ETHEKWINI MUNICIPALITY
Occupational Health & Safety Unit

BASELINE RISK ASSESSMENT

Document Title	Baseline Risk Assessment
Client	EThekwini Municipality – Water and Sanitation
Project Title	R K Khan sewer Re-alignment
Contract Number	WS7386
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Approved by (Safety and Risk Manager)	Name and Surname: Signature: Date: 10/08/2023
Reference Number	BRA 158/08/2023

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:

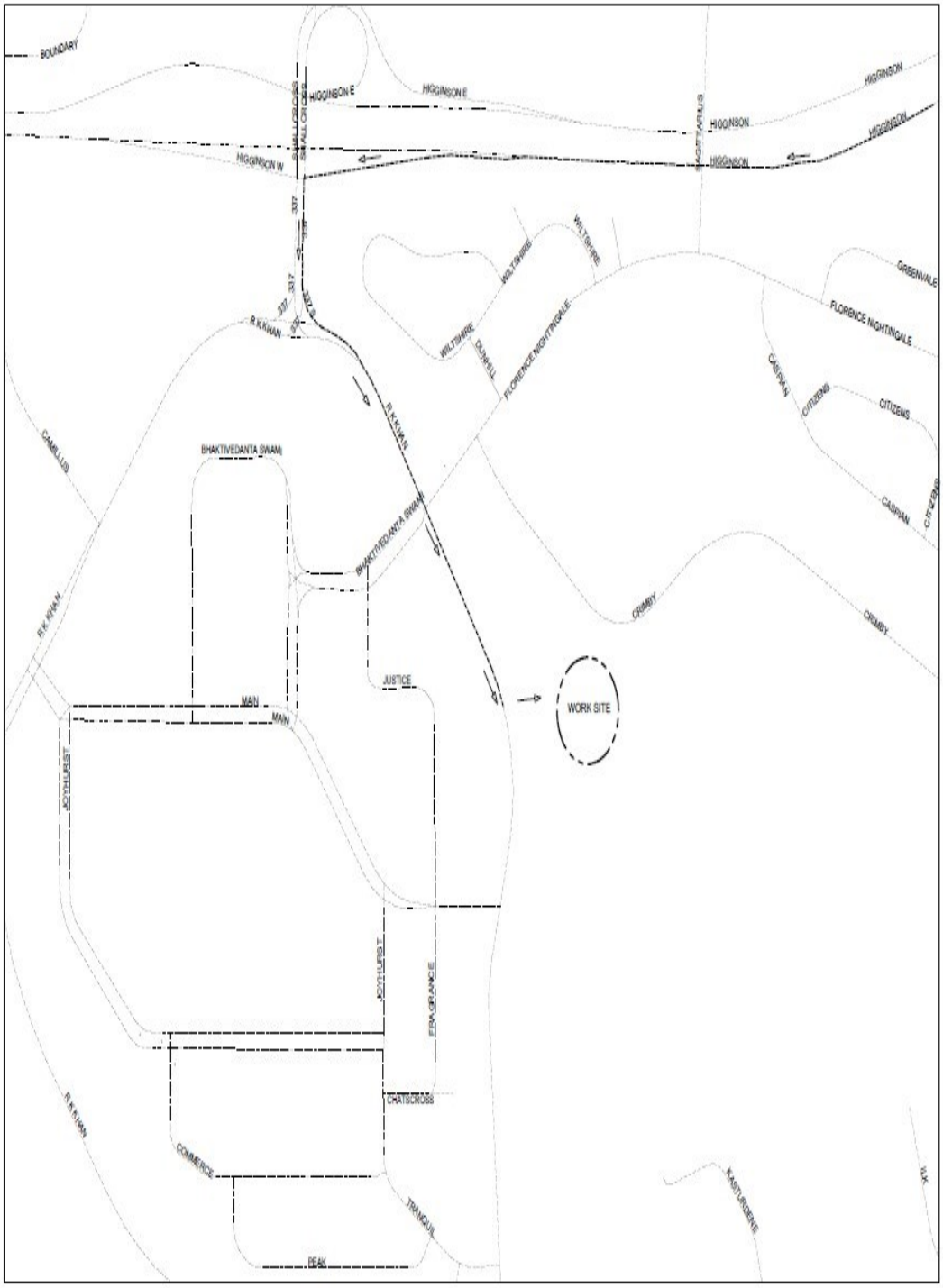
(a) The identification of the risk and hazards to which to which persons may be exposed.
(b) An analysis

5. REFERENCES

(a) Occupational Health & Safety Act and its Regulation

(b) Tender Document WS7386

6. LOCALITY PLAN



(R K KHAN ROAD) SITE

(SCALE: N.T.S)

SCOPE OF WORK

- Conventional open trench for the sewer pipe
- Prepare pipe bedding, lay the pipe, backfill and compact
- Build new manholes and construct benching
- Connection into existing live sewer line and new sewers
- Such other works as may be deemed necessary by Engineer for the completion
- Scan the proposed pipeline route (with approved cable detecting devices.
- Provide protection to services that are visible and that are reflected on drawings (telephone poles; electricity cables; water meter).
- Prepare pipe bedding and lay, backfill and compact 400mm diameter HDuPVC sewer pipe.
- Remove and re-align existing sewer pipe.
- Create and maintain access to the site.
- Construct new sewer manholes (Type A and B benching).
- Construct new sewer house connections.
- Break into and connect to existing sewer manhole (at correct line and level) and make good all benching and deal with live sewage flow during construction.
- Construct a retaining wall.

1. 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

BASELINE RISK ASSESSMENT WORKSHEET: IDENTIFYING EXISTING & POTENTIAL RISKS

1	**Site Access**								
	Activity	**Hazard**	**Risk**	**Risk Evaluation**			**Risk Score**	**Risk level**	**Risk Rank**
				E	P	S			
	Accessing the site using construction vehicles or walking to site. Delivering of equipment and material to the site	Excessive speed, head on collusion, employees knocked by moving vehicles. Road blocked off due to community protest. Manual Handling and excessive lifting.	Accidents, damage to equipment or severe injuries or death. Back injuries,	6	6	7	252		4
2	**Site Establishment**								
	Manual and mechanical clearing of the land. Off-loading and positioning of offices by mobile crane. Fencing. Installation of temporary water supply, electricity, ablution facilities	Dust, Snakes, Bees & Wasps. Incompetent operator. Poor connection of temporary services.	Poisoned and death. Collision/impacts of mobile lifting equipment loads and dropped loads with process plant, pipe work, electrical cables and people. Water leaks, Electrocution, improper connection	6	6	7	252		4

3	**Traffic Accommodation**								
	Installation of temporally signs Traffic diverting/ Management	Knocked down by moving vehicles, poor demarcation/ displaying of signs. Poor traffic management plan. Incompetent traffic controllers	Personal injuries or death. Road Accident	6	6	7	252		4
4	**Construction on Manholes**								
	Manhole access Mechanical lifting of concrete manhole rings and roof slabs. Backfilling around the manhole.	Unsafe access. Unsafe lifting. Incompetent lifting operator.	Fall risks. Personal injuries. Damage to property	6	6	7	252		4
5	**Excavation Work & Back Filling**								
	Mechanical and manual excavation. Back filling mechanical and manual	Incompetent operator. Machine running out of control. Open excavation. Dust. Operating mobile plant next to open excavation. Unsafe tools, damage of pipes by stone Back fill material.	Personal injury/possible disabling injuries. Property to damage Respiratory problem.	6	6	7	252		4

6	**Pipe Laying**								
	Mechanical lifting of steel pipe	Incorrect lifting of pipes	Personal injuries/death Damage to property	6	6	7	252		
7	**Tie Ins to existing manholes**								
	Blank off all pipelines connected to the manhole	Improper lifting manhole covers Falling in a manhole Oxygen deficient	Personal injuries/death	6	6	7	252		4
8	**Existing Services**								
	Identify the existing services	Snakes Unforeseen hazards	Poisoned and death. Personal injuries.	6	6	7	252		4
9	**Removal of rubble**								
	Mechanical and manual loading of rubble Mechanical removal of trees Removal of rubble and trees to damp site	Dust, Mobile plant came into contact with trucks. Incompetent operator and lack of planning. Reckless driving.	Respiratory problem. Damage to equipment. Damage to property. Motor Vehicle Accident.	3	6	7	126		3
10	**Compaction**								
	Operating a bomag roller, wacker etc.	Incompetent operator. Noise. Vibration.	Personal injuries and damage to property. Noise Induce. Hearing	6	6	3	108		3

			loss. Kidney problem. Body pain.						
11	**Construction of Pedestrian Walkways**								
	Pouring of concrete by ready mix truck. Excavations for walkways. Manual and Mechanical Excavation.	Reckless driving. Incompetent operator. Unsafe hand tools.	Motor Vehicle Accident. Personal injuries.	3	3	7	63		2
12	**Construction Mobile Plant and Equipment**								
	Use of Plant & Equipment on site	Incompetent operator Unsafe plant & equipment. Collusion with other vehicles. Petrol and oil spillages.	Personal injuries. Motor vehicle accident. Environmental contamination.	6	6	7	252		4
13	**Emergency Management**								
	Development and Implementation of an Emergency Management Plan	Failure to have a basic, site specific emergency management plan. Workers not trained in the Emergency Plan. Insufficient or no emergency equipment or personnel.	Injury or damage to property. Inability to respond to emergencies. Insufficient or no emergency equipment.	6	6	3	108		3
14	**Community Risk Management**								

	Managing community risk	Failure to adequately monitor and manage the multi-faced social issues.	Violent protests. Injury to employees and property damage.	6	6	3	108		3
15	**Subcontractor Management**								
	Managing subcontractors	Failure to adequately assess subcontractors S.H.E Management System before work commences and at regular intervals. Inadequate Supervision. Utilizing incompetent Subcontractors.	Injury and non-compliance to legislation. High level of employee unsafe behavior. Accidents and property damage.	6	6	3	108		3