

THE PROPOSED NTUZUMA B PHASE 2 SEWER RETICULATION IN ETHEKWINI MUNICIPALITY, KWAZULU – NATAL

DRAFT BASIC ASSESSMENT REPORT

**THE PROPOSED NTUZUMA B PHASE 2 SEWER RETICULATION IN
ETHEKWINI MUNICIPALITY, KWAZULU – NATAL**



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Date	02/ 10/ 2020	
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Date	08/ 10/ 2020	

EXECUTIVE SUMMARY

Qajana Trading (Pty) Ltd was appointed to represent eThekweni Metropolitan, Engineering Unit: Water and Sanitation as their independent Environmental Assessment Practitioner (EAP) to undertake the environmental services required for the proposed construction of sewer reticulation within a portion of Ntuzuma B ward 38, 41 and 45 in eThekweni Municipality. The proposed development requires an Environmental Authorisation and a Water Use Licence prior to construction commencing.

The proposed Ntuzuma B sewer reticulation entails of the following specification/works 9 km of Sewer Reticulation, 740 properties will be serviced and connected. The reticulation will have a pipe diameter of 160mm, a trench width of 760mm and a maximum trench depth of 2m. The reticulation has 6 watercourse crossings over the KwaMashu and Ntuzuma Streams. A diversion of the watercourse will be required during the construction process. The proposed sewer reticulation will tie into the existing sewerage reticulation network that ties into the KwaMashu Waste Water Treatment Plant.

A vital part of the BA process is the public participation process, where residents, neighbours and relevant organisation that may be interested in or affected by the proposed activity are notified of the proposed activity and afforded an opportunity to expression their comments and concerns throughout the BA process. Interested and Affected Parties were identified and notified of this application via email (Notification Sheet) on the 19th August 2020 and will continue to receive notifications and/or reports on this application. Furthermore, a Background Information Document was circulated to the stakeholders that received the notification sheet on the 4th of September 2020. An English and isiZulu advert was placed in the EzaseGagasini News Letter on the 14th of August 2020 and an isiZulu advert was inserted in the local newspaper, Isolezwe, as well. Site Notices were placed in various locations around the site jurisdiction on the 2nd of September 2020. This included a meeting with ward councillors as well as providing them with flyers that were going to be distributed by ward committee members to ensure that the community was aware of the proposed project. The purpose of the flyers was to notify the community as well as invite the community members to register as IAP.

The proposed development will not cause significant negative impacts on the natural or social environment, or result in undue risks to the natural environment. The nature and types of negative impacts identified are outweighed by the potential benefits of the project, provided that the localised impacts of the construction phase are adequately mitigated. Additionally, an EMPr compiled will serve as a guide in ensuring that the impacts are kept at a minimal. It is recommended that external EMPr monitoring takes place by an independent ECO during the construction phase to ensure that the requirements of the EMPr are being correctly implemented, thus ensuring the protection of the surrounding environs.

ABBREVIATIONS

- BAR – Basic Assessment (Report)
- BID – Background Information Document
- CA – Competent Authority
- CB – Coastal Belt
- D'MOSS – Durban Municipal Open Space System
- DEA – Department of Environmental Affairs
- DWS – Department of Water and Sanitation
- EA – Environmental Authorization
- EAP – Environmental Assessment Practitioner
- ECO – Environmental Control Officer
- EDTEA – Department of Economic Development Tourism and Environmental Affairs
- EIA – Environmental Impact Assessment
- EKZNW – Ezemvelo KwaZulu Natal Wildlife
- EMPr – Environmental Management Programme
- ES – Environmental Score
- GNR – Government Notice Regulation
- IAP – Interested & Affected Parties
- IAPS – Invasive Alien Plant Species
- KZN – KwaZulu Natal
- NEMA – National Environmental Management Act (107 of 1998)
- NFEPA – National Freshwater Ecosystem Priority Area
- NGO – Non Governmental Organization
- NWA – National Water Act (Act 36 of 1998)
- PPP – Public Participation Process
- RIAM – Rapid Impact Assessment Matrix
- SG – Surveyor General
- SWMP – Storm Water Management Plan
- WUL(A) – Water Use License (Application)

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
ABBREVIATIONS	3
TABLE OF CONTENTS	4
1. BACKGROUND	6
1.1 DETAILS OF THE EAP.....	7
1.2 DESCRIPTION.....	7
1.3 PROJECT LOCATION	7
1.4 NEED & DESIRABILITY	13
1.5 PREFERRED SITE.....	14
1.6 ALTERNATIVES.....	15
1.7 NO-GO AREA.....	15
1.8 PREFERRED TECHNOLOGY.....	15
2 LEGISLATION & POLICY	16
2.1 LIST NOTICES & ACTIVITIES OF THE PROJECT.....	16
2.2 WATER USE LICENCE	16
2.3 EDTEA PRE-APPLICATION MEETING.....	21
3 PROJECT DESCRIPTION	22
3.1 DESCRIPTION.....	22
3.1 SITE ACCESS	22
3.2 SITE CAMP.....	22
3.3 CONSTRUCTION PERIOD	23
3.4 POST-CONSTRUCTION.....	23
4 BIOPHYSICAL ENVIRONMENT	25
5 SPECIALIST STUDIES	27
5.1 GEOTECHNICAL STUDY	27
5.1.1 GEOTECHNICAL RECOMMENDATIONS	27
5.2 HYDROLOGICAL STUDY.....	27
5.2.1 HYDROLOGICAL RECOMMENDATIONS	27
5.3 VEGETATION ASSESSMENT.....	28
5.3.1 VEGETATION ASSESSMENT RECOMMENDATIONS	28
5.4 WETLAND IMPACT ASSESSMENT	29
5.4.1 WETLAND IMPACT RECOMMENDATIONS	29
5.5 GEOHYDROLOGY ASSESSMENT.....	29

5.5.1	GEOHYDROLOGICAL RECOMMENDATIONS	29
5.6	STORMWATER MANAGEMENT PLAN	30
5.6.1	STORMWATER MANAGEMENT PLAN RECOMMENDATIONS	30
6	IMPACT ASSESSMENT	32
6.1	METHODOLOGY	33
6.2	IDENTIFIED IMPACTS	34
6.3	IMPACT MATRIX.....	43
6.4	MATRIX OUTCOMES.....	47
7	ENVIRONMENTAL STATEMENT	48
7.1	EAP RECOMMENDATIONS	48
7.2	CONSTRUCTION PERIOD	50
7.3	SUBMISSION & CONSIDERATION.....	50
8	PUBLIC PARTICIPATION	51
9	ANNEXURES	52
9.1	EAP CV & DECLARATION	52
9.2	21 DIGIT SURVEYOR GENERAL CODE.....	52
9.3	PRE – APPLICATION MINUTES	52
9.4	PUBLIC PARTICIPATION REPORT	52
9.5	SPECIALIST STUDIES.....	52

1. BACKGROUND

Qajana Trading (Pty) Ltd was appointed to represent eThekweni Metropolitan, Engineering Unit: Water and Sanitation as their independent Environmental Assessment Practitioner (EAP) to undertake the environmental services required for the proposed construction of sewer reticulation within a portion of Ntuzuma B ward 38, 41 and 45 in eThekweni Municipality. The proposed development requires an Environmental Authorisation and a Water Use Licence prior to construction commencing.

Water and sanitation is a huge developmental issue in South Africa and affects the whole country. Ntuzuma B, like most of South Africa, does not contain waterborne sewerage and residents are dependent on pit latrines and septic and/or conservancy tanks for sanitation purposes. The surrounding features include tributaries that deposit into critical water sources. The lack of adequate infrastructure possess a risk of water pollution if the correct sanitation infrastructure is not prioritised. The proposed development therefore entails the construction of approximately 9km of sewer reticulation infrastructure, with alterations on a watercourse bank and bed through watercourse crossing through the KwaMashu and Ntuzuma Streams. 740 properties will be serviced by the proposed sewer reticulation. The proposed infrastructure will be placed predominantly within the existing road network and will require a limited amount of vegetation clearing due to the transformed nature of the receiving environment. The proposed reticulation will tie into the existing sewerage infrastructure which is treated at the KwaMashu Waste Water Treatment works.

As per GN R326 of the Environmental Impact Assessment (EIA) Regulations (2014), as amended (2017), a Basic Assessment (BA) Process must be undertaken in a manner that the environmental outcomes, impacts and residual risks of the proposed activities are assessed accordingly by the EAP. In light of the above, the requirements of the BA Process are noted in the EIA Regulations (2014) as amended (2017).

The outcome of the BA Process is to provide the Competent Authority; the KwaZulu Natal Department of Economic Development, Tourism and Environmental Affairs (EDTEA), with sufficient information to provide a decision on the Application in terms of an Environmental Authorisation, to avoid or mitigate any detrimental impacts that the activity may inflict on the receiving environment.

1.1 DETAILS OF THE EAP

The table below provides the details of the EAP; the full CV is attached in the annexures.

Details of the EAP	
Name of the Company	Qajana Trading
Contact Person	Muziwandile Khuzwayo
Education	BSS Geography & Environmental Management (UKZN) MA Development Studies (UKZN) – Currently Finalizing Research Report.
Contact Details	muziwandilek@qajanagroup.co.za

Table 1.1: Details of the EAP

1.2 DESCRIPTION

The proposed Ntuzuma B sewer reticulation entails of the following specification/works:

- 9 km of Sewer Reticulation;
- 740 properties will be serviced and connected;
- The reticulation will have a pipe diameter of 160mm, a trench width of 760mm and a maximum trench depth of 2m;
- The proposed reticulation has 6 watercourse crossings over the KwaMashu and Ntuzuma Streams;
- A diversion of the watercourse will be required during the construction process;
- The sewerage reticulation will tie into the existing sewerage reticulation; and
- The existing sewerage reticulation network ties into the KwaMashu Waste Water Treatment Plant.

1.3 PROJECT LOCATION

The proposed site occurs approximately 21km from the central business district of Durban, in Ntuzuma B wards 38, 41 and 45. The approximate Latitude and Longitude coordinates for the central portion of the site are 29°44'18.38"S and 30°56'26.08"E. Vehicular and pedestrian access to the site is available via several asphalt roads and footpaths leading off Ingcebo Drive along the western site limit, via Mpangele Road along the southern site boundary, and Mbondwe Road along the northern site extremity

The landowner details, 21-digit Surveyor General (SG) code and erf details are provided in the Annexures.

Northern Periphery Co-ordinates	29°44'12.79"S	30°57'21.67"E
Eastern Periphery Co-ordinates	29°45'4.54"S	30°57'43.71"E
Southern Periphery Co-ordinates	29°45'13.98"S	30°56'56.85"E
Western Periphery Co-ordinates	29°44'56.93"S	30°56'21.79"E

Table 1.2: Boundary Site Co-ordinates

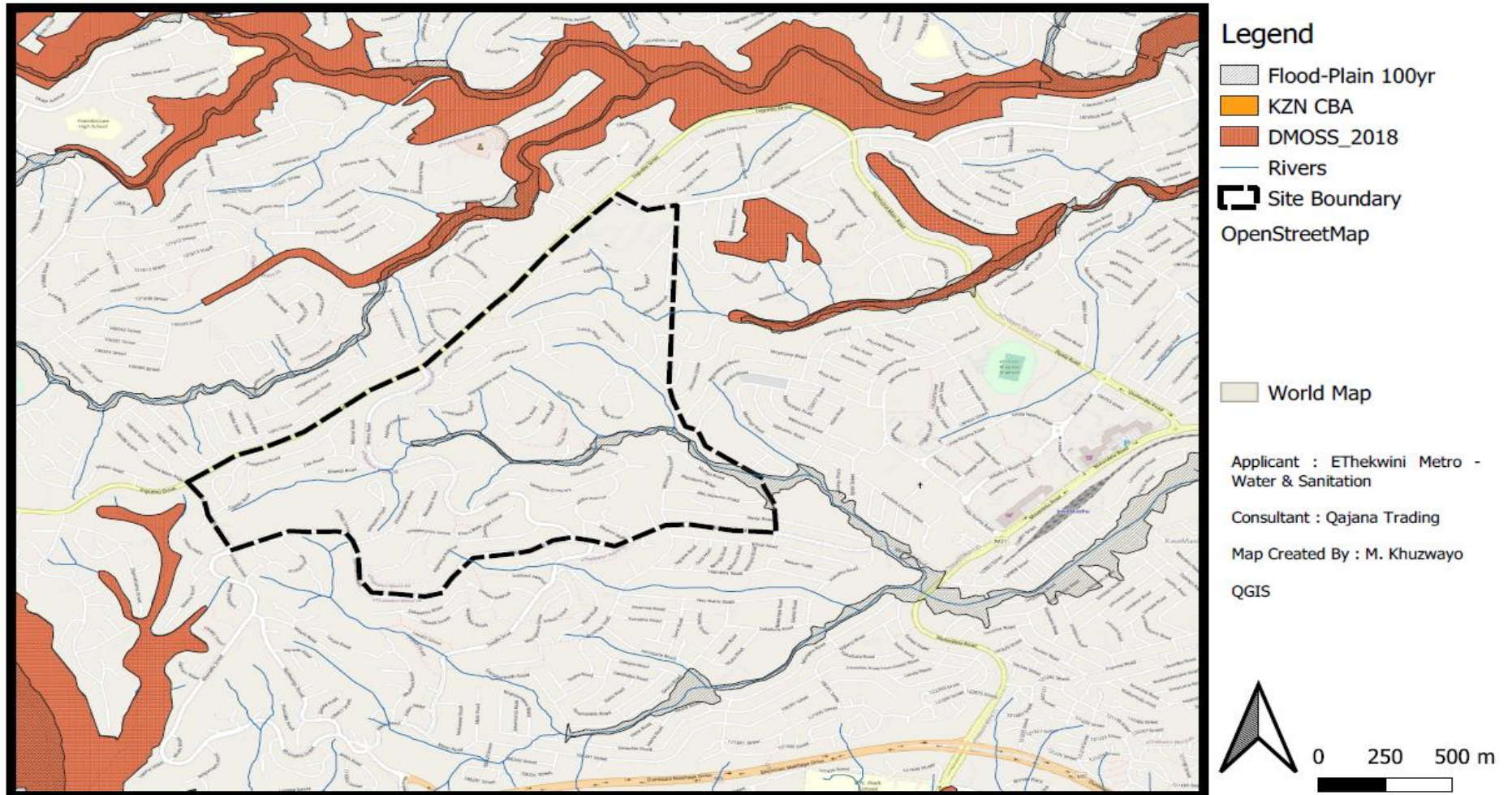
Latitude	Longitude	Latitude	Longitude
29°44'36.50"S	30°56'59.03"E	29°44'47.35"S	30°57'18.81"E
29°44'38.34"S	30°56'56.98"E	29°44'47.59"S	30°57'18.21"E
29°44'39.91"S	30°56'57.15"E	29°44'46.62"S	30°57'18.87"E
29°44'40.19"S	30°56'58.66"E	29°44'47.02"S	30°57'17.69"E
29°44'40.52"S	30°56'59.28"E	29°44'47.49"S	30°57'17.78"E
29°44'39.19"S	30°57'1.08"E	29°44'44.05"S	30°57'19.16"E
29°44'41.08"S	30°56'59.86"E	29°44'45.24"S	30°57'19.59"E
29°44'41.99"S	30°57'0.86"E	29°44'44.72"S	30°57'21.46"E
29°44'43.25"S	30°56'58.77"E	29°44'46.78"S	30°57'21.98"E
29°44'42.42"S	30°57'1.55"E	29°44'48.48"S	30°57'21.98"E
29°44'42.81"S	30°57'0.92"E	29°44'48.33"S	30°57'22.62"E
29°44'41.57"S	30°57'3.00"E	29°44'48.74"S	30°57'23.13"E
29°44'41.62"S	30°57'1.44"E	29°44'48.57"S	30°57'24.00"E
29°44'40.35"S	30°57'3.31"E	29°44'35.14"S	30°57'12.68"E
29°44'42.52"S	30°57'1.50"E	29°44'34.79"S	30°57'13.39"E
29°44'42.87"S	30°57'1.85"E	29°44'34.87"S	30°57'14.38"E
29°44'44.01"S	30°57'2.01"E	29°44'34.67"S	30°57'17.03"E
29°44'45.56"S	30°57'2.51"E	29°44'35.53"S	30°57'17.19"E
29°44'47.29"S	30°57'1.34"E	29°44'35.99"S	30°57'12.42"E
29°44'47.38"S	30°57'0.58"E	29°44'35.53"S	30°57'17.19"E
29°44'46.09"S	30°57'0.18"E	29°44'37.31"S	30°57'20.36"E
29°44'46.33"S	30°56'58.82"E	29°44'37.93"S	30°57'20.69"E
29°44'45.96"S	30°56'56.99"E	29°44'39.01"S	30°57'22.67"E
29°44'45.55"S	30°56'58.40"E	29°44'39.01"S	30°57'23.81"E
29°44'45.28"S	30°56'59.60"E	29°44'39.51"S	30°57'24.40"E
29°44'46.05"S	30°57'0.27"E	29°44'40.01"S	30°57'23.72"E
29°44'45.47"S	30°57'0.80"E	29°44'40.98"S	30°57'20.79"E
29°44'44.15"S	30°57'0.54"E	29°44'40.33"S	30°57'21.40"E
29°44'44.28"S	30°56'59.36"E	29°44'40.67"S	30°57'22.75"E
29°44'43.94"S	30°56'59.12"E	29°44'40.04"S	30°57'23.74"E
29°44'43.50"S	30°56'59.75"E	29°44'43.10"S	30°57'26.55"E
29°44'48.56"S	30°57'1.95"E	29°44'43.40"S	30°57'27.28"E
29°44'47.84"S	30°57'2.87"E	29°44'44.14"S	30°57'27.79"E
29°44'48.96"S	30°57'2.19"E	29°44'44.49"S	30°57'27.79"E
29°44'49.33"S	30°57'1.91"E	29°44'43.98"S	30°57'25.00"E
29°44'50.78"S	30°57'3.03"E	29°44'43.29"S	30°57'24.88"E
29°44'48.36"S	30°57'3.52"E	29°44'43.08"S	30°57'26.57"E
29°44'51.19"S	30°57'6.02"E	29°44'42.75"S	30°57'24.64"E
29°44'51.47"S	30°57'6.89"E	29°44'42.48"S	30°57'25.92"E
29°44'51.77"S	30°57'6.85"E	29°44'42.05"S	30°57'24.61"E
29°44'52.74"S	30°57'12.52"E	29°44'41.93"S	30°57'25.39"E
29°44'53.60"S	30°57'13.68"E	29°44'41.29"S	30°57'23.67"E

29°44'54.10"S	30°57'14.35"E	29°44'41.15"S	30°57'24.61"E
Latitude	Longitude	Latitude	Longitude
29°44'53.61"S	30°57'16.25"E	29°44'41.06"S	30°57'22.67"E
29°44'54.03"S	30°57'16.75"E	29°44'41.03"S	30°57'22.12"E
29°44'53.26"S	30°57'16.98"E	29°44'41.31"S	30°57'21.79"E
29°44'53.61"S	30°57'16.35"E	29°44'41.86"S	30°57'21.74"E
29°44'48.21"S	30°57'6.54"E	29°44'42.59"S	30°57'20.99"E
29°44'47.22"S	30°57'8.54"E	29°44'43.05"S	30°57'20.77"E
29°44'49.31"S	30°57'6.92"E	29°44'43.23"S	30°57'23.10"E
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29°44'47.90"S	30°57'9.56"E	29°44'31.28"S	30°57'7.39"E
29°44'48.11"S	30°57'9.38"E	29°44'27.55"S	30°57'13.82"E
29°44'48.70"S	30°57'10.27"E	29°44'26.98"S	30°57'16.60"E
29°44'48.16"S	30°57'10.48"E	29°44'26.33"S	30°57'18.10"E
29°44'41.69"S	30°57'6.63"E	29°44'27.01"S	30°57'16.65"E
29°44'43.84"S	30°57'10.55"E	29°44'28.04"S	30°57'17.38"E
29°44'46.08"S	30°57'9.31"E	29°44'27.94"S	30°57'18.89"E
29°44'45.42"S	30°57'12.24"E	29°44'29.33"S	30°57'9.46"E
29°44'45.67"S	30°57'13.42"E	29°44'29.87"S	30°57'9.89"E
29°44'46.81"S	30°57'13.07"E	29°44'28.52"S	30°57'10.60"E
29°44'48.17"S	30°57'12.44"E	29°44'29.13"S	30°57'11.09"E
29°44'46.69"S	30°57'14.04"E	29°44'28.16"S	30°57'11.06"E
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29°44'47.17"S	30°57'11.27"E	29°44'27.76"S	30°57'11.79"E
29°44'46.78"S	30°57'10.41"E	29°44'28.40"S	30°57'12.26"E
29°44'46.45"S	30°57'10.61"E	29°44'27.37"S	30°57'12.67"E
29°44'46.71"S	30°57'11.43"E	29°44'27.97"S	30°57'13.05"E
29°44'45.67"S	30°57'10.93"E	29°44'32.09"S	30°57'6.71"E
29°44'45.87"S	30°57'12.02"E	29°44'30.14"S	30°57'9.99"E
29°44'39.74"S	30°57'4.16"E	29°44'29.60"S	30°57'12.88"E
29°44'38.69"S	30°57'5.36"E	29°44'29.22"S	30°57'13.65"E
29°44'39.57"S	30°57'6.23"E	29°44'29.00"S	30°57'17.46"E
29°44'40.87"S	30°57'4.16"E	29°44'31.49"S	30°57'8.84"E
29°44'39.53"S	30°57'6.13"E	29°44'29.85"S	30°57'13.75"E
29°44'39.87"S	30°57'6.94"E	29°44'30.03"S	30°57'17.66"E
29°44'39.68"S	30°57'7.33"E	29°44'29.05"S	30°57'17.50"E
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29°44'48.58"S	30°57'16.42"E	29°44'27.99"S	30°57'20.97"E
29°44'39.63"S	30°57'8.89"E	29°44'30.02"S	30°57'22.42"E
29°44'39.16"S	30°57'10.08"E	29°44'31.31"S	30°57'25.14"E
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29°44'47.10"S	30°57'17.04"E	29°44'29.28"S	30°57'21.97"E
29°44'47.83"S	30°57'18.88"E	29°44'30.19"S	30°57'21.36"E
29°44'48.65"S	30°57'18.74"E	29°44'30.06"S	30°57'22.36"E
29°44'48.77"S	30°57'19.20"E	29°44'31.40"S	30°57'22.06"E
29°44'48.60"S	30°57'20.75"E	29°44'30.98"S	30°57'23.92"E

29°44'47.84"S	30°57'20.96"E	29°44'32.07"S	30°57'22.27"E
29°44'47.63"S	30°57'20.28"E	29°44'31.50"S	30°57'24.65"E
Latitude	Longitude		
29°44'32.20"S	30°57'24.60"E		
29°44'31.22"S	30°57'24.82"E		
29°44'27.32"S	30°57'20.99"E		
29°44'28.19"S	30°57'21.81"E		
29°44'29.62"S	30°57'25.96"E		
29°44'30.79"S	30°57'26.29"E		
29°44'28.70"S	30°57'25.39"E		
29°44'29.32"S	30°57'24.97"E		
29°44'29.71"S	30°57'27.95"E		
29°44'31.21"S	30°57'25.56"E		
29°44'32.09"S	30°57'27.03"E		
29°44'31.87"S	30°57'28.22"E		
29°44'31.31"S	30°57'28.96"E		
29°44'30.92"S	30°57'31.77"E		
29°44'29.75"S	30°57'19.22"E		
29°44'31.34"S	30°57'19.64"E		
29°44'31.52"S	30°57'19.98"E		
29°44'32.15"S	30°57'19.80"E		
29°44'32.80"S	30°57'20.25"E		

Table 1.3: Co-ordinates for the proposed Sewer Line

Ntuzuma B Sewer reticulation Boundary Map



1.4 NEED & DESIRABILITY

Ntuzuma B, currently, does not have waterborne sewerage and that does not fully serve the basic needs of the community. As such residents are dependent on pit latrines and septic/conservancy tanks for sanitation purposes. In certain instances, the pit latrines and septic/conservancy tanks are constructed on rocky terrain and in close proximity to tributaries. This poses a pollution risk to the watercourse, as well as a health risk to the surrounding community and downstream users. The implementation of the proposed sewer reticulation development is needed to reduce the pollution risk posed by the pit latrines and septic/conservancy tanks. Therefore, the proposed development benefits not only the natural environment, but the health of the surrounding community.

Furthermore, 740 properties will be serviced with house connections to sewerage reticulation since there is a need for sewer infrastructure to meet the demands of the current and projected population. Temporary job opportunities will be created during the construction phase. The implementation of the proposed development will ease some of the developmental challenges confronted by the Municipality, as a result of population growth. These challenges include the improvement of living conditions for the community involved, as well addressing the backlog of infrastructure service provision in terms of sustainable sanitation services. The Constitution of the Republic of South Africa Act 108 of 1996 and the Water Services Act 108 of 1997, specify that Local Government must ensure that all their residents have access to safe sanitation. The proposed project forms part of eThekweni Municipality's aim to provide sanitation and fulfil the mandate of the Constitution and the Water Services Act. This in turn promotes environmental health, good hygiene practices and sanitation, and improves the community's sanitation.

The proposed site falls outside of the Durban Municipal Open Space System (D'MOSS). However, the streams that occur within the site are critical tributaries to the D'MOSS assets. These assets include rivers, wetlands, estuaries, grasslands, forests and coastal zone resources. The construction of Ntuzuma B sewer reticulation will reduce pollution of the streams surrounding the site area, and the risk of surface and ground water contamination will be considerably lowered as dependence on pit latrines will be lowered. Additionally, there will be a reduction in the amount of nutrient loading on local watercourses and wetland areas, resulting in reduced eutrophication, with an associated improvement in water quality, ecosystem health and biodiversity with the execution of the proposed project.

The images below depict the current sanitation methods and the state of one of the tributaries. It is evident that septic tanks are not well maintained and sewage is often diverted into the environment. There are pit latrines that are situated in a valley channel, which is a drainage system that contributes to the surrounding rivers. The project assumes to address natural resource pollution and service delivery through the provision of proper sanitation.



1.5 PREFERRED SITE

The preferred site entails the construction of sewer reticulation within a portion of Ward 38, 41 and 45, Ntuzuma B. The proposed development traverses various properties all owned by the Republic of South Africa (RSA) Government and eThekweni Municipality, as such no private land will be impacted upon. The proposed sewer reticulation is to be constructed, wherever possible, adjacent to the existing road infrastructure, thereby reducing the area of impact. The sewer reticulation will tie into existing sewerage infrastructure. The location of the proposed infrastructure is therefore the most feasible site alternative as the site is transformed and the reticulation will service a community in need of sewer infrastructure. The proposed reticulation will tie into the existing sewerage infrastructure; and the development will limit/reduce the pollution of the tributaries within the Ntuzuma B area. No other sites have therefore been investigated due to the need to provide services to the receiving community, whilst limiting the pollution of the associated watercourses.

1.6 ALTERNATIVES

There are no possible alternatives. If the development does not proceed, the community of Ntuzuma B will continue without sewerage infrastructure. This will result in the continuous use of pit latrines and soak ways/conservancy tanks that will continue having threats and potential threats to the tributaries that occur within the site area. Therefore, establishing sewer reticulation elsewhere would provide another portion of the community with services but would not stop the pollution within the site area of Ntuzuma B. As such, the preferred site is considered the only feasible site suitable to meet the need and desirability of the application efficiently and effectively.

1.7 NO-GO AREA

The no-go alternative would be the failure to implement the proposed activity. This would mean that the tributaries would continue to be polluted as a result of pit latrines and soak ways. In addition, the receiving community would not be supplied with basic sanitation services. This could pose a health risk to the receiving community and a biodiversity risk to the surrounding environment.

One of eThekweni Municipality's mandate is to manage the physical environment and the provision of sanitation infrastructure, amongst other priorities. This must be conducted in a responsible manner that considers the receiving community's health, infrastructure and environmental integrity. The proposed construction of the sewer reticulation infrastructure meets these criteria, as well as those stipulated in the eThekweni Municipality's IDP. On this basis, the no-go alternative should not be considered.

1.8 PREFERRED TECHNOLOGY

The preferred technology includes the establishment of the sewer reticulation with minimal impact to the receiving environment while still implementing service delivery. It is proposed that the sewer reticulation infrastructure will be constructed adjacent to the existing road network to minimize impacts. Whilst it is understood that pedestrian walkways and some driveways may need to be dug up during the construction phase, they will be replaced following the laying of the sewer pipeline.

To ensure minimal impact to the tributaries within the site, the watercourse crossing pipes will be in-cased with concrete and in severe cases will be supported with gabions to ensure that the pipe does not move/break and result in the contamination of watercourses during the operational phase. The pipeline cannot run above the ground because of terrain and issues revolving around the possibilities of damage to the infrastructure. The construction of watercourse crossings will be closely monitored to ensure that minimal impact is done on the environment.

This technology alternative has been proposed by the eThekweni Municipality's Engineering Unit as the most suitable and efficient technology given the physical attributes of the site, while taking into consideration the tributaries. As a result, this is the only technology alternative considered that meets the need and desirability of the application.

2 LEGISLATION & POLICY

South Africa is governed by the constitution, and Section 24 covers the right to an environment that does not affect a respectable life. Section 24 of the constitution gave rise to the National Environmental Management Act (NEMA), which is the principal legislation that administers the aspects of environmental management in the country. In ensuring sustainable development, the custodians of the legislation and the environment have developed regulations that provide activities that require an assessment and approval prior to execution. The most recent regulations (GNR 324, 325 & 327), as amended in 2017, of NEMA specify conditions that require an Environmental Authorization (EA) issued by the National Department of Environmental Affairs (DEA) or the provincial department. In this case, the KZN Department of Economic Development, Tourism and Environmental Affairs (EDTEA) oversees most of the applications that require approval. The Department of EDTEA may consent or reject the application based on the evidence submitted together with the proposal.

The issuing of the EA follows after the information specific to the activity has been reviewed by the competent authority (CA), together with the required investigation and the undertaking of the public participation process (PPP). The PPP affords the opportunity to various stakeholders, such as the neighbouring community, general public and other authorities, to comment or object on the proposed development. The process is regulated by various items stipulated in the Regulations and a specified period is provided for interaction with interested and affected parties (IAP) including the relevant authorities. The figure (2.1) below briefly provides the basic assessment process and the relevant periods for comments and consenting or rejecting the application.

2.1 LIST NOTICES & ACTIVITIES OF THE PROJECT

The proposed sewer reticulation in Ntuzuma B is the motivation for the application, as the activity proposes to alter the river banks/bed and impede a watercourse. The proposed activity falls within list notice 1 of the EIA regulations. Therefore, a Basic Assessment application is required. As an integral process, the impact assessment is set to cover various legislations that are related to the environment and those that cover the remaining principles of sustainable development.

2.2 WATER USE LICENCE

In terms of the National Water Act (Act 36 of 1998) (NWA), there are certain water uses that require authorisation through undertaking a Water Use Licence Application (WULA) process. The objective of the WULA process is to submit a complete application required by the Department of Water and Sanitation (DWS) to make an informed decision regarding the possible granting of a Water Use Licence (WUL) related to this study. With regards to the proposed project, the anticipated water uses necessary in terms of Section 21 of the NWA are Section 21(c): impeding or diverting the flow of water in a watercourse; and Section 21 (i): altering the bed, banks, course or characteristics of a watercourse. A WUL is required and eThekweni Municipality is aware of this matter and will engage independently with the Department of Water and Sanitation (DWS) in this regard. The WULA is therefore a separate activity and is not addressed further in this assessment.

<i>GNR No & List</i>	<i>Triggering Activity</i>	<i>Description</i>	<i>Stimulus</i>
GNR 327 List Notice 1	Activity 19	<p><i>The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;</i></p> <p><i>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</i></p> <p><i>a) will occur behind a development setback;</i></p> <p><i>b) is for maintenance purposes undertaken in accordance with a maintenance management plan;</i></p> <p><i>c) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</i></p> <p><i>d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or</i></p> <p><i>e) Where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</i></p>	<p>The project seeks to construct sewer reticulation within a river bank, and has 6 stream crossing points; thus requires a Basic Environmental Impact Assessment and a Water Use License.</p>
GNR 327 List Notice 1	Activity 67	<p><i>Phased activities for all activities—</i></p> <p><i>(i) listed in this Notice, which commenced on or after the effective date of this Notice or similarly listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices;</i></p> <p><i>excluding the following activities listed in this Notice-</i></p> <p><i>17(i)(a-d);</i></p> <p><i>17(ii)(a-d);</i></p> <p><i>17(iii)(a-d);</i></p> <p><i>17(iv)(a-d);</i></p> <p><i>20;</i></p> <p><i>21;</i></p> <p><i>22;</i></p> <p><i>24(i);</i></p> <p><i>29;</i></p>	<p>The proposed development is Phase Two (2), with Phase 1 currently in construction.</p>

		<p>30; 31; 32; 34; 54(i)(a-d); 54(ii)(a-d); 54(iii)(a-d); 54(iv)(a-d); 54(v)(a-d); 55; 61; 64; and 65; or (ii) listed as activities 5, 7, 8(ii), 11, 13, 16, 27(i) or 27(ii) in Listing Notice 2 of 2014 or similarly listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices; Where any phase of the activity was below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold.</p>	
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Table 2.1: Showing the triggering activities as per the list notices.

Legislation	Description
National Water Act (1998)	The proposed project should adhere to the act and ensure that water resources are not contaminated at any point of the development.
NEMBA (2006)	The act relates to the disturbance of fauna and flora found within and in close proximity to the site. It considers the ecological significance of the proposed site location.
National Forest Act (1998)	The act regulates the use and disturbance of forest organisms in the country. This report gives due consideration below to the proposed project and Section 7 of the Act which relates to the disturbance of protected species and the clearance of natural forest. Alien tree species will have to be removed to cater for the sports field.
National Heritage Resources Act (1999)	The act governs the heritage resources that are in South Africa. Any pieces of significance to heritage or graves found within the site will cause the development to pause until clearance has been provided by the specialist. No feature of heritage exists within the preferred site.
CARA (1983)	The act administers the control and prevention of veld fires, weeds and invader plants, which relate to the proposed activity. The removal of alien tree species will be of benefit to make way for the sports field.
Veld and Forest Fires Act (1998)	Encompasses the prevention of unauthorised veld and forest fires and such will have to be considered for project due to the location.
Occupational Health & Safety Act (1993)	The act prescribes health and safety measures necessary to adhere to for all construction works.
By – Laws and Planning Policies	The development will have to consider the various municipal by – laws that affect the development. As well as the consideration of planning policies in place.

Table 2.2: Relevant Legislation

BASIC ASSESSMENT PROCESS

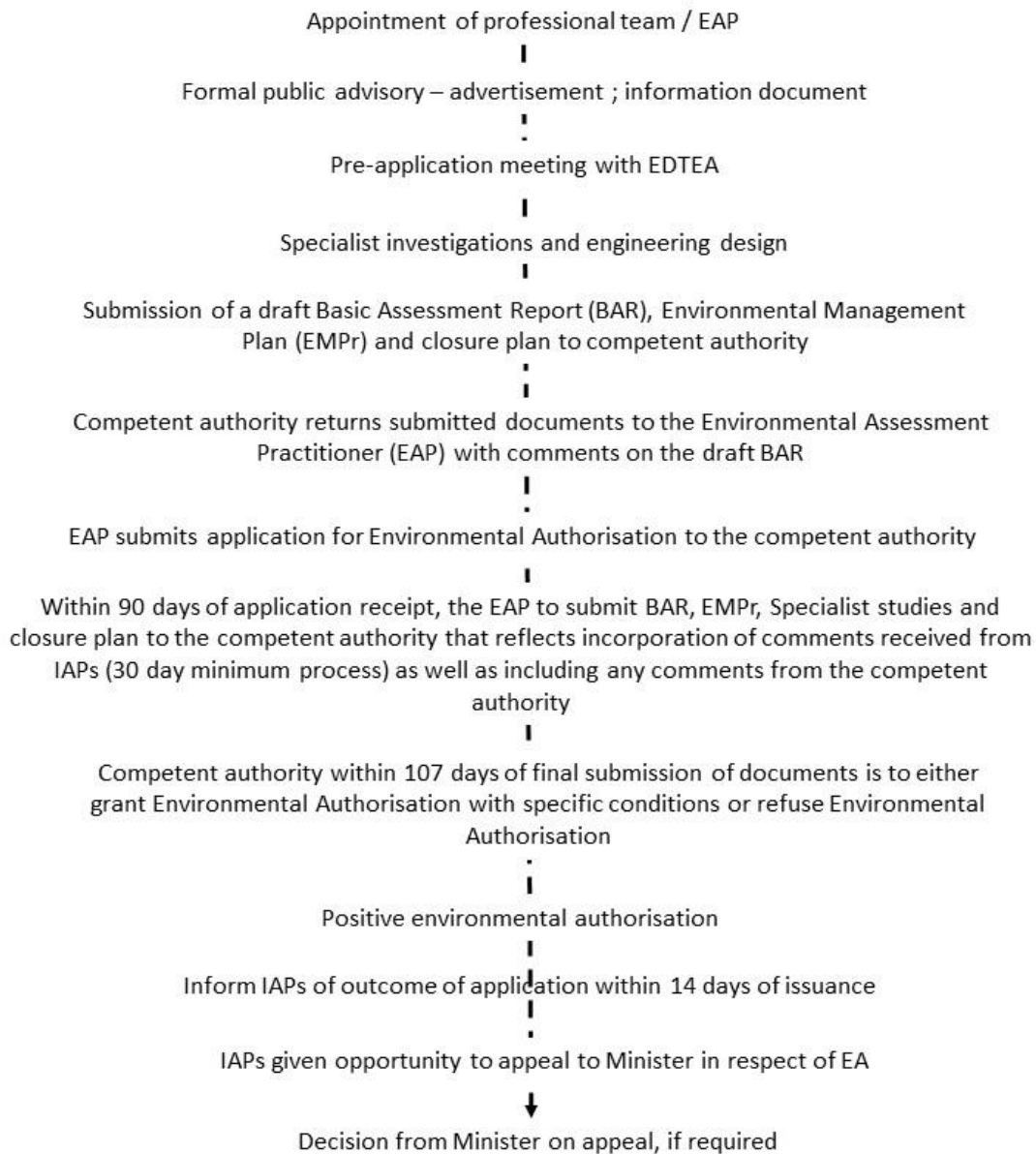


Figure 2.1: The BA Process

2.3 EDTEA PRE-APPLICATION MEETING

A Pre-Application Meeting was held with Mrs Minenhle Buthelezi-Mpitimpiti of the EDTEA, eThekweni District on the 14th of August 2020. The minutes are attached in the Annexures. The purpose of the Pre-Application Meeting was to introduce the project to the Competent Authority, present and confirm the relevant Listed Activities and identify the required Specialist Studies to be conducted. EDTEA confirmed the applicability of the identified Listed Activities and agreed that no additional Specialist Studies would be required, except for the ones included in this assessment. A public participation plan was required and submitted to EDTEA.

3 PROJECT DESCRIPTION

3.1 DESCRIPTION

The proposed Ntuzuma B sewer reticulation entails of the following specification/works:

- 9 km of Sewer Reticulation;
- 740 properties will be serviced and connected;
- The reticulation will have a pipe diameter of 160mm, a trench width of 760mm and a maximum trench depth of 2m;
- The reticulation has 6 watercourse crossings over the KwaMashu and Ntuzuma Streams;
- A diversion of the watercourse will be required during the construction process;
- The sewerage reticulation will tie into the existing sewerage reticulation; and
- The existing sewerage reticulation network ties into the KwaMashu Waste Water Treatment Plant.

3.1 SITE ACCESS

The site can be accessed by vehicle and pedestrian access via several asphalt roads and footpaths leading off Ingcebo Drive along the western site limit, via Mpangele Road along the southern site boundary, and Mbondwe Road along the northern site extremity.

3.2 SITE CAMP

The project is two (2) phased, with phase one in construction. It is recommended that Phase two uses the same site camp as Phase one. This will ensure that there is minimal clearing of the environment to prepare for a site camp. Furthermore, the site camp is within the site boundary and in close proximity to the pipe layout design. The current site camp comprises of a lockable container for the storage of goods, as well as the stockpiling and storage of construction materials, a site office and ablution facilities. The site construction camp is appropriately fenced and sign-posted to prevent public access, as well as to provide adequate details of the construction project and contractor. The current site camp meets all the requirements of a suitable site camp and makes it the best suitable option given that the camp belongs to the municipality for Phase one of the similar project.

Post construction, all necessary infrastructure contained within the site camp will be removed and rehabilitation measures, including re-grassing, should be implemented. Should any indigenous vegetation be found within the site camp, it should not be tampered with / cut down unless completely necessary. Should this vegetation be removed, it should be replaced with two specimens of the same species, for every item cut down.

3.3 CONSTRUCTION PERIOD

The following activities will be undertaken during construction of the sewer reticulation infrastructure:

- ✚ Excavation of trenches and preparation for placing pipes;
- ✚ Laying of pipes and consequent filling of trenches;
- ✚ Mixing of concrete for in-casing of the pipe for stream crossings;
- ✚ Diverting the stream when laying the stream crossing pipeline; and
- ✚ Rehabilitation of the site and site camp on completion of the project.

The stream crossing co-ordinates are included below:

Stream Crossing	Co-Ordinates
Stream Crossing 1 (SC1)	29°44'39.65"S 30°57'24.23"E
Stream Crossing 2 (SC2)	29°44'27.06"S 30°57'18.40"E
Stream Crossing 3 (SC3)	29°44'53.77"S 30°57'16.36"E
Stream Crossing 4 (SC4)	29°44'49.14"S 30°57'2.05"E
Stream Crossing 5 (SC5)	29°44'31.65"S 30°57'27.37"E
Stream Crossing 6 (SC6)	29°44'30.75"S 30°57'29.14"E

Table 3.1: Stream Crossing Co-Ordinates

3.4 POST-CONSTRUCTION

Once construction is complete, the working area will be rehabilitated. If necessary, paving will be replaced and the road surface will be reinstated. The area occupied by the site camp will have to be re-grassed. Should any indigenous flora need to be removed during the construction process, then this will be replaced with two specimens of the same species, during the rehabilitation phase.

On completion of the sewer reticulation. The following should occur:

1. A letter should be issued to all residents with the correct procedure to be followed in order to tie into the waterborne sewer network. Connection drawing plans are to be submitted to the building inspector by the homeowner for approval;
2. The home owner appoints their own plumber to carry out the works of connecting to the new sewer line; and
3. Septic/conservancy tanks are to be emptied out and backfilled as they will no longer serve a purpose.

Once operational, the sewerage reticulation will be under the maintenance and management of the eThekweni Municipality, who will undertake maintenance as required.

4 BIOPHYSICAL ENVIRONMENT

Durban is richly endowed in terms of natural capital given its location being at the centre of the Maputaland-Pondoland-Albany Region¹. The area is described as being rich in biodiversity. Therefore, Durban's natural assets are abundant and need to be continuously protected and sustainably utilised to ensure their availability for future generations. Ntuzuma B in terms of topography, is characterised by undulatory terrain including hilltop, hillside and valley head/bottom landforms. The slope gradients are variable but generally mild along the hilltops, moderate along hillsides and generally moderate to steep along valley bottom and valley head terrain. The natural topography of the site has been modified by means of cut and fill earthworks to facilitate the development of road infrastructure and numerous existing residences located across the extent of the site.

The geology² of the site and surrounding area is underlain by shale and tillite rocks of the Pietermaritzburg formation and Dwyka Group. The weathered rock is overlain by a generally clay soil mantle comprising residual tillite, pedogenic deposits, fine grained hillwash and variable uncontrolled fill material.

The vegetation of the proposed development area falls within one vegetation unit, namely the KwaZulu-Natal Coastal Belt (CB 3) which is classified as endangered, with approximately 50% of the original extent having already been transformed. The natural vegetation has been replaced by Invasive Alien Plant Species (IAPS) and more common grass species. Therefore, the proposed construction is unlikely to affect the conservation targets that may be associated with the site vegetation unit. A total of 13 different invasive species were linked to the site, all of which can be found in large numbers throughout the site³. Should vegetation need to be removed during the construction process, it will have to be replaced with indigenous species during the rehabilitation phase. The site falls outside of any zone declared as D'MOSS. However, it is crucial to note that the tributaries within the site are critical in the entire catchment system. The site does not contain any areas that fall under the Protected Areas.

Four prominent drainage lines, within the U20M Quaternary Catchment, with tributaries occur on site. One major drainage course roughly bisects the site from west to east and is located in Ward 38. Ward 41 includes two major drainage courses with tributaries which traverse the

¹ Ethekewini Municipality, Integrated Development Plan Review, 2020/2021

² Report to eThekewini Water and Sanitation Unit on the Results of a Shallow Geotechnical Investigation for the Proposed Sewer Reticulation Pipelines within Wards 38, 41 and 45 of KwaMancinza Area, Ntuzuma B, Northern Operational Area of eThekewini Municipality, and KwaZulu Natal.

³ Vegetation Impact Assessment for the Proposed Construction of a Sewer Reticulation in Ntuzuma B, in Ethekewini Municipality.

Ward from the west to the east generally. Two major drainage routes and their secondary tributaries occur in Ward 45 and traverse the area from the northwest to the southeast. A poor slope drainage character and marshy terrain are inferred to occur in the general area of the above drainage courses and their tributaries. A review of the Ezemvelo KZN Wildlife's (EKZNW) Wetland database (2014) and National Freshwater Ecosystem Priority Areas (NFEPA) database (2011) indicates that there are no wetlands of critical importance within the project footprint.

The proposed development falls within a built-up area that is dominated by formalised housing. Pockets of vegetation exist, but are dominated by alien vegetation. There are various roads that provide access to properties in and around the area.

The EIA as an environmental management tool attempts to contribute to sustainable development, by taking into consideration the potential environmental and socio-economic impacts of an activity during the decision-making process⁴. The universal developmental goal is creating a better and just life for all in society and advocate for collaborative partnership in order to alleviate all humanity from poverty traps and various socio-economic ills whilst ensuring environmental sustainability.

The socio-economic impacts of the proposed project contain positives and negatives. The negatives are limited and are outweighed by the benefits of the proposed sewer reticulation. The negatives directly affect the community during the construction phase as it will affect access to driveways and pedestrian walkways as the pipeline is being trenched, laid and back-filled. There will be employment opportunities that will arise. However, they will be short-term as they will be directly linked to construction phase of the project duration.

The benefits associated with the proposed project include job creation, stimulation of the informal economy (through purchasing from traders in and around Ntuzuma B) and the improvement of sanitation services. At the end of construction, the project will result in an overall benefit for the environment and a portion of the Ntuzuma B community, in the form of sewerage reticulation service delivery. There will be limited environmental degradation through sewer being diverted from the possibility of entering the watercourses within the site area.

⁴ Ethekwini Municipality, Integrated Development Plan Review, 2020/2021.

5 SPECIALIST STUDIES

5.1 GEOTECHNICAL STUDY

A geotechnical investigation was conducted for the Ntuzuma B sewer reticulation project. Geosure was invited by eThekweni Municipality to tender on carrying out a geotechnical investigation for the proposed sewer reticulation. The initial field work was carried out from 19 to 20 September 2019 and again from the 25th to the 26th of September 2019. The report is attached in the annexures as well as the details of the specialist.

5.1.1 GEOTECHNICAL RECOMMENDATIONS

It is considered that the site at the positions investigated is generally stable for the development as proposed and confirmed with Geosure at the time of preparation of the report, provided the recommendations presented are adhered to. The site was observed to be underlain by weathered tillite rock, derived natural soils and fill materials from anthropogenic activities. The weathered rock units observed to be overlain by a soil mantle comprising generally of clay residuum, occasional ferricrete, colluvium and variable uncontrolled fill material. Alluvial deposits were encountered in the vicinity of the major drainage courses. Shallow perched groundwater activity was encountered at IP1, IP3, IP6, IP35 and IP36, together with stream flows observed along the major drainage lines. A perched groundwater condition may also characterise areas elsewhere on the site, with the risk assessed to increase near to weakly drained valley bottom terrain. Excavation rates within the areas are likely to be variable. Furthermore, shoring and dewatering of excavations to engineers' detail is likely to be required in order to allow for practical and safe working conditions.

All construction activities need to be carried out in accordance with SANS 1200. Allowance should be made for suitable dewatering of excavations to engineers' detail in areas where there is a high risk of frequent soil saturation. Special measures are to be considered necessary at any proposed drainage course crossing and road crossings.

5.2 HYDROLOGICAL STUDY

The hydrological assessment study was undertaken by Lwandisa Holdings for the proposed project. The site visit of the project area was undertaken in July 2020. The objectives of the site visit was to assess topographical, soil and land cover characteristics of the project area. The report is attached in the annexures including the details of the specialist.

5.2.1 HYDROLOGICAL RECOMMENDATIONS

It was noted that the proposed sewer pipelines will largely run parallel with the four drainage lines within the U20M Quaternary Catchment. No licenced water users were identified in the vicinity (within 5 km) of the proposed project sites. The potential impacts identified included changes in catchment water quality, predominantly due to the risk of spillage of the hazardous sewage water contained within the collector pipelines. Mitigation measures to reduce the risk of spillage from pipelines breaks included ensuring appropriate backfilling along the sewage collector pipelines and using appropriate pipeline materials particularly within the 1:100-year

delineated flood prone zones. Changes in catchment water resources and ecosystem functionality as a result of the construction of the sewer pipelines is also an identified impact. It was noted that while the construction of the pipeline would have little to no impact on the volumetric water resources of the catchment, the potential for negative impacts on ecosystem functionality downstream of the construction sites may result. This may be attributed to alterations in the beds and banks of the respective drainage lines during and after construction. Mitigation measures included ensuring that soil and any other overburden is stored outside of the drainage lines during construction. Once construction is complete, it was recommended that the affected sites are rehabilitated with indigenous vegetation to ensure that the risk of erosion from the sites is limited.

In addition to the hydrological impact assessment, an assessment of the 1:100 year return period floodlines for the Un-named Streams 1 to 4 in the vicinity of the proposed sewage collector pipelines was undertaken. The result of the floodlines analysis indicated that some sections of the proposed pipelines are falling within the 1:100-year return period delineated floodlines. It is recommended that either the pipelines are moved to areas outside of the 1:100-year return period delineated floodlines or appropriate engineering measures are employed to ensure the risk of pipe bursts is reduced as far as possible.

5.3 VEGETATION ASSESSMENT

The proposed project involves the clearing of vegetation to make way for trenches that will contain the pipeline for the sewer reticulation. A vegetation impact assessment was crucial for the proposed project. A field visit was conducted on the 6th of August 2020 to ground-truth the proposed construction footprint and confirm the present vegetation assemblages which exist within this area. The report is attached in the annexures as well as the specialist details.

5.3.1 VEGETATION ASSESSMENT RECOMMENDATIONS

The study area was considered highly modified and transformed to such an extent whereby little to no natural vegetation exists within the study area (with exception of gardens and roadsides). The proposed development area falls within one (1) vegetation unit, namely KwaZulu-Natal Coastal Belt (CB 3) which is classified as endangered, with approximately 50% of the original extent having already been transformed. Based on the outcome of this assessment, there are no evident fatal flaws that would prevent this development from being authorised, nor being conducted in a sustainable manner.

However, if any protected plant species are found during the construction phase of the development, they must first be protected and the correct procedure followed. Should destruction / removal be an unavoidable option, then the prescribed process must be followed. All areas earmarked to be cleared, must be adequately staked and inspected by the ECO to ensure that no vegetation has been overlooked. Unnecessary vegetation clearance must be prohibited and indigenous vegetation must remain intact where and for as long as possible (erosion reduction, maintain habitat and surface roughness). It is recommended that the pipeline route is installed along previous disturbed routes and pathways where practically possible. The Installation of the pipeline within close proximity to the watercourse should be

done using labour intensive methodology where practically possible as opposed to large plant (excavators and TLBs) to limit the construction footprint within the any watercourse system. Furthermore, where practically possible the design engineer should investigate horizontal drilling and/or the use of a pipeline pier when crossing any watercourse.

5.4 WETLAND IMPACT ASSESSMENT

KSEMS was appointed by eThekweni Municipality to conduct a Watercourse Delineation and Functional Assessment for sewer reticulation, associated with housing developments located on various pockets within Ntuzuma B ward 38, 41, and 45. The proposed infrastructure fell within the regulated area of a watercourse and therefore a wetland study was required. The report and details of the specialist are attached in the annexures.

5.4.1 WETLAND IMPACT RECOMMENDATIONS

A desktop and field assessment concluded that no NFEPA watercourses were identified within the study area, only the uMngeni River was identified south-west of the site and no risk was posed on this system. Anthropogenic activities in close proximity to and within the river systems have caused a significant amount of pollution and contaminants entering the systems, particularly sewage from informal ablution facilities. Watercourses should be avoided where deemed practical and possible. Disturbance must be limited to the sewer pipeline servitude. Watercourses outside of the demarcated working area should be classified as no go areas. Prior to excavation for the trench, the informal roads must be stabilised to avoid collapse of the banks and the potential for pipeline failure in terms of collapse. This will also reduce sediment loads and improve the ecological condition of the watercourses.

5.5 GEOHYDROLOGY ASSESSMENT

The geohydrological assessment was undertaken by Lwandisa Holdings for the proposed project. A hydro census was undertaken on Thursday, the 13 August 2020, to map groundwater and surface water resources and sensitive areas that can be negatively impacted by the proposed sewer pipeline construction such as wetlands, springs and/or rivers. The full report is included in the annexures.

5.5.1 GEOHYDROLOGICAL RECOMMENDATIONS

All waste generated during construction onsite must be stored in designated areas which are isolated from surface drains. Waste storage facilities should be covered to prevent dust and litter from leaving the containment area, and to prevent rainwater ingress. The amount of exposed ground and stockpile of building materials should be minimised to prevent suspended solid transport loads and leaching of rock or materials. Stockpiles can be covered, and sediment fences constructed from a suitable geotextile. Routine inspection along the sewer line should be conducted in order to visually check for possible spills from machinery and equipment. The proposed mitigation and monitoring plan presented in this report be further supplemented by the generic EMP document by DEA for substations and powerlines. Water quality monitoring must be implemented to monitor impact on the receiving environment.

5.6 STORMWATER MANAGEMENT PLAN

Lwandisa Holdings was appointed to undertake the Storm-Water Management Plan (SWMP) for the proposed project. The SWMP was critical as surface run-off impacts needed to be considered in ensuring the sustainability of the proposed project. The full report and specialist details are available in the annexures.

5.6.1 STORMWATER MANAGEMENT PLAN RECOMMENDATIONS

The SWMP is structured such that it relates directly to the proposed mitigation measures of the identified potential stormwater related impacts of the project. The main objectives of the SWMP include maintaining the downstream water quantity and quality requirements, protection of water resources from pollution, prevention of land and watercourse erosion (especially during storm events), and preservation of the natural environment (water courses and their ecosystems). It is recommended that construction activities in the vicinity of river crossings should be limited to the dry season (May to October), cut off drains and berms should be constructed in order to divert/capture stormwater run-off. Upstream and downstream berms should be constructed during the construction phases of the project in the areas of drainage lines.

It was also noted that diversion of watercourses during the construction of river crossings may result in temporal reductions in flow downstream of the diversion works and destruction of the bed and banks of the streams may occur during construction. Therefore, it was recommended that all water diverted should be returned to the natural river or stream of the diversion, and the integrity of the beds and banks of the drainage lines should be maintained as far as possible. The area of impact should be minimised as far as possible. Where impacts are unavoidable, the natural conditions of the river beds and banks should be restored.

In order to reduce the likelihood of erosion, especially during the period immediately after the rising main pipeline has been constructed, the following mitigation measures are recommended:

- ✚ All construction materials and debris should be removed;
- ✚ Open ground areas (where trenches have been covered by excavated materials) along the length of the pipeline should be rehabilitated using indigenous vegetation;
- ✚ Where required (depending on slope and soil types), silt fences may be placed along the contour so that the likelihood of erosion during the vegetation establishment phase is reduced;
- ✚ In areas in which vegetation establishment is not successful and erosion continues to be a problem, it may be necessary to construct more significant erosion preventative measures. These may include riprap, gabion baskets or similar; and
- ✚ It is recommended that quarterly monitoring is undertaken for the first year post-construction. Thereafter, it is recommended that annual inspections are undertaken. The aim of the inspections is to identify areas of erosion and to ensure that areas rehabilitated are maintained with indigenous vegetation (at least 80% of the coverage should be with indigenous plants).

The identified impacts on the specialist studies summarised above, will be incorporated into the Environmental Management Programme (EMPr) and assigned mitigation measures and responsible personnel. The EMPr will assist the Environmental Control Officer (ECO) to effectively identify and execute mitigation measures against any pre-determined impact, as well as in cases of emergencies.

6 IMPACT ASSESSMENT

The socio-economic, bio-physical and relevant significant factors have been accounted for above, including the associated impacts for the proposed sewer reticulation in Ntuzuma B, wards 38, 41 and 45 in eThekweni Municipality. An integrated approach has been assumed in determining the environmental impacts associated with the project. Mitigation measures will be allocated to issues that are seen to have negative impacts, so as to reduce the intensity of the identified impacts to a considerable threshold for the environment and the development alike. Alternatives will be explored in cases where no mitigation assists in reducing the associated impacts to considerable measures, be it in the planning, design or implementation stages. In the event of significant and catastrophic impacts, it is advised that the withdrawal of the development must be considered.

The figure below specifies the various steps taken to assess the diverse sectors that affect the proposed development. The sectors were evaluated as per the information provided above. The figure depicts the process of on-going assessments considering the feasibility of the preferred site and assuming an integrated approach, as seen below.

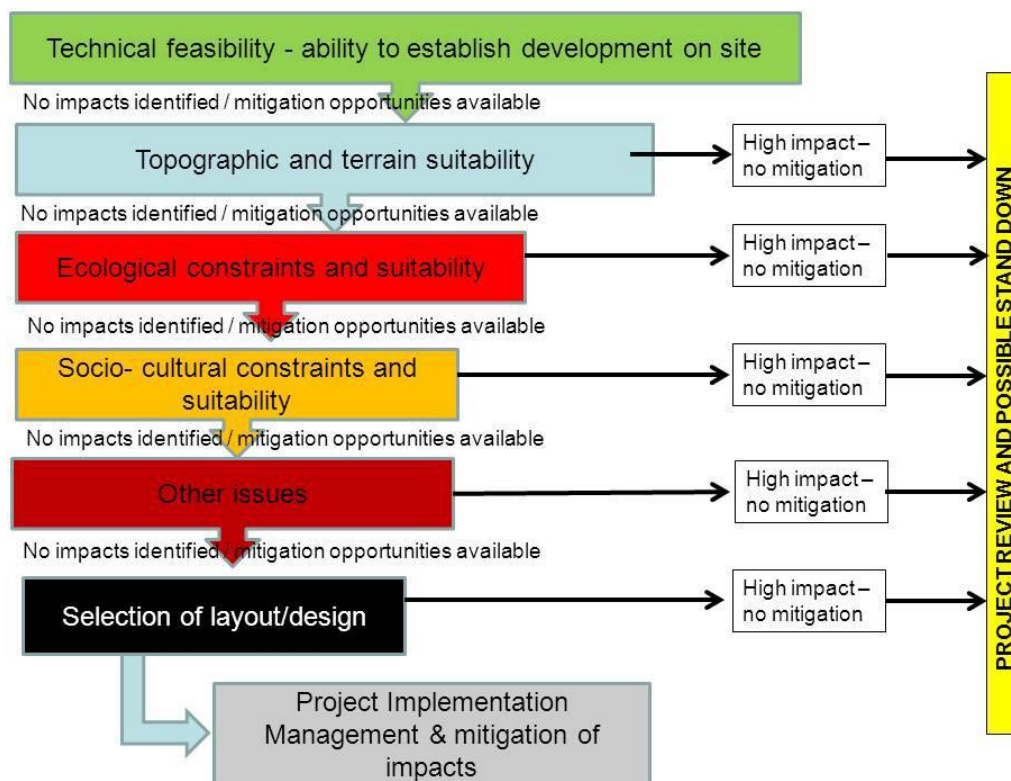


Figure 6.1: Integrated approach to site determination & impact assessment

6.1 METHODOLOGY

The assessment will adopt the Rapid Impact Assessment Method (RIAM) in compiling the impact assessment matrix. The RIAM is considered as a tool that assists in the integrated process of reaching a decision about the impact of a project. It uses a grading system that translates to a matrix that assists in decision making, using the information that has been provided by various holistic and integrated assessments. The scores of the matrix are grouped into ranges that describe the degrees of positive and negative impacts of the proposed projects. Therefore, the RIAM is best suited as a matrix and decision supporting method to assist in determining the impact of a proposed development.

The RIAM is constructed from a set of defined environmental and general impacts, which are identified as per the assessments conducted on identifying the possible impacts. The indicators are chosen as per the potential impacts. They are then categorized by components that are rated on the criteria provided on the table (6.1) below. The sum of the impact scores are further calculated to produce the Environmental Score (ES) that provides clarity on the impact and should aid the CA in concluding a decision.

Environmental Score	Impact Class	Description
+72 to +108	+E	Major positive change/impact
+36 to +71	+D	Significant positive change/impact
+19 to +35	+C	Moderately positive change/impact
+10 to +18	+B	Positive change/impact
+1 to +9	+A	Slightly positive change/impact
0	N	No change/status quo/not applicable
-1 to -9	-A	Slightly negative change/impact
-10 to -18	-B	Negative change/impact
-19 to -35	-C	Moderately negative change/impact
-36 to -71	-D	Significant negative change/impact
-72 to -108	-E	Major negative change/impact

Table 6.1.1: The table depicts the scores and associated impacts.

The formula for RIAM is:

$$\begin{aligned} (A1) \times (A2) &= (AT) \\ (B1) + (B2) + (B3) &= (BT) \\ (AT) \times (BT) &= (ES) \end{aligned}$$

The formula to calculate the score is as follows:

Evaluation Criteria	Scores	Description
A1- Importance of impact & effect	4	Important to national/international interests
	3	Important regionally
	2	Important to areas immediately outside the local context
	1	Important only in the local context
	0	No geographical or other recognized importance
A2- Magnitude of change and effect	+3	Major positive benefit
	+2	Significant improvement in status quo
	+1	Improvement in status quo
	0	No change in status quo
	-1	Negative change to status quo
	-2	Significant negative disadvantage or change
	-3	Major disadvantage or change
B1 - Permanence of the impact-causing activity	3	Permanent: The project or activity causing impact is meant to be a permanent one.
	2	Temporary: The project or activity causing impact is temporal.
	1	No change applicable.
B2 - Reversibility of impact	3	Irreversible impact: The impact is irreversible, if the original state is not restored after the activity is finished. Such activity has changed the environment permanently or for a long period of time. Such as roads and buildings
	2	Reversible impact: The impact is reversible, if the original state will be restored after the activity is finished. Such as nature trails and camping.
	1	Not applicable: Targeting the impact is impossible.
B3 - Accumulation of impact	3	Impact is cumulative or synergistic. The project or activity probable has combined impact with other projects or activities in the same area. Examples are noise pollution, air pollution and wastewater emissions.
	2	Impact is non-cumulative
	1	No change/not applicable

Table 6.1.2: The table depicts the associated components and the scores.

6.2 IDENTIFIED IMPACTS

The preferred site is the establishment of sewer reticulation within a portion of Ntuzuma B. The site is considered favourable given that it will service a community in need. Furthermore, it will tie into existing reticulation infrastructure which will prevent the contamination of the surrounding tributaries and will be constructed within a footprint that is already transformed.

Construction impacts of the proposed sewerage reticulation are therefore the focus of assessment. These include:

- ✚ Waste management;
- ✚ traffic;
- ✚ Air quality and noise;
- ✚ Surface water quality and quantity, including impacts on the four streams within the site;
- ✚ Vegetation;
- ✚ Soil;
- ✚ Visual;
- ✚ Socio-economic; and
- ✚ Health, safety and security impacts.

IMPACT	DESCRIPTION	MITIGATION
<p>WASTE MANAGEMENT</p>	<ul style="list-style-type: none"> ✚ Accumulation of construction rubble and litter at the site during construction activity; ✚ Solid waste will be generated by construction activities and may include: <ul style="list-style-type: none"> – Solid waste - plastics, metal, wood, concrete, stone, asphalt; – Chemical waste- petrochemicals, resins and paints; concrete washout; and – Sewage as may be generated by employees. <p>If not properly managed and contained, these items may accumulate on site and blown into the surrounding tributaries where they will cause pollution.</p> <ul style="list-style-type: none"> ✚ Contaminated waste may result from accidental spillage of fuels, oil, cement, cement-laden water, paints and other chemicals. This will be transported as contaminated runoff into the surrounding streams or occur via seepage, which pollutes the soil and groundwater. 	<ul style="list-style-type: none"> ✚ No litter, refuse, waste, rubbish, rubble, debris and builders waste generated on site may be placed, dumped or deposited on adjacent or surrounding properties including roads, verges, pedestrian walkways etc.; ✚ All solid waste generated on-site during the construction processes must be placed in a designated waste collection area within the construction camp and must not be allowed to blow around the site or placed in piles adjacent the waste skips/bins; ✚ All construction/solid waste shall be disposed off-site at a registered landfill site. Safe disposal certificates must be obtained and kept on site for the duration of the construction phase; ✚ Separate waste skips/bins for the different waste must be available; ✚ Regular surveys of the four streams within the site must be undertaken and any accumulation of waste removed and disposed of at an appropriate disposal facility; ✚ All hazardous waste must be carefully stored in appropriate hazardous waste receptacles and disposed of offsite at the licenced hazardous landfill site; ✚ Any significant spills on-site must be reported to the relevant Authority (e.g. EDTEA, Department of Water and Sanitation and eThekweni Municipality etc.) and must be remediated immediately, in accordance with the Environmental Management Programme (EMPr); ✚ Refuse bins are to be provided throughout the construction footprint; ✚ Adequate sanitary and ablution facilities must be provided for construction workers. These facilities are to be cleaned regularly to prevent public nuisance. Workers are to be encouraged to use these facilities. All sanitary facilities are to be placed outside of 32m of the watercourse or outside of the 1/100 year floodline; ✚ Spill kits must be made available for use wherever necessary; and ✚ On completion of the project, the appointed contractor shall ensure that all waste rubble generated during construction is removed.

IMPACT	DESCRIPTION	MITIGATION
TRAFFIC	<ul style="list-style-type: none"> ✚ Increase in number of construction vehicles in the area; ✚ Possible traffic delays and congestion during construction; ✚ Possible temporary closure of driveways to properties; ✚ Damage to residents driveways during the placing of the pipeline; ✚ If not properly maintained, increased road use, incorrect parking etc. may cause damage to the existing infrastructure. 	<ul style="list-style-type: none"> ✚ Complete construction activities along the roads in the shortest possible time; ✚ The Contractor is to provide a Traffic Management Method Statement clarifying how traffic will be managed; ✚ Employ flag personnel to regulate the traffic; ✚ Residents will be notified by the Applicant of the potential impacts to their driveways when the design drawings have been finalised and when the construction contract is going to tender; ✚ The owners of the driveways will be notified prior to the digging of their driveways and the reinstatement will be done soonest after completion; ✚ Ongoing and timeous consultation with home owners regarding the possible loss of access to driveways; ✚ Implement appropriate traffic control measures to alleviate traffic congestion; ✚ Suitable construction sign boards must be clearly displayed in areas affected by the proposed project; and ✚ Only designated areas are to be utilised for loading/unloading/turning.
AIR QUALITY & NOISE POLLUTION	<ul style="list-style-type: none"> ✚ Air quality impacts from construction vehicle emissions; and ✚ Noise impacts from construction activities: <ul style="list-style-type: none"> – May present a nuisance to residents. 	<ul style="list-style-type: none"> ✚ All construction machinery and vehicles are to be maintained in good working order to prevent air quality and noise nuisance impacts; ✚ The appointed Contractor shall be familiar with and adhere to any local by-laws and regulations regarding the generation of noise and hours of operation. The contractor shall avoid construction activities outside of normal working hours; ✚ No sound amplification equipment such as sirens, loud hooters are to be used on site except in emergencies and no amplified music is permitted on site; and ✚ A complaints register is to be kept at the construction site to record all complaints received from the community.

IMPACT	DESCRIPTION	MITIGATION
<p>SURFACE WATER QUALITY</p>	<ul style="list-style-type: none"> ✚ Construction activities within the watercourses: <ul style="list-style-type: none"> • Contamination of the watercourses from hazardous building material (e.g. hydrocarbons). Improper management of hazardous building materials may result in the pollution of the watercourses through surface and subsurface drainage. • Lack of ablution facilities for construction workers. Pollution of the watercourses through surface and subsurface drainage. ✚ Contamination of the streams by cement waste / runoff is to be avoided at all costs. 	<ul style="list-style-type: none"> ✚ The site must be managed in a manner that prevents pollution of stormwater resulting from suspended solids, silt or chemical pollutants; ✚ Provision of adequate sanitation facilities; ✚ Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and working areas; ✚ Potential hazardous substance must be stored on an impervious surface in a designated secure area, able to accommodate 110% of the total volume of material stored at any given time; ✚ Training of on-site personnel regarding the correct handling of spills should be done, as well as precautionary measures that need to be implemented to minimise potential spillages; ✚ Any contaminated water associated with construction activities must be captured and contained in waterproof drums or similar and disposed of appropriately; ✚ The contractor is to exercise strict care in the disposal of construction waste; proof of disposal at an approved site must be provided after offloading each waste load; ✚ Refuse and litter is to be removed from the site continuously; ✚ On completion of the project, the appointed contractor must ensure that all structures, equipment, materials, waste, rubble used during construction are removed from site; ✚ Concrete mixing is to take place on an impermeable surface; ✚ No mixing of concrete shall take place within the watercourses; ✚ No equipment / plant used for concrete mixing is to be washed on site / within the watercourses; ✚ All concrete spills must be collected from site and disposed of in accordance with the EMPr; ✚ A post-construction monitoring programme must be set in place and must include the following: <ul style="list-style-type: none"> ▪ Rehabilitation of the pipeline trenches ▪ Rehabilitation of the working servitude ▪ Stability of watercourse banks ▪ Soil erosion ▪ Alien weed invasion ▪ Leaks from the new sewer lines ✚ No cement or concrete may be mixed within the four Stream channels within the site; and ✚ Where concrete or cement are to be used, all structures within a channel must be contained within a coffer dam until such time as the material has fully cured.

IMPACT	DESCRIPTION	MITIGATION
VISUAL	<ul style="list-style-type: none"> ✚ Construction activity; ✚ Increase in littering on site from labour force and construction activities; and ✚ The presence of heavy duty vehicles, equipment, and temporary structures on site and material stockpiles may result in temporary impacts on the general aesthetic and landscape character of the area. 	<ul style="list-style-type: none"> ✚ Storage areas should be properly fenced off; ✚ Provide waste disposal facilities and enforce the collection of litter; ✚ Monitor housekeeping, littering and illegal dumping; and ✚ Construction impacts will be short term.
SOIL	<ul style="list-style-type: none"> ✚ Hydrocarbon spillages onto soil from construction vehicles; and ✚ Should a large storm event occur during the construction phase, improperly managed storm water may scour the banks of the watercourses and deposit potential pollution loads into the watercourses; ✚ Potential disturbances include compaction, physical removal and potential pollution; ✚ The exposed soil surfaces have the potential to erode easily if left uncovered which could lead to the loss of vegetation and additional loss of soil and soil quality; ✚ Potential loss of stockpiled topsoil and other materials if not protected properly; ✚ Physical disturbance of the soil and removal of flora may result in soil erosion/loss; and ✚ Erosion and potential soil loss from cut and fill activities. 	<ul style="list-style-type: none"> ✚ The extent of earth works must be minimised and restricted to the required areas only. Flora may not be removed, damaged or destroyed unless necessary for carrying out the works; ✚ Should any remain, then vegetation and topsoil is to be cleared where site camp is proposed and utilised post construction for rehabilitation purposes; ✚ No material is to be stored beyond the boundaries of the site camp; ✚ All invasive species identified within the study area should be removed from the development footprint; ✚ Disturbed areas must be immediately rehabilitated to prevent erosion; ✚ Bank slopes must be graded to the lowest possible angle and must be well below the slip angle of the soil at the site; ✚ Banks must be planted with indigenous grasses and the following mix is suggested: <ul style="list-style-type: none"> ▪ Kweek grass: <i>Cynodon dactylon</i> ▪ Buffalo Grass: <i>Stenotaphrum secundatum</i> ▪ Bahia Grass: <i>Paspalum notatum</i> ✚ The above grasses are suited to the climate and are tolerant of grazing pressure from domestic livestock; ✚ No surplus soil or other such material may be disposed of in the channels; ✚ Where necessary use must be made of gabions, rock packs, or other such hard stabilising structures. However, the use of retaining walls constructed of bricks, blocks, or concrete, is not recommended as such structures are often ineffective and can even accelerate erosion processes in some cases; ✚ No vehicle maintenance or refuelling of vehicles is to occur within the watercourses or within 32m of the watercourses; ✚ Ensure that contractors and staff are well managed and adhered to the mitigation and management measures listed in the EMPr;

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|--|--|--|
| | | <ul style="list-style-type: none">✦ Any hydrocarbon spills and or polluted loads identified within the construction footprint are to be removed immediately, together with the contaminated soil / sand and disposed of in a dedicated, impermeable container;✦ Construction vehicles are to be monitored for hydrocarbon leakages daily. Any vehicles found to be leaking are, under no circumstances, permitted to drive within 32 of the watercourse (should this be required) until repaired; and✦ Construction activities within the watercourses and to be demarcated off from the public utilising shade cloth or similar;✦ The soil excavated from the trenches must be retained, and be returned in the reverse order to which it was removed so as to re-establish the original soil profiles as best possible;✦ Berms/silt fencing are to be installed above and below cleared areas to capture surface run-off, promote infiltration and prevent siltation of the watercourses;✦ Existing on-site drains are to be cleared of any materials that may have accumulated within;✦ Measures must be taken to manage stormwater on exposed areas during high intensity rainfall events;✦ Stockpiled topsoil must be covered during times of high wind to prevent dust; and✦ All areas impacted by earth-moving activities must be re-shaped post-construction to ensure the natural flow of runoff and to prevent ponding. All exposed earth must be rehabilitated promptly with suitable vegetation to stabilize the soil. |
|--|--|--|

IMPACT	DESCRIPTION	MITIGATION
VEGETATION	<ul style="list-style-type: none"> ✚ Impact on the remaining indigenous vegetation during construction; and ✚ Unnecessary removal of indigenous vegetation during the construction of the sewerage reticulation pipelines. 	<ul style="list-style-type: none"> ✚ A rigorous programme of alien weed control must be implemented and sustained until the vegetation (grass) cover over the trenches is well established and complete. ✚ Indigenous grass species suitable for the rehabilitation of the trenches are as follows: <ul style="list-style-type: none"> – Kweek grass: <i>Cynodon dactylon</i> – Buffalo Grass: <i>Stenotaphrum secundatum</i> – Bahia Grass: <i>Paspalum notatum</i> ✚ The above grasses are suitable in the coastal climate and are resistant to overgrazing by goats or other livestock. ✚ The remaining vegetation on the site is only to be removed immediately before construction commences to reduce the period of exposure to bare soil. Where vegetation has been removed, exposed soils must be re-vegetated as soon as possible with indigenous creeping vegetation; and ✚ Vegetation is only to be cleared where required and the extent of the disturbed area must be minimised.
MATERIAL HANDLING & STORAGE	<ul style="list-style-type: none"> ✚ The incorrect storage and handling of hazardous materials can result in the contamination of the receiving environment; and ✚ The incorrect stockpiling of excavated materials and construction materials can result in sedimentation of the stormwater system. 	<ul style="list-style-type: none"> ✚ Areas for temporary stockpiling of excavated and imported material and other construction material shall be agreed to by the RE and ECO; ✚ Any hazardous or dangerous goods utilised during construction must be stored on an impermeable surface that is fenced, locked and covered; ✚ A spill kit must available on site at all times; ✚ Suitable fire-fighting equipment shall be stored and easily accessible at the site camp; ✚ Drip tray shall be provided for stationery plants; ✚ Any accidental leak / spilling of hydrocarbons is to be reported to the Residential Engineer or ECO immediately so that remediation methods can be quickly implemented.

IMPACT	DESCRIPTION	MITIGATION
SOCIO-ECONOMIC	<ul style="list-style-type: none"> ✦ Creation of job opportunities for skilled personnel (e.g. engineers, specialists etc.) and non-skilled personnel (e.g. construction labourers, points men, flag bearers etc.); ✦ Social anxiety may arise should the surrounding community not be adequately notified of the proposed activity; and ✦ Economic benefits to local suppliers of building materials as goods and services may be purchased from these entities during the construction phase. 	<ul style="list-style-type: none"> ✦ Inform the surrounding communities and public of the proposed activity as soon as possible. This will serve to ease potential social anxiety; ✦ Provide clear and realistic information regarding employment opportunities and other benefits to prevent unrealistic expectations; ✦ Make use of local labour, material, goods and services as far as possible; ✦ Training of labours to benefit individuals beyond completion of the project; and ✦ Monitor complaints by the general public.
HEALTH, SAFETY AND SECURITY	<ul style="list-style-type: none"> ✦ Construction personnel / construction vehicles – movement of construction personnel and vehicles may pose a potential health and safety risk to road users and residents; and ✦ Theft of construction materials should sufficient security not be put in place. 	<ul style="list-style-type: none"> ✦ Excavated trenches are to remain open for as short a duration as possible; ✦ All excavations are to be cordoned off and safety signage is to be established; ✦ Undertake appropriate waste management practices; ✦ Implement good housekeeping practices at the construction camp; ✦ Construction workers / construction vehicles must take heed of normal road safety regulations, thus all personnel must obey and respect the law of the road. A courteous and respectful driving manner should be enforced and maintained so as not to cause harm to any individual; ✦ Cordon off the construction site and construction camp. If possible, a security guard or night watchman is to be placed on site; ✦ Care is to be taken to ensure that any bulky or dangerous materials are secured when transporting; ✦ No fires are permitted on site. Fire extinguishers are required; ✦ Control traffic and pedestrian movement in the vicinity of construction, should it be required; and ✦ Implement signage, speed control and designated walkways to reduce health and safety risks.

6.3 IMPACT MATRIX

Evaluation Criteria	A1	A2	AT	B1	B2	B3	BT	ES
Bio-Physical and Geographical components								
Geological substratum	3	0	0	2	2	1	5	0
Soils	3	-1	-3	2	2	1	5	-18
Morphology	3	0	0	2	2	1	5	0
Surface water	2	1	2	2	2	3	7	14
Sedimentation / siltation	1	0	0	2	2	3	7	0
Compaction / subsidence	1	0	0	2	2	1	5	0
Land stability	1	1	1	3	3	2	8	8
Total Bio-Physical Geography ES								-4

Evaluation Criteria	A1	A2	AT	B1	B2	B3	BT	ES
Socio-Cultural & Land Use Components								
Land use	1	0	0	3	3	2	8	0
Open spaces	2	0	0	3	3	2	8	0
Health & Safety	4	3	12	3	3	2	8	96
Historical and archaeological sites	1	0	0	3	3	2	8	0
Aesthetics	1	2	2	3	3	2	8	16
Landscape quality	1	-1	-1	2	2	2	6	-6
Total Socio-Cultural & Land Use ES								106

Evaluation Criteria	A1	A2	AT	B1	B2	B3	BT	ES
Biological & Ecological Components								
Grasslands	3	-1	-3	3	3	2	8	-24
Agricultural land	3	-1	-3	2	2	2	6	-18
Flora	3	0	0	3	3	2	8	0
Indigenous plant species	3	-2	-5	3	2	2	7	-35
Terrestrial Ecology	3	-1	-3	2	2	2	6	-30
Aquatic Ecology	3	0	0	3	2	2	7	0
Total Biological & Ecological ES								-107

Evaluation Criteria	A1	A2	AT	B1	B2	B3	BT	ES
Economic & Operational Components								
Unemployment	1	1	1	2	2	2	6	6
Local Economic Development	2	1	2	2	2	2	6	12
Waste management	3	-1	-3	2	3	2	6	-18
Anthropogenic structures	1	1	1	3	3	2	8	16
Residential Areas	1	2	2	3	3	3	9	18
Total Economic & Operational ES								34

6.4 MATRIX OUTCOMES

The outcomes of the matrix scoring have the following Environmental Score (ES):

- Biophysical & Geographical Components (-4);
- Socio-Cultural & Land Use Component (106);
- Biological & Ecological Components (-107); and
- Economic & Operational Component (34).

Therefore, the total ES is 29 and is considered as moderately positive change. The greatest impacts are associated with the alterations of the river banks and the construction within the river bed. This is, however, a temporary impact, the duration of which is anticipated to last for the construction period only. In addition, should the mitigation measures included in this report and the EMPr be implemented, then this impact is anticipated to be minimal.

7 ENVIRONMENTAL STATEMENT

Considering that the conditions stated in the EMPr are adhered to, it is believed that the impacts associated with the proposed construction will have no significant, adverse environmental impact on the surrounding environment.

Positive impacts associated with construction include the following:

- ✚ Limit the contamination of the surrounding watercourses associated with seepage and leaking of pit latrines and soak ways;
- ✚ Limit the sediment and nutrient loading of the KwaMashu and Ntuzuma Streams;
- ✚ Ensure that downstream users of the watercourses have access to a cleaner watercourse;
- ✚ Provide health services to the receiving community whilst ensuring the right to a healthy environment is maintained;
- ✚ Employment opportunities and skills development for the local community; and
- ✚ Adherence to service delivery implementation by the eThekweni Municipality.

These positive impacts will be both short and long-term, and will have sustainable benefits to the community of Ntuzuma B.

In terms of negative impacts, general construction related activities pose a risk to the surrounding environment and the residents of the community. The significance ratings associated with the construction phase are significantly low provided the EMPr and requirements listed in the specialist studies are implemented. The proposal is therefore considered to be sustainable.

7.1 EAP RECOMMENDATIONS

The proposed development should not result in impacts on the natural or social environment that are highly detrimental, or result in undue risks to the natural environment. The nature and types of negative impacts identified do not outweigh the potential benefits of this project, provided that the localised impacts of the construction phase are adequately mitigated. Additionally, an EMPr has been compiled and is attached to this report. It is recommended that external EMPr monitoring takes place by an independent ECO during the construction phase to ensure that the requirements of the EMPr are being correctly implemented, thus ensuring the protection of the surrounding environs.

As per the requirements of the EIA Regulations 2014, GNR 326: the EAP is to provide any Conditions of Authorisation that were identified during the assessment. In this regard, the following Conditions of Authorisation are provided:

- ✚ All waste generated is to be separated and re-used or recycled where feasible. No waste is to be allowed to collect on site. General waste is to be disposed to a registered waste disposal site. Hazardous waste such as oil spillages are to be prevented through the maintenance of vehicles and use of drip trays. Refuelling is to take place over drip trays at all times and not within any watercourses;
- ✚ Should there be a need to clear/disturb a group of indigenous trees with interlocking crowns, the relevant Department should be consulted prior to any activity commencement;
- ✚ The working servitude that will no longer be used post installation of the pipeline should be vegetated using 100% indigenous species which are endemic to the area;
- ✚ Housekeeping is to be maintained, safety and warning signage is to be erected throughout the construction footprint and all excavations are to be clearly demarcated and cordoned off;
- ✚ No concrete is to be mixed in any watercourses or stormwater drains;
- ✚ After construction, reinstatement of the environment is to be implemented to the standard equal to or exceeding the present status. All indigenous vegetation is to be replaced should it be removed and regrassing is to take place at the site camp;
- ✚ Residents are to be notified timeously of the commencement of the construction phase and the impact to their property e.g. driveways;
- ✚ Reinstatement of resident's property will be completed immediately following construction;
- ✚ Where concrete or cement are to be used, all structures within a channel must be contained within a coffer dam until such time as the material has fully cured;
- ✚ The Contractor is to provide a Method Statement detailing the diversion of the streams, the extent and location of the coffer dam, operation thereof etc. The method statement is to be provided to the ECO and engineer for approval prior to implementation;
- ✚ All of the conditions listed in the Wetland, Hydrology, Vegetation Assessments; Stormwater Management Plan, and Geotechnical Investigation are to be implemented on site; and
- ✚ The applicant is to timeously inform the residents within the area to be affected of the proposed date of commencement of construction.

With regards to Environmental Monitoring, the following is recommended:

- ✚ An independent, external ECO must audit the construction site during the construction phase of the project on a monthly basis, unless otherwise specified by the Department of EDTEA; and
- ✚ A monthly construction Environmental Audit Report is to be drafted and submitted to the Department of EDTEA: Compliance, Monitoring and Enforcement for the duration of the construction period.

Based on the above, it is the opinion of the EAP that the Applicant be granted a positive Environmental Authorization to construct sewer reticulation within a portion of Ntuzuma B, eThekweni Metropolitan.

7.2 CONSTRUCTION PERIOD

It is envisaged that construction will be completed within 18 months. It is requested that the Environmental Authorization, if issued by the Competent Authority, be valid for a period of ten (10) years from the date of signature.

7.3 SUBMISSION & CONSIDERATION

It is to be noted that in terms of the EIA Regulations (2014), GNR 326 43(2) as amended, all State Departments that administer a law relating to a matter affecting the environment, specific to the Application, must submit comments within 30 days to the EAP as per the request of the EAP. Should no comment be received within the 30-day commenting period, it will be assumed that the relevant State Department has no comment to provide.

All comments received in response to the draft BAR will be summarized and responded to in a final version of the BAR, which will be submitted to the Competent Authority, (EDTEA) for consideration in terms of issuing an Environmental Authorization.

8 PUBLIC PARTICIPATION

The PPP is an integral approach that is crucial in the impact assessment process. As identified in Figure 2.1 (BA Process), the identification of IAP associated with the project is of critical significance. A public participation report is found in the Annexures that gives the necessary details of the public participation employed in the time of compiling the impact assessment document and includes the following:

1. The identification of key and critical stakeholders that are associated with the project, which includes government departments, non- governmental organisations (NGO), civic bodies, ward councillors and other relevant personnel.
2. A Notification sheet was sent out on the 19th of August 20220 to the identified stakeholders, as part of making them aware of the proposed activities.
3. An advertisement was placed in a newspaper that covers the local municipal region and Isolezwe on the 14th of August 2020. The particulars in the advertisement included the project details, contact numbers, a call to register as part of the IAP and the company undertaking the impact assessment.
4. Ensuring the local residents were aware of the proposed project, six (6) signs of the stipulated size were placed strategically in the proximity of the proposed development site. They provided the project description and the processes of registering as an IAP. Furthermore, this was done together with the ward councillors and included the provision of flyers that were going to be circulated by ward committee members to notify the community about the project and invite them to register as IAP's.
5. A Background Information Document (BID) was circulated to the pre – identified IAP. These included the EDTEA, DoT, Amafa and eThekwini Metropolitan among others.

9 ANNEXURES

9.1 EAP CV & DECLARATION

9.2 21 DIGIT SURVEYOR GENERAL CODE

9.3 PRE – APPLICATION MINUTES

9.4 PUBLIC PARTICIPATION REPORT

9.5 SPECIALIST STUDIES