18.03.2026
Compiled by (Safety Officer)	Name and Surname: <u>Ntombifuthi Mazibuko</u> Signature:  Date: <u>18.03.2026</u>
Approved by (Safety and Risk Manager)	Name and Surname: <u>Arty Zondi</u> Signature:  Date: <u>18.03.2026</u>
Revision Number	BRA:502/03/26

BASELINE RISK ASSESSMENT

1.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.

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

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

4.REVIEW AND MONITORING PLAN

The risk assessment form part of the health and safety plan to be applied on the site and must include the following:

- (a) The identification of the risk and hazards to which to which persons may be exposed.
- (b) An analysis

5. REFERENCES

- (a) Tender document number 1D-35032
- (b) Occupational Health & Safety Act and its Regulation

6.LOCALITY PLAN

SCOPE OF WORK

Along 121908 STR, Amaoti, Inanda: Culvert inlet Works and Bank Erosion Protection Works – Ward 57

The scope of works is as follows:

- cast insitu concrete works for the inlet retaining walls for the existing culvert
- cast insitu concrete works for the base slab for the inlet headwall, including the key wall (600mm deep)
- supply and lay 450mm diameter concrete stormwater pipelines
- supply and erect/construct pvc coated gabion retaining walls and mattresses
- temporary relocation of water and sewer existing services within the contract area
- provision of stream diversion measures for the duration of the contract
- excavation for structures, pipelines and retaining walls
- clear and tidy the site.

1. RISK ESTIMATION AND EVALUATION

RISK CLASSIFICATION USING A RISK SCORE TECHNIQUE

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

BASELINE RISK ASSESSMENT WORKSHEET

	Activity	Hazard	Risk	Risk Evaluation			Risk Score	Risk level
				E	P	S		
1	Access to the site							
	<ul style="list-style-type: none"> Traveling to and from site in a vehicle. 	<ul style="list-style-type: none"> Safety belts not worn when traveling in, or operating a vehicle. Vehicle not equipped with safety belts for all passengers. Over speeding of vehicles. Driving on public roads. 	<ul style="list-style-type: none"> Injuries caused when in vehicle accident. Fatalities when in vehicle accident Risk of personnel being injured by over speeding vehicles. Involved in accident. 	6	6	7	252	4
2	Material delivery to the site							
	<ul style="list-style-type: none"> Loading and offloading of equipment manually. Mechanical handling. 	Employee being struck by the load.	<ul style="list-style-type: none"> Back strain Skeletal damage Head, hand, and foot injuries. Serious injury Fatality 	3	6	7	126	3

3	Site establishment							
	<ul style="list-style-type: none"> • Manual and mechanical clearing of the land • Off-loading and positioning of containers by mobile crane • Fencing off the site • Installation of temporary water supply, electricity, ablution facilities, 	<ul style="list-style-type: none"> • Incompetent construction mobile plant operator • Manual Handling of equipment and materials. • Uneven surfaces • Driving on dangerous and undulating terrain. • Reckless driving. • Electrocutation • Incorrect/ poor connection of temporary services 	<ul style="list-style-type: none"> • Injuries, Accidents • Skeletal injuries • Destruction of services • Death, burns 	6	6	7	252	4
4	Site clearing							
	<ul style="list-style-type: none"> • Clearing of the site using construction mobile plant 	<ul style="list-style-type: none"> • Overgrown vegetation • Rubble existing on site • Snakes • Bees • Incompetent 	<ul style="list-style-type: none"> • Nuisance, poisonous • Environmental contamination • Death, poison • Accident/ property damage. 	6	6	7	252	4

		<ul style="list-style-type: none"> driver/ operator Unsafe construction mobile plant Petrol and oil spillages 	<ul style="list-style-type: none"> Collision with other vehicles Noise 					
5	Protection of existing services							
	<ul style="list-style-type: none"> Relocation and maintenance of watermains, sewer, stormwater, electrical cables, telkom/ neotel cables. 	<ul style="list-style-type: none"> Disturbance of the services, Improper connection, Sewer spillage, Blockage of sewer and stormwater lines Exposure to biological agents Electrocution Damage to Telkom/ neotel cables, stormwater, sewer 	<ul style="list-style-type: none"> No water and electricity, community strikes, Health hazards Environmental hazards Burns, death Financial costs for replacing damaged cables 	6	6	7	252	4
6	Removal of rubble and large trees							
	<ul style="list-style-type: none"> Mechanical and manual loading of rubble Mechanical removal of trees 	<ul style="list-style-type: none"> Dust, Mobile plant came into contact with trucks. 	<ul style="list-style-type: none"> Respiratory problem. Damage to equipment. Damage to 	3	6	7	126	3

	<ul style="list-style-type: none"> Removal of rubble and trees to damp site 	<ul style="list-style-type: none"> Incompetent operator and lack of planning. Reckless driving. 	<ul style="list-style-type: none"> property. Motor Vehicle Accident 						
7. Construction Activities of Gabions									
	<ul style="list-style-type: none"> Construction of Gabion 	<ul style="list-style-type: none"> Cutting of the mesh fabric Handling wire Poor ergonomics may result in muscular skeletal injuries 	<ul style="list-style-type: none"> Hands Injuries Skeletal injuries Back strain Skeletal damage 	6	3	7	126	3	
9	Traffic management								
	<ul style="list-style-type: none"> The use of construction vehicle and mobile plant in the public and next to private roads/ streets 	<ul style="list-style-type: none"> Poor/ no traffic management plan in place Lack of traffic management training Unroadworthy plant and vehicle Collision with other vehicles 	<ul style="list-style-type: none"> Accidents, death, broken bones, damage to property Noncompliance with the National Road Traffic Act, Council Road Traffic bi-laws and other applicable Regulations Blockage/ inconvenient access to industrial/ 	6	6	7	252	4	

			commercial areas					
10	Busy residential areas							
	<ul style="list-style-type: none"> Working next to residential, commercial, industrial areas 	<ul style="list-style-type: none"> Public exposure to construction activities. Destruction of businesses and services in the area. Other activities in the areas Strikes in the area 	<ul style="list-style-type: none"> Injuries public and employees, broken bones, damage to property, death, Production loss, disturbance of personnel activities Fights, lawsuits, disagreement Damage to property, injuries to employees 	6	3	7	126	3
11	Construction mobile plant and machinery							
	<ul style="list-style-type: none"> Use of construction vehicles and mobile plants and equipment 	<ul style="list-style-type: none"> Unsafe construction plants and equipment Incompetent drivers/operators Uneven surface Equipment/machinery failure 	<ul style="list-style-type: none"> Accidents. Property damage. Noncompliance with DMR. Noncompliance with stipulated safe working load. Capsizing of mobile 	6	6	7	252	4

		<ul style="list-style-type: none"> • Running out of control • Noise • Vibration • Oil Spillage • Dust 	<p>construction plants. Jammed construction mobile plants, death</p> <ul style="list-style-type: none"> • Injury to employees and community, death, loss of limb/ disablement • Damage to property • Noise induced hearing loss • Muscular pains, kidney damage, • Environmental contamination • Lung disease 							
12	Breaking and removal of existing paving.									
	<ul style="list-style-type: none"> • Use of a breaker and a saw cutting machine. 	<ul style="list-style-type: none"> • Defective machine. • Incorrect operating methodology/b reaker operated by an incompetent person. • Pointed objects 	<ul style="list-style-type: none"> • Injury to employees. • Muscular pains, kidney damage, • Noise induced hearing loss. 	3	6	7	126	3		

		<ul style="list-style-type: none"> e.g. wires, nails, crusher and glasses. Vibration. Noise. 							
13	Construction of concrete Pipes								
	<ul style="list-style-type: none"> Steel fixing Pouring of ready-mix concrete Floating of the slab 	<ul style="list-style-type: none"> Manual handling of steel/ sharp points Cement contact with body Over bending 	<ul style="list-style-type: none"> Hand injuries, Environmental contamination Lung disease, eye irritation Injury to hands Backache 	6	6	3	108	3	
14	Construction/upgrading of stormwater drainage system								
	<ul style="list-style-type: none"> Excavation above 1m deep using and excavator and TLB Preparation and laying of concrete pipes using a lifting equipment Construction of above 1m deep manhole using cement, blocks, handtools and concrete manhole rings/ cover 	<ul style="list-style-type: none"> Excavating in an in fill and dumped material Collapsing of trenches. Unsafe access to trench Unprotected trenches People exposure to excavations Unsafe lifting devices Incompetent 	<ul style="list-style-type: none"> Collapsing of trench walls Death, dislocation, trauma/ panic attack Broken bone, dislocation, Falling into excavation. Injury to body. Accidents. Property Damage. Noncompliance with DMR. 	6	6	7	252	4	

	<ul style="list-style-type: none"> • Connection of the stormwater pipes into the existing stormwater drainage system 	<ul style="list-style-type: none"> lifting machinery operator • Equipment failure • Overloading of equipment/ machinery • Working/ operating equipment too close to the excavation • Contact with and inhalation of cement dust • Manual handling of heavy manhole rings and covers • Incorrect connection of stormwater pipes 	<ul style="list-style-type: none"> • Noncompliance with stipulated safe working load. • Falling into excavation. Property damage. • Respiratory diseases. Skin disease/ irritation • Back/ spine problems. Possible of pinch. Skeletal injuries. Injury to hands and toes. • Destruction/ blockage of stormwater drainage system 							
15	Manual moving of precast product									
	<ul style="list-style-type: none"> • Manual handling and moving of precast product using wheelbarrows, 	<ul style="list-style-type: none"> • Unsafe wheelbarrows, • Manual handling of precast product • Lifting of 	<ul style="list-style-type: none"> • Injury to hands/ toes • Skeletal injuries • Slippery surface • Tripping hazards 	3	3	3	27	2		

		<ul style="list-style-type: none"> excess/ heavy load Ergonomics hazards 	<ul style="list-style-type: none"> Ergonomic risks 					
16	Earthworks							
	<ul style="list-style-type: none"> Layer works Compaction 	<ul style="list-style-type: none"> Traffic accidents on site when transporting materials. Reversing of trucks and mobile plant. Dust inhalation. Incompetent driver/ operator Dust Vibration Noise 	<ul style="list-style-type: none"> Damage to Property. Respiratory failure Fatigue. Kidney damage. Muscle/ body/ joint pain Noise induced hearing loss Burns, skin infections Breathing/ respiratory diseases 	3	3	3	27	2
17	Site security							
	<ul style="list-style-type: none"> Provision of security to staff and property 	<ul style="list-style-type: none"> Incompetent security personnel Unguided property Unprotected/ fenced site camp Working in a 	<ul style="list-style-type: none"> Loss of property Theft, Financial risk Uncontrolled entry Hijacking/ Mugging 	6	6	3	108	3

		high risk zone						
17	Excavation Work							
	<ul style="list-style-type: none"> Excavation work 	<ul style="list-style-type: none"> Manual and mechanical excavation 	<ul style="list-style-type: none"> Unforeseen underground services Unsafe hand tools Unsafe construction mobile plants Uneven surface/ ground condition Incompetent construction mobile plant operation 	6	6	3	108	3