HENWOOD & NXUMALO
CONSULTING ENGINEERS

BACKGROUND INFORMATION DOCUMENT:

BASIC ASSESSMENT & WATER USE LICENCE APPLICATION

EIA REF: Not yet available

Date:01 April 2016

THE PROPOSED UPGRADING OF MAIN ROAD 231 BETWEEN THE NSELENI INTERCHANGE (N2-29) AND RICHARDS BAY

PURPOSE OF BACKGROUND INFORMATION DOCUMENT

The purpose of this document is to provide background information on the proposed project, to obtain comments and contributions from interested and affected parties, authorities and stakeholders with regards to environmental and socio-economic issues for the proposed project.

PROJECT BACKGROUND, BRIEF DESCRIPTION AND LOCATION

KZN Department of Transport proposes to undertake the upgrade of Main Road 231 (R619) from an existing single carriageway two lane road to a dual carriageway four lane urban arterial.

This will also entail upgrading and expansion of intersections, major and minor drainage upgrades, culverts, creation of bus and truck stops, channel realignment and pavements.

The affected section begins at the Via Davalia/R619 intersection at Aquadene and ends just before the N2 Nseleni interchange.

The entire extent of the study area falls within the boundaries of Ward 26 of the uMhlathuze Local Municipality, which is located north of the city's central business district.
From its junction with National Road 2-29 and Main Road 517 (Nseleni Interchange), MR 231 proceeds in a southerly then south-westerly direction over Erf No. 11472, changing to a south-easterly direction over Erf No. 11488 and Erf No. 11417 and terminates at the boundary of Reserve No. 6 of 15825 which coincides with the access road serving the local cemetery

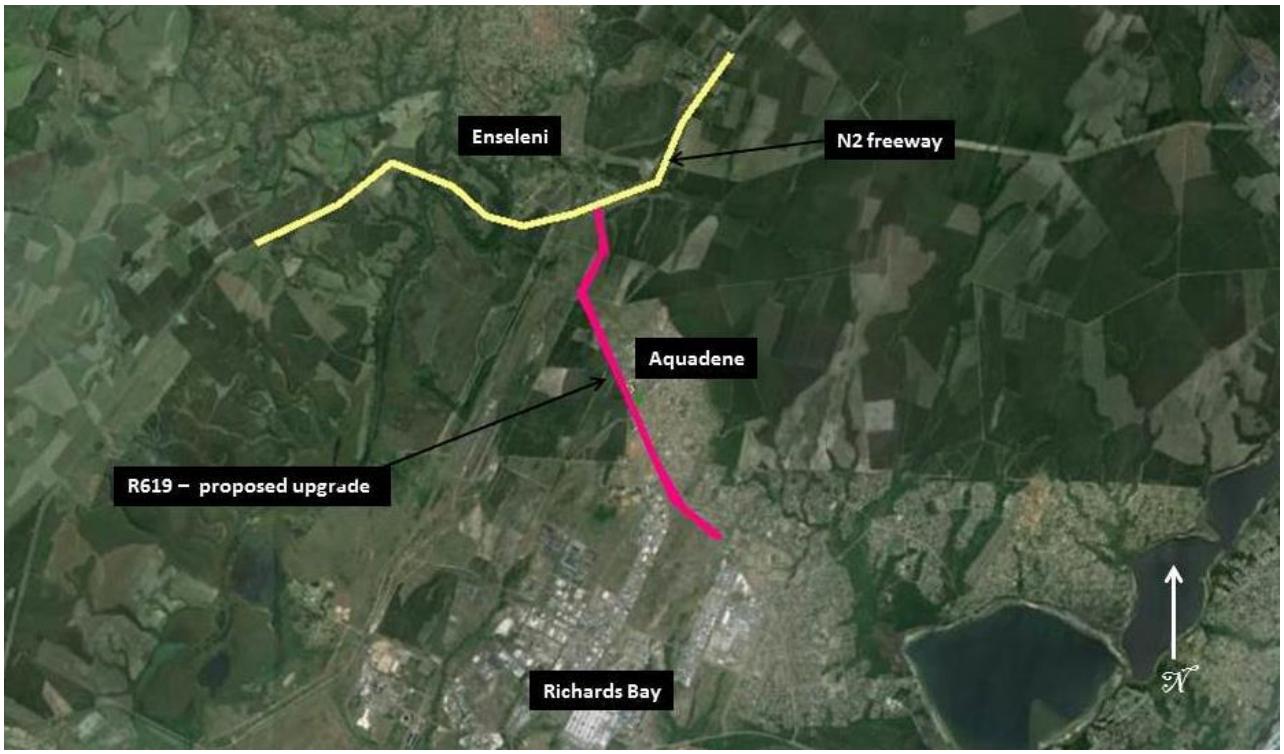
Main Road 231 is predominantly straight with only two high standard left and right hand curves at the northern end near the N2 interchange. The terrain is relatively flat and it would not be necessary to improve the geometry of the road. Land has already been set aside for widening to

take place on the eastern side of the road. The recommended alignment of the new carriageway therefore follows the geometry of the existing provincial road.

Stormwater pipes under the existing single carriageway provincial road will need to be extended under the proposed new carriageway. The new carriageway will therefore need to be positioned higher than the existing carriageway

MR 231 is to be designed as a four lane dual carriageway with additional lanes at intersections. A four lane dual carriageway has a daily traffic capacity in the region of 50 000 vehicles total flow both directions at a level of service LOS C. The initial upgrade as proposed in this project i.e. to a four lane urban arterial will have adequate capacity for the medium term.

A fuller, detailed project description will be provided in the draft BAR.



Map: route upgrade location (map source: SDP)

ATTRIBUTES OF PROJECT AREA

The uMhlathuze Local Municipality (KZ 282) is situated on the north-eastern coast of KwaZulu-Natal and is one of six municipalities that form part of the uThungulu District Municipality. In 2002 Richards Bay and Empangeni as well as the surrounding rural and tribal areas merged to form the "City of uMhlathuze" covering an area of approximately 800 km² and supporting approximately 350 000 people.

The main access into the municipal area is via the N2 in a north south direction and in an east west direction the R34 from Ntambanana. Other significant roads in the area include the MR431 (that provides a northerly entry into Richards Bay from the N2) as well as the Old Main Road that straddle the N2. Railway lines are prevalent in the municipal area but do not provide a passenger service.

The municipality has about 45km of coastline. Linked to its coastal locality is the Richards Bay port that has been instrumental in the spatial development of the area in the past, as well as in future planning.

The municipal population has increased by, on average, 1.45% per annum from 2011. In 2001 there were 289 189 people in the Municipality and in 2011 the census indicated a population of 334 459. The number of households increased from 67 127 in 2001 to 86 609 in 2011

BIO PHYSICAL ATTRIBUTES OF PROJECT AREA

The City of uMhlathuze is characterized by a warm to hot and humid subtropical climate, with warm moist winters. Average daily maximum temperatures range from 29ºC in January to 23ºC in July, and extremes can reach more than 40 ºC in summer. The average annual rainfall is 1228mm and mot (80 %) of the rainfall occurs in the summer, from October to March.

The study area forms part of the Zululand coastal plain whose geological history follows the rise and fall of the sea levels. Along the coastal strip only sediments of the cretaceous, tertiary and quaternary age are present. These rocks lie unconformably on Baenet granite-gneiss of the Tugela complex. Overlying the cretaceous and Miocene sediments is the Port Durnford formation where sediments are made up of old dune, beach and swamp deposits laid down during the Pleistocene period (less than 2 million years ago). Recent unconsolidated dune sands unconformably overlie the Port Durnford formation. The dune sand is recent in age and is mostly

orange, yellowish brown and grey, and varies in thickness with the changes in topography. The Miocene strata include a lower coquina, a calcarenite and a sandy siltstone.

Due to the presence of the recent unconsolidated dune sands and its proximity to mean sea level the site is characterised by a relatively high water table. In conclusion, this high water table needs to be taken into consideration during the design and construction phases.

The City of uMhlathuze has high potential for archaeological heritage resources of different classes of significance. Although a considerable amount of sites have been recorded, there remain gaps in availability of data on the local heritage. A desktop survey indicated a total of 125 recorded archaeological sites, which range from the Stone Age Period to the recent historic period. Most of the sites recorded indicated pressure from mining and infrastructure development within the municipal area.
In terms of paleo sensitivity, the site ranges from low to moderate sensitivity.

The road, located within an urban area, is flanked by the road reserve, high density houses, industry and businesses, as well as a cemetery (this will not be affected). Commercial timber is also noted, while disturbed grasslands were observed in some sections of the 4.6km long upgrade. Amongst future development plans for Aquadene, a housing project is earmarked for the area in the near future. No indigenous forest or protected tree or plant species is expected to be impacted upon.

In terms of site ecology, the area under consideration, existing MR231 (R619) encompasses an aeolian derived sand, which was established during the last marine transgression. These sands have only recently been stabilized with the natural vegetation cover being a grassland - palmveld mosaic (the KwaMbonambi Grasslands), which has since been largely replaced by plantation and urban settlement. A more clayey Miocene sediment underlies these sands and this generally impermeable horizon is responsible for the maintenance of wetland environments, where it lies proximal to the natural ground level. The availability of groundwater in the area has however, been compromised by the planting of commercial timbers in the area, which have served to establish a lens depression in the area. The bio physical state of the Aquadene area which is traversed by the R619 can be considered to be highly transformed, primarily on account of silvicultural and urban expansion activities. One culvert will be upgraded, located over a tributary of the Nkonika stream. Note that five, largely extant or completely transformed and drained wetlands were identified within a 500m radius of the site, and as such, a water use licence will be applied for.

NEED AND DESIRABILITY

Historically, MR 231 provided the only access into Richards Bay. MR 231 provided the only access into the village. However, the exponential growth of the area around the harbour warranted a second access route to be considered. The planning and construction of a single carriageway two lane road linking the inland town of Empangeni with Richards Bay was subsequently commissioned by the Provincial Government. This alternative access route traversing an east to west direction was proclaimed Main Road 496 (MR 496) and together with MR 231, provides direct access into Richards Bay from National Route 2 (N2). Continual growth in the region over the past 40 years has ultimately seen MR 496, officially named the John Ross Parkway, upgraded to a 5 lane dual carriageway urban arterial.

MR 231 currently remains the only alternative access road serving Richards Bay. It is the northern access into the City primarily serving the sprawling population of Nseleni, and the areas to the far north. It is also the designated route for the transportation of abnormal loads from the harbour to Gauteng, the economic hub of the country. Information obtained from a permanent traffic count station located along MR 231 shows a staggering 17.3% of total traffic categorised as heavy vehicles utilising this route during the course of 2012.

Current traffic data also reveals that in comparison to its southern neighbour, a surprising 40% of the average daily traffic entering and leaving Richards Bay does so via this northern route. High traffic volumes causing congestion and lengthy delays on a daily basis as well as signs of pavement distress are indications that MR 231 is fast approaching the end of its design life.

The proposed upgrade is therefore required to meet increasing traffic volumes and economic activity.

The proposed project will create employment opportunities during the construction phase, which will stimulate the local economy and at the same time providing a social benefit.

ANTICIPATED ISSUES

Most of the environmental impacts of potential significance will be directly associated with the construction phase of the project.

These include:

- Impacts on bio-physical environment
- Surface Water quality and impacts
- Emissions
- Erosion

- Socio-economic

These impacts will be mitigated through the methods and specifications that will be outlined in the Environmental Management Program report.

SPECIALIST STUDIES

Specialist studies will be commissioned for the EIA and WULA processes, which include **heritage** and an **ecological/PES** study.

APPLICABLE LEGISLATION

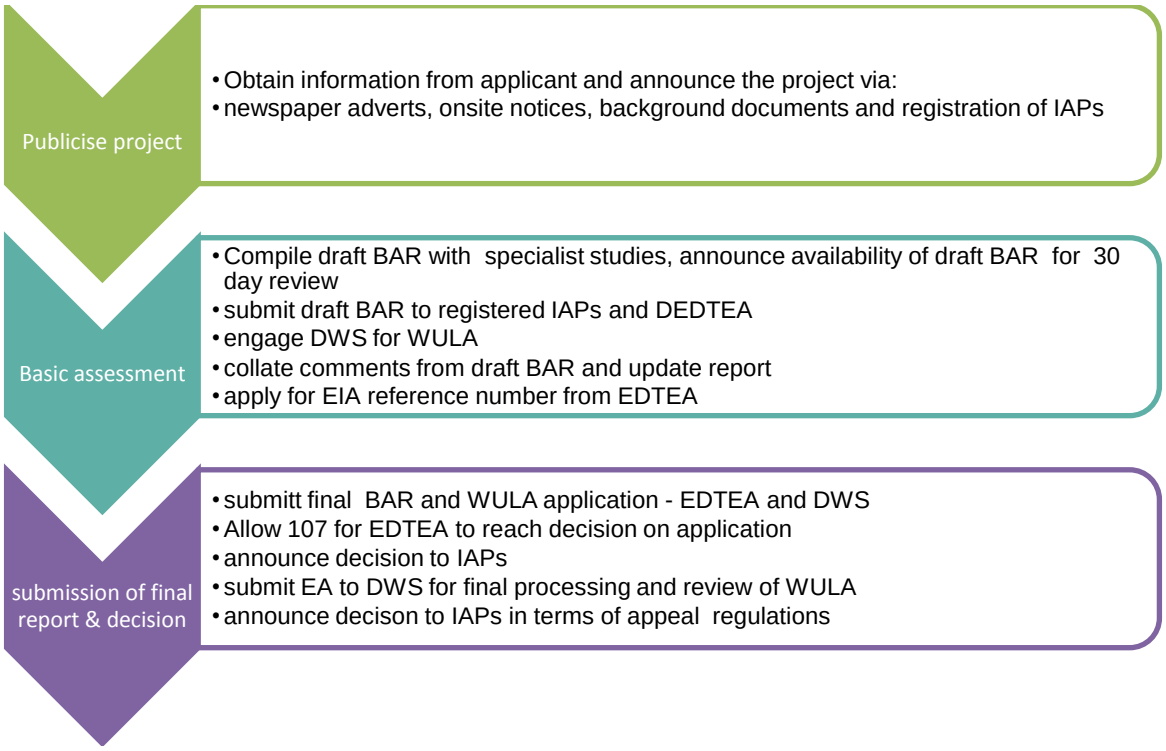
In accordance with the Government Notice Regulation 983, as promulgated on 04 December 2014 in terms of chapter five of the National Environmental Management Act 107 of 1998, a 'listed activity' will therefore be triggered. These activities, as cited in Listing Notice 1 of 2014 under sections 24(2), 24(5), 24D and 44, read with section 47A(1)(b) of the National Environmental Management Act,1998(Act No.107 of 1998).

Further, in terms of National Water Act, 1998, a Water Use Llicence is required. The aforementioned regulations set out the procedures and criteria for the submission, processing, consideration and decisions of environmental assessment applications and water use activities. This involves amongst others, the identification and engagement of relevant stakeholders and impacts on the ecological environments.
Other applicable legislation that will be consulted includes inter alia, the National Environmental Management: Biodiversity Act 10 of 2004, and the South African Heritage Resources Act 25 of 1999.

ENVIRONMENTAL PROCESS

The environmental assessment is a process of collecting, organising, analysing, interpreting and communicating relevant information to competent authorities to obtain an independent and objective view of the potential environmental (biophysical and socio-economic) impacts that could arise during the construction and operation of the proposed project.
In terms of S21 (i) and (c) of the National Water Act, a water use licence is required from Department of Water and Sanitation prior to altering bed, banks, course and characteristics of a watercourse, for any diversion or impedance to the course or works occuring within 500m of a wetland. Studies required as an accompaniment to the application include the PES.

For the purpose of this EIA process (Basic Assessment), the following process will be adopted:



Henwood & Nxumalo Consulting Engineers as the independent Environmental Assessment Practitioner, is responsible for the preparation of a BAR and EMPr that will be submitted to the KwaZulu Natal Department of Economic Development, Tourism and Environmental Affairs, hereinafter referred to as 'the Department, or DEDTEA', for review. The objectives of the report are to ensure that environmental impacts are taken into consideration, effective stakeholder engagement has been conducted and all the information contained therein is sufficient to enable the Department to make an informed decision on the proposed activity. The EIA and studies will then form part of the application for the WUL process.

The granting or refusal of an Environmental Authorisation will depend on the information provided in the report.

The application for a water use licence will be made to the department of water and sanitation, or DWS, and will include the EIA as part of the application.

WHY REGISTER AS AN IAP AND HOW CAN YOU BECOME INVOLVED?

A transparent stakeholder engagement process is the foundation of any Environmental Impact Assessment (BAR) which will enable IAP's and stakeholders to influence the course of the environmental investigation and outcome of the EA application. The key objective is to provide

sufficient information on an ongoing basis to allow IAPs, stakeholders and the community or individuals the opportunity to comment on the all the key findings of the EIA process.

It is important that relevant stakeholders are identified and involved in the /stakeholder engagement/public participation process from the outset of the proposed project.

Every proposed project has the potential to affect the natural and social environments, both on the proposed site as well as surrounding environment. It is therefore important that you as an interested and/or affected party or stakeholder comment on the proposed development and raise issues or concerns that you feel need to be considered during the proposed planning and implementation process.

This can be done by:

- Registering yourself and/or your organisation as an interested and affected party with the consultant below; and
- Sending us any comments you may have on the proposed project.

Once you have been registered, you will also be sent a copy of the draft BAR for further comment.

Comments must be sent to the Senior Environmental consultant, details below, by the 15 April 2016

Name	Email	Telephone	Fax	Post
Ms. Jenitha Girdary	jenitha@hn.co.za (preferred method)	031 764 2321 / 0820831691	031 764 2340	P O Box 1616 Kloof 40

KEY SITE IMAGES

Image of road and surroundings

Note grassland and sylviculture plantations

Road to be upgraded, note lack of sensitive features on either side

Road to be upgraded, note lack of sensitive features on either side

Road to be upgraded, note silviculture, disturbed grassland and relic wetland

Road to be upgraded

Road to be upgraded, note drainage line

Note wetland and housing

These trees will be removed to accommodate the upgrade

Image of plantations and wet areas

Road to be upgraded

Double Pipe Culvert at km 0+555 (2 x 1150mm Ø concrete pipes)

Outlet (E)

Inlet (W)

Single Pipe Culvert at km 1+970 (1 x 600mm Ø concrete pipe)

Inlet (E) - Buried

Outlet (W) – Partially buried

Single Pipe Culvert at km 2+713 (1 x 600mm Ø concrete pipe)

Inlet (E) - Buried

Outlet (W) - Buried

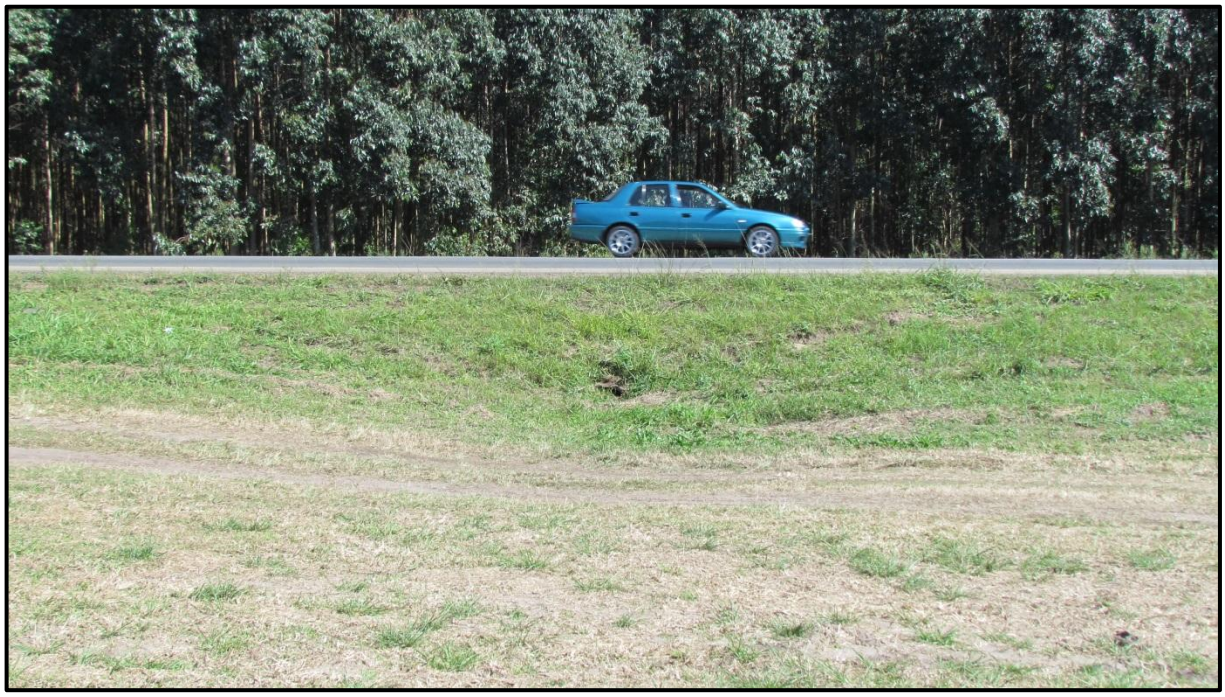
Double Pipe Culvert at km 2+830 (2 x 1400mm Ø concrete pipes)

Inlet (E)

Outlet (W)

Single Pipe Culvert at km 2+895 (1 x 600mm Ø concrete pipe)

Inlet (E) - Buried



Outlet (W) - Buried

Single Pipe Culvert at km 3+085 (1 x 600mm Ø concrete pipe)

Inlet (E) - Buried

Outlet (W) – Partially Buried

Box Culvert at km 3+230 (3.5m wide x 2.5m high)

Inlet (E)

Outlet (W)