

**PROPOSED INSTALLATION OF A TELECOMMUNICATION  
MAST AND ASSOCIATED INFRASTRUCTURE AT  
ASHBURTON TUNNEL NO. 4 IN KWAZULU-NATAL, SOUTH  
AFRICA**

DEFF REF: 14/12/16/3/3/1/2217

**DRAFT BASIC ASSESSMENT REPORT**

Prepared for:

**TRANSNET**



*freight rail*

**TRANSNET FREIGHT RAIL**

Prepared by:



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

**CES**

**Centurion**

70 Regency Dr

Route 21 Business Park

Centurion, 0178

010 045 1372 | 012 751 2160

*Also in Grahamstown, Port Elizabeth, East London, Cape  
Town and Maputo (Mozambique)*

[www.cesnet.co.za](http://www.cesnet.co.za)

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# EXECUTIVE SUMMARY

## BACKGROUND

Transnet Freight Rail (TFR) proposes to construct a telecommunication mast and associated infrastructure in an effort to improve the communication channels between train conductors along existing freight rails in Pietermaritzburg and Ashburton in KwaZulu-Natal. CES has been appointed by TFR as an independent Environmental Assessment Practitioner (EAP) to undertake a Basic Assessment (BA), including specialist Visual Impact Assessment (VIA), and apply for the necessary Environmental Authorisation (EA) for the proposed project.

## LOCATION AND SITE DESCRIPTION

The mast will be constructed in an area where existing telecommunication infrastructure has been installed. The site is located just off the R103 on the south-eastern outskirts of Pietermaritzburg, approximately 3km north-west of the town of Ashburton, within the Msunduzi Local Municipality in the Umgungundlovu District of KwaZulu-Natal. The proposed mast will be located on Portion 18 of Erf Shortts Retreat 307 FT (SGID: N0FT02110000030700000). Figure 2-1 illustrates the project location. ). Two parallel railway lines intersect the slope and run underneath part of Pietermaritzburg. The railway reserve between the two lines has become overrun with vegetation, including bracken fern, Guinea grass, Lavender, Milkweed, *Senegalia* sp. and *Vachellia* sp., and invasive *Lantana camara*, among others. Patches of indigenous grasses and several aloes are interspersed on the near-vertical rock faces to either side of the railway lines. Upslope of the tunnel mouth is dominated by various tree and shrub species. Skeletal remains of a bird and a primate (presumably a Hadedda and a Vervet monkey, respectively) were also found on the tracks. The surrounding area is presumably used as an illegal dumping ground because various construction rubble and general waste were observed to be littered along the access road to the proposed site.



Figure 2-1: Location of the proposed site above Ashburton Tunnel No. 4 near PMB, KZN.



## PROJECT DESCRIPTION

The general requirement is a 21m tapered steel lattice tower with either a square or triangular base. The design is a tapered, self-supporting lattice type mast (angle iron) with a 2.5m<sup>2</sup> Antenna load at the top of the mast, which needs to sustain wind speeds up to 160km/h. The mast shall be painted red and white, and shall have a Direct Current (DC) powered navigation light on top. No site camps will be required as the contractor will stay off site. Construction tools will be housed inside TFR property. In terms of the Environmental Impact Assessment (EIA) regulations of 2014 (as amended), the TFR telecommunications project requires Environmental Authorisation, from the Department of Environment, Forestry and Fisheries (DEFF), for the proposed mast and associated infrastructure. The triggered activities are listed under Listing Notices 3 only (published in Government Notices No. R 985 respectively), and as such, the BA Process needs to be followed. The listed activities that have been applied for are provided in Table 4-1 below.

**Table 4-1: Listed activities as described in GN R 985 (as amended) triggered by the proposed mast and associated infrastructure.**

Listing	Activity Number	Listed Activity	Description of project activity that triggers listed activity
Listing 3 GN R 985	3(d)	<p>The development of mast or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower—</p> <p>(a) Is to be placed on a site not previously used for this purpose; and</p> <p>(b) Will exceed 15 metres in height</p> <p><b>d. KwaZulu-Natal</b></p> <p>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>v. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p>	<p>The mast will be 21m in height, thereby exceeding the 15m threshold, and falls within a Critical Biodiversity Area and Sensitive area.</p>

## PUBLIC PARTICIPATION PROCESS

Public consultation is a legal requirement throughout the BA process. The Public Participation Process includes:

- Placing notice boards on site;
- Identifying and registering Interested and Affected Parties (I&APs) and relevant stakeholders;
- Providing notice to I&APs and stakeholders of the intent to submit an application for EA and the release of the Draft Basic Assessment Report (BAR) for public review.
- Publishing an advertisement in a local newspaper notifying the public of the release of the Draft BAR for public review;
- Keeping a register of all comments by and responses to registered I&APs and stakeholders for inclusion in the Final BAR.



## IMPACT ASSESSMENT

Table 12-1 provides an overall summary of the negative (cost) and positive (benefit) environmental impacts associated with the proposed telecommunications mast.

**Table 12-1: Summary of impacts before and after mitigation across phases.**

Theme	Before Mitigation			After Mitigation		
	Low	Moderate	High	Low	Moderate	High
<i>Environmental policy</i>			-3	-3		
<i>Built environment</i>		-10 (+1)		-10	(+1)	
<i>Terrestrial environment</i>	-2	-9	-1	-12		
<i>Hydrological environment</i>		-1		-1		
<i>Socio-economic</i>	-2 (+2)	-7		-9 (+2)		
<i>Rehabilitation and maintenance</i>		-3		-3		
<i>Landscape and aesthetic</i>	-4	-2		-4	-2	
<b>Total</b>	<b>-8 (+2)</b>	<b>-32 (+1)</b>	<b>-4</b>	<b>-42 (+2)</b>	<b>-2 (+1)</b>	<b>0</b>

Overall, the tables above indicates that there are several potential negative impacts (environmental costs) associated with the proposed telecommunications mast. However, the significance of these can be reduced to an acceptable level by implementing appropriate mitigation measures. There are a few positive impacts (benefits) associated with the proposed telecommunications mast. These relate primarily to the improvement of the telecommunication infrastructure along the existing freight rail lines and associated efficiency and safety benefits, and the creation of temporary jobs. Based on the above analysis it can be seen that pre-mitigation, there are eight negative impacts of LOW significance, 32 of MODERATE significance and four of HIGH. After mitigation there be no negative residual impacts of HIGH significance, with only two visual impacts of MODERATE significance.

### VISUAL IMPACT SPECIALIST OPINION

Overall, the telecommunication mast will have a low to moderate impact on the visual landscape for certain visual receptors. However, this should be considered within the context of the following:

- Existing industrial and electrical infrastructure, including large industrial buildings, the railway line and associated infrastructure, overhead powerlines and telephone lines, already impose on the visual landscape for nearby visual receptors;
- The topography and vegetation will screen most views of the mast; and
- Although limited, certain mitigation recommendations in this report can mitigate the impacts to some extent.

It is concluded that potential losses of scenic resources are not sufficiently significant to present a fatal flaw to the proposed project.



## SITE SENSITIVITY

A site sensitivity analysis has been conducted based on specialist and general site information gathered. The site was classified into areas of low, conditional sensitivity and **NO-GO** development. The Ashburton Tunnel project site falls within an area of low hydrological and high terrestrial sensitivity, falling within a terrestrial critical biodiversity area. However, considering the relatively small footprint of the mast and its location above the tunnel mouth, which has already been transformed for freight rail purposes, the proposed mast will minimally impact upon sensitive terrestrial and hydrological environments.

## CONCLUDING REMARKS AND RECOMMENDATIONS

It is the professional opinion of CES and specialists that:

- It is the opinion of CES that NO FATAL FLAWS are currently associated with the proposed telecommunications mast installation, as all identified impacts can be adequately mitigated to reduce the risk or significance of impacts to an acceptable level, provided mitigation measures recommended in this report are implemented and maintained throughout the life of the project.
- If any changes to these layouts are made, the input of the relevant specialist must be obtained and incorporated into any changes.
- The information in the report is sufficient to allow DEFF to make an informed decision.

It is the recommendation of CES that the proposed telecommunications mast and associated infrastructure should be approved provided that the proposed mitigation measures are implemented and that the Environmental Management Programme (EMPr) is implemented, maintained and adapted to incorporate relevant legislation, standard requirements and audit reporting, throughout the life of the development. The mitigation measures for all impacts identified in the BAR must be incorporated into the EMPr and must be used by the engineers during the detailed Planning & Design Phase, by the contractors during the Construction Phase and by TFR during the Operation Phase. Inclusions, additions and adaptations of the EMPr, as well as all final plan drawings and maps must be submitted to DEFF for final approval.