environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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File Reference Number:	
Application Number:	14/12/16/3/3/1/1064
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included on the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?		NO X

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Transnet Freight Rail (TFR), Telecomm, Wireless (old Transtel) provides radio communications to the track side, between Durban and Port Shepstone. At present the equipment is located in the base of the Greenpoint Lighthouse and the antennae are located on the lighthouse.

Figures 1 & 2: Photographs of the equipment located at the base of the lighthouse

The location of the equipment inside the lighthouse is currently not suitable for the following reasons:

1. The Light house is a national monument, and the presence of the Telecom equipment is not desirable.
2. The public access to this site, although limited, and resultant access to the Telecomm equipment, is a safety and security risk, for TFR as this may have an impact on train control. Transnet utilizes the Lighthouse to house mission critical transmission and radio equipment used to support safety systems for rail operations. These are systems that, if tampered with accidentally or deliberately, may cause train collisions, derailments and / or cancellations. This is a serious risk that may lead to loss of life, loss of freight and loss of revenue and business confidence.
3. The uncontrolled environment (i.e. temperature and humidity) inside the lighthouse is not ideal for the telecommunications equipment.

The uncontrolled environment inside the lighthouse is therefore not ideal and may result in a disruption to the radio communication. This could result in disruption to the radio signals transmitted to the trains resulting in accidents or spillages, thus affecting society and the environment. The solution is to therefore to construct a new mast and associated infrastructure. The proposed site will be located on 90 Lot 1, Clansthal (Figure 3).

Figure 3 : Proposed location for the new mast and associated infrastructure

The proposed site will be 12 x 6 meters, consisting of a 3 x 3 meter telecommunications container, a 30 meter lattice mast, with a 2.1 meter palisade fence around the site (Figure 4) (Refer to Appendix J for a photograph of a typical lattice mast structure).

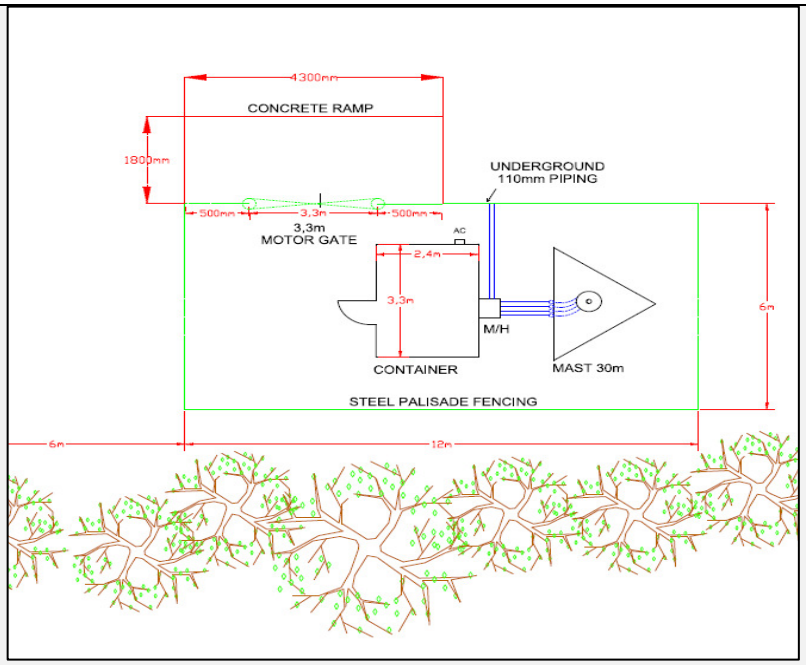

Figure 4: Proposed layout for the new mast and associated infrastructure

The preferred technology for the operation of the new infrastructure is MPT1327 trunked radio. This technology serves the communication requirements between the Central Traffic Control centre, and trains within the RF coverage area of the proposed site. This technology is used throughout the country and is an integral part of train control in TFR. The linking of this site into the rest of the network will be achieved by microwave radio link, into the rest of the transmission network.

The site identified for the new mast is located within 1km of a National Monument and within 1km of the high water mark. As per Government Notice 546 of 18 June 2010, the construction of a mast located within 10km's of a national park or world heritage site and within 1km from the high-water mark requires that a Basic Assessment Process be undertaken as per the Government Notice 543.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.544, 545 and 546	Description of project activity
Example: ***GN R.544 Item 11(3): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.***	***A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river***

GNR 546 Item 3: The construction of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast: (a) is to be placed on a site not previously used for this purpose, and (b) will exceed 15 metres in height, but excluding attachments to existing buildings and masts on rooftops. (a) In KwaZulu-Natal: ii. Outside urban areas, (gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; (hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.	The proposed site will be 12 x 6 meters, consisting of a 3 x 3 meter telecommunications container, a 30 meter lattice mast, with a 2.1 meter palisade fence around the site. The new mast will be approximately 500m from the high water mark and less than 100m away from a national monument (Figure 5).

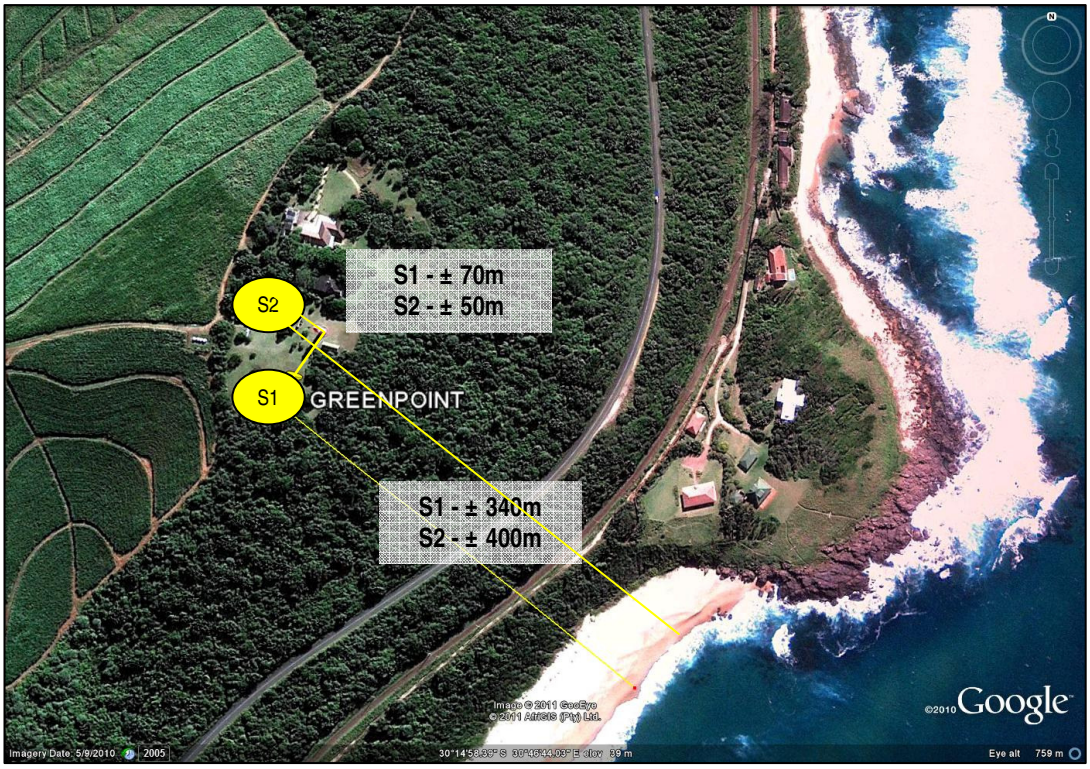

Figure 5: Map showing the distance between the preferred location and the shoreline and Lighthouse (identified as a national monument)

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Regulation 22(2)(h) of GN R.543. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Only two site alternatives will be considered for this project. The radio telecommunication equipment has to be located close to the current location due to the coverage area. Possible sites were evaluated 1 km from the high water mark and 5 km North and South of the existing site. Sites evaluated further inland created shadow area's along the railway line between Amanzimtoti and Kelso (this means that the communication may be disrupted in certain areas). A site was found at 1.1 kms east of the existing site (Figure 6 and 7) which would possibly give similar coverage to the existing site. This can be seen by comparing the two prediction plots. Acceptable coverage is indicated in "Pink" (Figure 7).

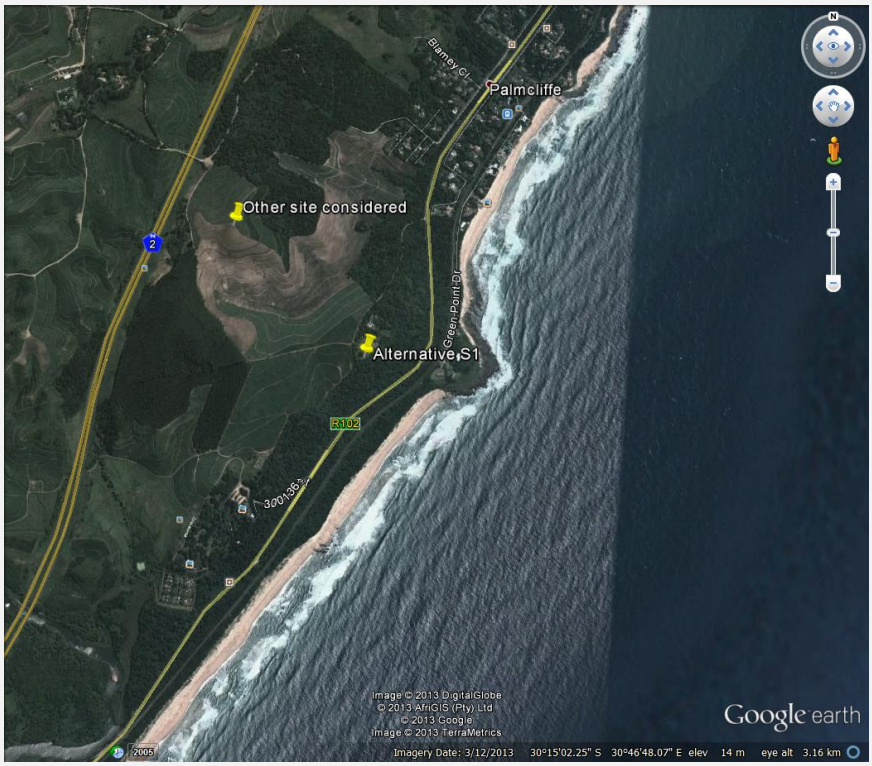

Figure 6: Map showing the alternate site considered

Figure 7: Map showing the coverage area

As this site forms part of the communication backbone between Durban and Port Shepstone, good reliable microwave links are required from the Greenpoint site to both Umbogintweni and Woolwitch microwave sites. The link between the alternative site and Umbogintweni is good but the link to Woolwitch would not be reliable. The prediction was done using a 30 meter mast at both Woolwitch and the Greenpoint site. Due to the terrain and forestry along the link profile, the masts at both sides would possibly have to be extended to 45 meters. This would be costly. Alternatives would be to find a link repeater site or run fibre between the Greenpoint site and Woolwithch. All these options would also be extremely costly.

As such only two site alternatives will be assessed in this BAR.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The construction of a new mast and associated structures which will be located approximately 65m from the Greenpoint lighthouse.	30° 14' 59.01"	30° 46' 36.57"
Alternative 2		

Description	Lat (DDMMSS)	Long (DDMMSS)
The new mast and associated structures will be located approximately 50m from the Greenpoint lighthouse	30° 14' 56.50"	30° 46' 36.13"
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
[redacted]		

Figure 8: Map showing the location of the site alternative locations for the proposed telecommunications mast at S1 and S2

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• Starting point of the activity	[redacted]	
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S2 (if any)		
• Starting point of the activity	[redacted]	
• Middle/Additional point of the activity		
• End point of the activity		

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A.

b) Lay-out alternatives

A layout alternative will not be considered for this project as the proposed layout occupies the minimum amount of space required for the proposed structures. The proposed layout also accommodates a parking area, which is required for when the mast needs to be serviced during the operational phase.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The mast and associated infrastructure will be located on 90 Lot 1. The preferred layout will be as illustrated in figure 4. The site accommodates a 3 x 3 meter telecommunications container, the base of the lattice mast, and a parking area.	30° 14' 59.01"	30° 46' 36.57"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

An alternative technology option was considered using one of the cellular network services. This is not a viable option as these commercially driven public networks are not suited to the operational requirements of the communication in TFR. The alternate technology of linking the site into the network, is fibre optic cable. In this case it will require extensive trenching and disruption to the local flora and soil. This option is also extremely costly and as such only one technology alternative will be considered.

Alternative 1 (preferred alternative)
The preferred technology is MPT1327 trunked radio. This technology serves the communication requirements between the Central Traffic Control centre, and Trains within the RF coverage area of the

proposed site. This technology is used throughout the country and is an integral part of train control in TFR. The linking of this site into the rest of the network will be achieved by microwave radio link, into the rest of the transmission network.
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

The no-go option will mean no construction activities related to the mast will be undertaken. Should this option be approved, then the telecommunication equipment will remain within the Greenpoint Lighthouse which is a National Monument. The public access to this site, although limited, and resultant access to the Telecomm equipment, is a safety and security risk, for TFR as this may have an impact on train control. The uncontrolled environment (i.e. temperature and humidity) inside the lighthouse is not ideal for the telecommunications equipment. The uncontrolled environment inside the lighthouse is therefore not ideal and may result in a disruption to the radio communication. This could result in disruption to the radio signals transmitted to the trains resulting in accidents or spillages, thus affecting society and the environment. Hence, the new mast is needed to provide new infrastructure for the relocation of the telecommunication equipment. The new mast will ensure that the radio signal is reliable and not disrupted in any way. Furthermore, the radio telecommunication equipment has to be located close to the current location due to the coverage area. This site forms part of the communication backbone between Durban and Port Shepstone and any disruption to the signal will have catastrophic effects. The no-go option should not be approved.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	72 m²
Alternative A2 (if any)	
Alternative A3 (if any)	

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	
Alternative A2 (if any)	
Alternative A3 (if any)	

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	72 m²
Alternative A2 (if any)	
Alternative A3 (if any)	

4. SITE ACCESS

Does ready access to the site exist?	YES X
If NO, what is the distance over which a new access road will be built	

Describe the type of access road planned:

The site will be accessed via the existing gravel road that is currently used to access the lighthouse. The gravel road links to the site from the R102 (Figure 6).

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

[1] "Alternative A.." refer to activity, process, technology or other alternatives.

Figure 8: Map showing the access road to the site from the R102

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

Note from NEMAI:

- Refer to Appendix A1 of this Draft BAR for the Locality Map
- Refer to Appendix A2 of the Draft BAR for the Map Illustrating the Nearest Towns
- Refer to Appendix A3 of the Draft BAR for the Map Illustrating the Road Access
- Refer to Appendix A4 for the Map Illustrating the Major Roads

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site (Refer to Appendix A6);
- the current land use as well as the land use zoning each of the properties adjoining the site or sites (Refer to Appendix A6);
- the exact position of each listed activity applied for (including alternatives) (Refer to Figure 3);
- servitude(s) indicating the purpose of the servitude (Refer to Appendix A7);
- a legend; and
- a north arrow.

Note from NEMAI:

- Refer to Appendix A5 of this Draft BAR for the Map Illustrating the Site and Surrounding Properties.
- Refer to Appendix A6 of the Draft BAR for the Map Illustrating the Current Land Zoning
- Refer to Appendix A7 of the Draft BAR for the Map Illustrating the Servitude

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- Watercourses ;
- the 1:100 year flood line (where available or where it is required by DWA) (N/A);
- ridges (N/A);
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas; ESA – admiralty corridors.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Note from NEMAI:

- Refer to Appendix A8 of this Draft BAR for the Map Illustrating the Watercourses
- Refer to Appendix A9 of the Draft BAR for the Map Illustrating the National Monument
- Refer to Appendix A10 of the Draft BAR for the Map Illustrating the DMOSS Area
- Refer to Appendix A11 of the Draft BAR for the Map Illustrating the CBA Areas
- Refer to Appendix A12 of the Draft BAR for the Map Illustrating the ESA Areas

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	**YES X**		Please explain
The proposed site is currently owned by Transnet and is used for the purpose of the lighthouse activities. The site is not zoned as it is located within a farm. The new mast will not affect the land use in any way as the existing radio communication infrastructure is located inside the lighthouse.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	**YES X**	NO	Please explain
The proposed project if for the construction of a new mast to provide radio communication to the track side between Durban and Port Shepstone and will be located in close proximity to the existing infrastructure. As such this project is anticipated to be in line with the relevant framework.			
(b) Urban edge / Edge of Built environment for the area	**YES X**		Please explain
The proposed new mast and associated infrastructure will not have impact on the urban or built edge.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	**YES X**		Please explain
This application is for the construction of a new mast to house the existing infrastructure that is currently located inside the lighthouse. The new mast is not anticipated to compromise the integrity of the approved IDP and SDF as it will be located on a property that is owned by Transnet and is used for the purpose of the lighthouse. A copy of the Draft BAR will be submitted to the eThekwini Municipality for further comment.			

(d) Approved Structure Plan of the Municipality	**YES X**		Please explain
This application is for the construction of a new mast to house the existing infrastructure that is currently located inside the lighthouse. The new mast is not anticipated to affect the approved structure plan of the Municipality as it will be located on a property that is owned by Transnet and is used for the purpose of the lighthouse. A copy of the Draft BAR will be submitted to the eThekwini Municipality for further comment.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	**YES X**		Please explain
This application will not compromise the existing environmental management priorities as the proposed mast will be located on a site that is currently disturbed. The site is not located in an area identified as part of the CBA. The environmental management within the eThekwini Municipality will provide additional comment on the draft BAR in this regard.			
(f) Any other Plans (e.g. Guide Plan)			Please explain
N/A			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	**YES X**		Please explain
There will be no change to the land use for any of the sites and therefore the proposed project is considered to be in line with the approved SDF's.			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)		**NO X**	Please explain
The community does not need the activity and its associated land use, however this activity will indirectly benefit the community. TFR provides radio communications to the track side. At present the equipment is located in the base of the Greenpoint Lighthouse and the antennae are located on the lighthouse. The uncontrolled environment inside the lighthouse is not ideal and may result in a disruption to the radio communication. This could result in disruption to the radio signals transmitted to the trains resulting in accidents or spillages, thus affecting society and the environment. The new mast will thus provide reliable radio communications to the track, thus minimising any potential negative impact affecting the community.			

5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	**YES X**		Please explain
No new or additional services are required for the new mast and associated infrastructure. The site is currently serviced by the eThekwini Municipality.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	**YES X**		Please explain
This application is for the construction of a new mast to house the existing infrastructure that is currently located inside the lighthouse. The new mast is not anticipated to affect the infrastructure and planning of the Municipality as it will be located on a property that is owned by Transnet and is used for the purpose of the lighthouse. A copy of the Draft BAR will be submitted to the eThekwini Municipality for further comment.			
7. Is this project part of a national programme to address an issue of national concern or importance?	**YES x**		Please explain
The construction of the new mast is to ensure that the radio telecommunication equipment functions properly at all times thus ensuring that the signal is not disrupted in that region. Furthermore the removal of the existing equipment from the lighthouse which is a national monument will ensure that the structure is not damaged in any way as a result of the telecommunications equipment. So although the main purpose of this project is to ensure the correct functioning of the telecommunication equipment, the project also aims to protect an asset of national importance i.e. the lighthouse.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	**YES X**		Please explain
Yes, the site is currently used for the purpose of housing the lighthouse which also houses the existing radio telecommunication equipment. In addition the site is owned by Transnet.			
9. Is the development the best practicable environmental option for this land/site?	**YES X**	NO	Please explain
The proposed location is currently disturbed and used for the lighthouse activities and is considered to be the BPEO for this site based on the impact assessment.			

10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	**YES** **x**	NO	Please explain
The benefits will include the uninterrupted radio telecommunication feed which will ensure that the trains receive the necessary information en-route so that they get to their destination safely.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?		**NO** **X**	Please explain
The new mast is required to ensure protection of the existing equipment and to ensure protection of the lighthouse which is a national monument. It is therefore anticipated that this project will not set a precedent for similar activities in this area.			
12. Will any person's rights be negatively affected by the proposed activity/ies?		**NO** **X**	Please explain
The proposed activity will not affect any person's rights in any way. The new mast will be located on a property owned by Transnet. The site is surrounded by sugar cane farms to the west and DMOSS areas to the east. The new mast will have a visual impact, however based on the specialist study, the visual impact associated with the mast will be of low-medium significance.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		**NO** **X**	Please explain
The proposed site is located inside the urban edge and will not compromise it in any way.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?		**NO** **X**	Please explain
The project is to ensure the radio telecommunication infrastructure is housed appropriately such that there will be no accidents from the trains that depend on this mode of communication.			
15. What will the benefits be to society in general and to the local communities?			Please explain
The community will be able to visit the Lighthouse which is a national monument, without posing nay risk to the radio telecommunication infrastructure, thus preventing any potential train accidents.			

16. Any other need and desirability considerations related to the proposed activity?	Please explain

TFR provides radio communication to the track side between Durban and Port Shepstone. At present the equipment is located in the base of the Greenpoint Lighthouse and the antennae are located on the lighthouse.The location of the equipment inside the lighthouse is now not suitable for the following reasons:

- The Light house is a national monument, and the presence of the Telecom equipment is not desirable.
- The public access to this site, although limited, and resultant access to the Telecomm equipment, is a safety and security risk, for TFR as this may have an impact on train control.
- The uncontrolled environment (i.e. temperature and humidity) inside the lighthouse is not ideal for the telecommunications equipment.

Should the equipment remain inside the lighthouse, there is a possibility that the radio communication will be disrupted resulting in an accident or spillage into the surrounding environment.

TFR therefore proposes to construct a new mast to provide reliable radio communication to the trains using the track between Durban and Port Sheptstone.

17. How does the project fit into the National Development Plan for 2030?	Please explain

The National Development Plan aims to eliminate poverty and reduce inequality. The proposed project is to construct a new mast and will not contribute to either of the above mentioned aims.

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

As per NEMA the general objectives of integrated environmental management is noted below in italics. A description of how each objective is related to this proposed development is noted in orange script.

(a) *promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment;*
The decision to undertake the development arose out of the need to minimise the potential of the environmental, health and safety risks associated with the location of the radio telecommunication infrastructure inside the lighthouse.

(b) *identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2;*
The potential impacts for the proposed facility have been evaluated and detailed in the sections that follow. Each potential impact was rated and given a defined significance rating.

(c) *ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;*
Yes, potential effects / impacts of the proposed activity have been considered in this Basic Assessment Process. Each impact was identified by the EAP. All identified impacts were evaluated and mitigated where possible. An Environmental Management Programme (EMPr) has been established to ensure that these mitigation measures are implemented during construction and operation.

(d) *ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;*
Equitable public participation process / stakeholder engagement was undertaken. The stakeholders were identified through a focussed process and the general public were notified in a local newspaper, in the predominant languages of the local community. Identified stakeholders were notified of the project via e-mailed letters. IAPs were afforded the opportunity to comment and request additional information in any mode of written communication acceptable to them.

(e) *ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and*
Specialist studies have been undertaken to assess the effects of constructional alternatives on the environment, and have identified mitigation measures and proposed methods to enhance the functioning of the mast and associated structures. The implementation of these measures will ensure that the impact on environmental attributes will be managed and minimised.

(f)	*identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2."* **The development has followed the modes outlined below to ensure that the activity is in accordance with the principles of environmental management:** • **Aligned to relevant municipal and district by-laws, spatial planning and environmental frameworks for the proposed development area;** • **Ensuring equitable public participation process was undertaken. The public was notified in a local newspaper, in the predominant languages of the local community. IAPs were afforded the opportunity to comment and request additional information in any mode of written communication acceptable to them.** • **The development would adhere to the all the principles of NEMA, which would be implemented by the Environment Management Programme (EMPr) during construction and operation of the proposed activity. Refer to Appendix G for the Draft EMPr for the proposed activity.**
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
The following points demonstrate how the principles in Section 2 of NEMA have been applied: • The potential pollution or degradation to the environment has been minimised through the proposed mitigation measures detailed in the EMPr. • Although the site may serve as an ecological corridor, it is already somewhat disturbed with some alien invasive vegetation present on the site. • Any general waste generated from the development during the construction phase was disposed of at the relevant registered waste facility. • The potential risks to human health have been considered and included in the assessment of impacts. • All applicable environmental and international legislation/standards and any other applicable legislation or standards will be adhered to and authorisation applied for retrospectively. • Throughout the Basic Assessment process information has been made freely available to any Interested and Affected Party requesting information ensuring transparency in the process.	

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended (NEMA), and the 2010 EIA regulations published in Government	These Regulations contain the relevant listed activities that were triggered, thus requiring a Basic Assessment. Section 1b of this Basic Assessment Report details the listed	National Department of Environmental Affairs (DEA)	18 June 2010

Notice R546.	activities specific to the proposed project.		
Constitution of the Republic of South Africa, (Act No. 108 of 1996)	1) Everyone has the right; a) to an environment that is not harmful to their health or well-being; and b)to have the environment prote i) prevent pollution and ecological degradation; ii) promote conservation; and iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."	Department of Justice and Constitutional Development	1996
Environment Conservation Act	Environmental protection and conservation.	DEA / DAEA	1989
World Heritage Convention Act	Measures for the protection of heritage resources.	AMAFA	1999
National Environmental Management: Biodiversity Act	This act allows for the provision for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources.	DEA	2004
Occupational Health and Safety Act	Provisions for Occupational Health & Safety during the construction and operational phase.	Department of Labour	1993
National Environmental Management: Waste Act	Waste will be produced during the construction will not require a waste license, however the minimisation of waste production is applicable, including recycling.	DEA / DAEA	2008

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation **YES** [redacted]

phase?	**X**
If YES, what estimated quantity will be produced per month?	Less than 100m^3

How will the construction solid waste be disposed of (describe)?

Construction waste will be collected and temporarily stored in either waste skips or bins on site. Different waste streams will be stored separately on site. Recycling of waste will also be undertaken. he waste will then be disposed of at regular intervals and will not be allowed to overflow. The waste will then be disposed of at the nearest municipal landfill site.

Where will the construction solid waste be disposed of (describe)?

The waste will be disposed of at one of the 3 active landfill sites located within the eThekwini Municipality:

- Bisasar Landfill Site;
- La Mercy Landfill Site; or
- Marianhill Landfill Site.

Will the activity produce solid waste during its operational phase?	**YES** **X**
If YES, what estimated quantity will be produced per month?	Less than 100m^3

How will the solid waste be disposed of (describe)?

Waste will be stored in bins on site and will be taken to the DSW Clansthal collection area where the waste will then be collected by the eThekwini Municipality Waste Collections Services and will be taken to one of the active landfill sites mentioned above.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Waste will be stored in bins on site and will be taken to the DSW Clansthal collection area where the waste will then be collected by the eThekwini Municipality Waste Collections Services and will be taken to one of the active landfill sites mentioned above.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?	**NO** **X**

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	**NO** **X**

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	NO X
If YES, what estimated quantity will be produced per month?	m^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	NO X

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	NO X

If YES, provide the particulars of the facility:

Facility name:	
Contact person:	
Postal address:	
Postal code:	
Telephone:	**Cell:**
E-mail:	**Fax:**

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	NO X
If YES, is it controlled by any legislation of any sphere of government?	NO X

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If NO, describe the emissions in terms of type and concentration:

During the construction phase, potential sources of air pollution could include:

- Dust from bare areas that have been cleared for construction purposes;
- Fugitive dust from trucks transporting material;
- Emissions from construction equipment and machinery; and
- Tailpipe emissions from construction vehicles.

Air pollution could possibly be caused by the following sources during the operation phase:

- Potential gas emissions may be released from the tank vents during refuelling, vehicle refuelling, fuel spillage and motor vehicle exhausts.

All potential impacts can be mitigated and managed. An Environmental Management programme report (EMPr) with mitigation measures has been prepared and included as Appendix F.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	NO X

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	NO X
If YES, is it controlled by any legislation of any sphere of government?	NO X

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If NO, describe the noise in terms of type and level:

The proposed construction of the mast and associated infrastructure will generate minimal noise during the construction phase as construction vehicles and equipment will be used. It is not expected that noise levels during construction will exceed 85dBa.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal X	

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	NO X

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

Latest energy efficient power supplies (i.e. Power inverted power supplies will be used which is 25 % more efficient than average power supplies) and batteries will be used.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): [ ]

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? **YES X**

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Kwa-zulu Natal
District Municipality	eThekwini Metropolitan Municipality
Local Municipality	eThekwini Metropolitan Municipality
Ward Number(s)	99
Farm name and number	Clansthal – 90 Lot 1
Portion number	N/A
SG Code	N0ET00000000166700001

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

The site falls in the farm / extension area & there is no zoning that covers the area and there is no scheme in place.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required? **NO X**

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat X

Alternative S2 (if any):

Flat X

Alternative S3 (if any):

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline		2.4 Closed valley		2.7 Undulating plain / low hills	
2.2 Plateau		2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain	**X**	2.6 Plain		2.9 Seafront	

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:	**Alternative S2 (if any):**	**Alternative S3 (if any):**
Shallow water table (less than 1.5m deep)	**NO X**	**NO X**	
Dolomite, sinkhole or doline areas	**NO X**	**NO X**	
Seasonally wet soils (often close to water bodies)	**NO x**	**NO x**	
Unstable rocky slopes or steep slopes with loose soil	**NO X**	**NO X**	
Dispersive soils (soils that dissolve in water)	**NO X**	**NO X**	
Soils with high clay content (clay fraction more than 40%)	**NO X**	**NO X**	
Any other unstable soil or geological feature	**NO x**	**NO x**	
An area sensitive to erosion	**NO X**	**NO X**	

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the

project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

	Natural veld with scattered aliens[E] X			**Gardens X**
	Cultivated land X		**Building or other structure X**	

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

An ecological study was undertaken by Ronald Phampe (2013).

The study area falls within the Indian Ocean Coastal belt biome and is characterised by KwaZulu Natal Coastal Belt grassland vegetation type, and this vegetation type has a national conservation status of Endangered. According to the data sourced from South African National Biodiversity Institute (SANBI); there is one threatened terrestrial ecosystem that was recorded in the study area-Southern Coastal grasslands. The proposed development site is within a built up and cleared area. At the time of the specialist visit, the general aspect on the site was one of severe degradation, primarily on account of anthropogenic disturbance at the site. As a consequence of this, the dominant habitat structure comprised primarily of weeds and/or alien invasive plant species. One Red data plant species was recorded on site, namely *Crinum macowanii* (River lily). This species is listed as Declining and should be removed from the site and planted in the nursery to be re-introduced after the completion of construction. Some of the alien invasive plants species recorded on the proposed development site are *Lantana camara* and *Euphorbia ingens*. (Phampe, 2013)

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River		**NO**	
Non-Perennial River		**NO**	
Permanent Wetland		**NO**	

Seasonal Wetland		**NO**	
Artificial Wetland		**NO**	
Estuarine / Lagoonal wetland		**NO**	

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area X	
Low density residential X	
	Plantation – sugar cane fields X
	Historical building – The Lighthouse X
	Other land uses (describe) X Railway line and The Ocean

If any of the boxes marked with an "N "are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

[redacted]

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	[redacted]	NO X
Core area of a protected area?		NO X
Buffer area of a protected area?		NO X
Planned expansion area of an existing protected area?		NO X
Existing offset area associated with a previous Environmental Authorisation?		NO X
Buffer area of the SKA?		NO X

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

The site is located within the Admiralty zone as indicated in figure 9.

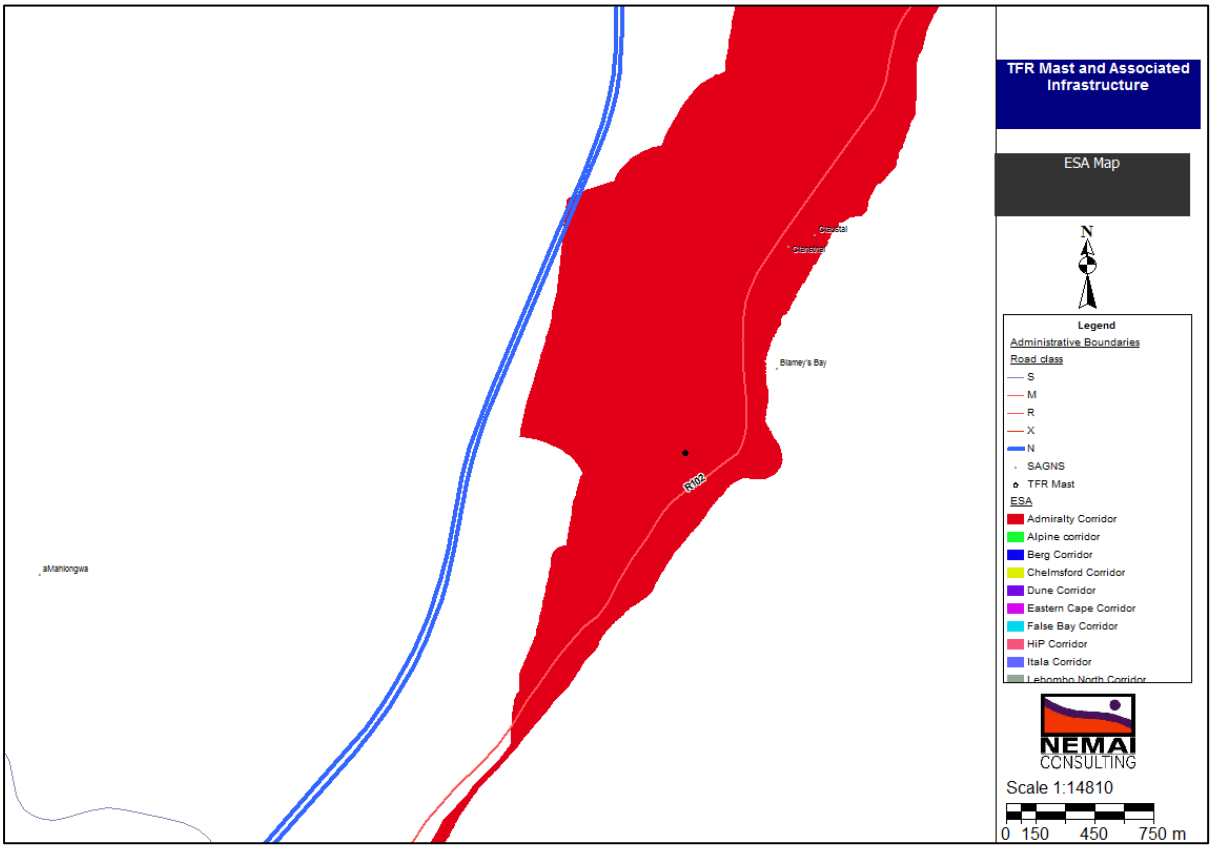

Figure 9: Map showing the location of the proposed site (black dot) within the admiralty corridor (in red)

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	**YES** **X**

The new structure is located in close proximity to the Greenpoint lighthouse which is older than 60 years and declared as a heritage landmark.

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

A specialist has been appointed and has provided the necessary information to AMAFA via SAHRIS online. Should the authority deem that a HIA is necessary then one will be undertaken, however the lighthouse will not be damaged or altered in any way. The application has been uploaded to the SAHRIA website and allocated the following reference number: Case ID 3880.

Will any building or structure older than 60 years be affected in any way?	**NO** **X**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	**NO** **X**

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Statistics South Africa
Labour Force_Sub_Place
Table 1
Official employment status
for Person weighted, ETH: eThekwini

Employed	992559	29%
Unemployed	430320	13%
Discouraged work-seeker	114228	3%
Other not economically	873582	25%

active		
Not applicable	1031673	30%
total	3442362	100%

All cells in this table have been randomly rounded to base 3

Created on 01 November 2013
Statistics South Africa: Web page: www.statssa.gov.za
Support: info@statssa.gov.za

Economic profile of local municipality:

The eThekwini Municipal Area is the economic powerhouse of the province and plays a major role in the South African economy. It ranks as the third largest economic centre and a very promising global competitor.

Key Features

- World class manufacturing sector and the second largest industrial concentration in south Africa;
- King Shaka International Airport and Dube Tradeport – Africa's first multimodal logistics platform and international passenger airport;
- Africa's busiest port;
- The continents top conferencing city;
- South Africa's leading sports and tourist destination; and
- Extensive high quality road, rail and telecommunication infrastructure.

(Draft Medium Term Budget Report 2010/2011 to 2012/2013 http://www.durban.gov.za/Resource_Centre/reports/Budget/Documents/20102011_DraftBudget.pdf)

Regional output and GVA at basic prices by local municipality 1995-2011 (v1 31Aug12)

Units	**Value**
Year	2011
Industry	
0: Total	**146538**
PA: Agriculture, forestry and fishing [SIC: 1]	2254
PB: Mining and quarrying [SIC: 2]	753
SC: Manufacturing [SIC: 3]	32222
SD: Electricity, gas and water [SIC: 4]	2985
SE: Construction [SIC: 5]	4682
TF: Wholesale and retail trade, catering and accommodation [SIC: 6]	22202
TG: Transport, storage and communication [SIC: 7]	22590
TH: Finance, insurance, real estate and business services [SIC: 8]	33431

TI: Community, social and personal services [SIC: 92, 95-6, 99, 0] 8801
TJ: General government [SIC: 91, 94] 16618

Industry	2011 GVA per industry at constant prices
Agriculture, forestry and fishing	2%
Mining and quarrying	1%
Manufacturing	22%
Electricity, gas and water	2%
Construction	3%
Trade and Hospitality	15%
Transport and communication	15%
FIRE and business services	23%
Community, social services	6%
General government	11%
Total	100%

Level of education:

Statistics South Africa
Family_Sub_Place
Table 1
Highest educational level (grouped)
for Person weighted, ETH: eThekwini

No schooling	121266	4%
Some primary	642990	19%
Completed primary	136050	4%
Some secondary	998760	29%
Grade 12/Std 10	888381	26%
Higher	283833	8%
Unspecified	9051	0%
Not applicable	362031	11%
total	3442362	100%

All cells in this table have been randomly rounded to base 3

Created on 01 November 2013
Statistics South Africa: Web page:
www.statssa.gov.za
Support: info@statssa.gov.za

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R1 million	
What is the expected yearly income that will be generated by or as a result of the activity?	None – No new income will be generated by the new mast	
Will the activity contribute to service infrastructure?	YES X	
Is the activity a public amenity?		NO X
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	None. Existing approved BBEE service providers will be used during the construction phase.	
What is the expected value of the employment opportunities during the development and construction phase?	R200 000.00	
What percentage of this will accrue to previously disadvantaged individuals?	80% (The contractors used are approved BBEE contractors)	
How many permanent new employment opportunities will be created during the operational phase of the activity?	None	
What is the expected current value of the employment opportunities during the first 10 years?	No new employment opportunities will be created. Existing Transnet staff will manage and service the new mast.	
What percentage of this will accrue to previously disadvantaged individuals?	80%	

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
[redacted]	**Ecological Support Area (ESA)**	[redacted]	**No Natural Area Remaining (NNR)**	The site is located within the admiralty corridor however based on the ecological survey undertaken, there is no natural area remaining within the proposed site.

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	10%	Red data species recorded
Near Natural (includes areas with low to moderate level of alien invasive plants)	90%	Cleared area which is now dominated by weeds and pioneers grasses
Degraded (includes areas heavily invaded by alien plants)	[redacted]	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)		

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems		
Ecosystem threat status as per the National Environmental Management:	[redacted] **Endangered** [redacted]	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)	Estuary	Coastline

Terrestrial Ecosystems			Aquatic Ecosystems			
Biodiversity Act (Act No. 10 of 2004)		NO X		NO X		NO X

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The study area falls within the Indian Ocean Coastal belt biome and is characterised by KwaZulu Natal Coastal Belt grassland vegetation type, and this vegetation type has a national conservation status of *Endangered*. According to the data sourced from South African National Biodiversity Institute (SANBI); there is one threatened terrestrial ecosystem that was recorded in the study area- Southern Coastal grasslands.

The proposed development site is within a built up and cleared area. At the time of the specialist visit, the general aspect on the site was one of severe degradation, primarily on account of anthropogenic disturbance at the site. As a consequence of this, the dominant habitat structure comprised primarily of weeds and/or alien invasive plant species. One Red data plant species was recorded on site, namely *Crinum macowanii* (River lily). This species is listed as ***Declining*** and should be removed from the site and planted in the nursery to be re-introduced after the completion of construction. Some of the alien invasive plants species recorded on the proposed development site are *Lantana camara* and *Euphorbia ingens.*

Vervet monkeys were visually observed in abundance on site and the presence of molehills suggests that they do occur on site. As a consequence of the proximity to forest areas, the presence of mammals may be noted from a transitory perspective. During personal consultation with the Greenpoint lighthouse guard, Mr. Basson, indicated that species such as Mountain Reedbuck, Common duiker, Red Duike, Bushbuck, and Slender Mongoose are present in the area, as he has observed them. The presence of mammals may be noted from a transitory perspective as a consequence of the proximity to the forest system.

Due to the transformation of site arising from clearing and human disturbances; the southern site (Forest area) offers suitable habitat for any larger terrestrial birds as well as most raptor species. Thirteen (13) bird species were recorded during the field survey. The species recorded were common and widespread. No Red Data bird species associated with the proposed development site were recorded within the study area.

Only one reptile species was noted on site, this being the Speckled Rock Skink (*Trachylepis punctatissima*). This species is found in a variety of habitats, wet and dry, from grassland and savanna to shrubland, including rock outcrops (Branch, 1998). It is not considered to be a significant species from a conservation perspective. During personal consultation with the Greenpoint lighthouse guard, Mr. Basson, he indicated several reptile species such as Green mamba, Night adder and Boomslang have observed on site . (Phampe, 2013)

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	The Mercury	
Date published	This information will be provided in the Final BAR	
Site notice position	**Latitude**	**Longitude**
1	30° 14' 39.21"	30° 46' 46.03"
2	30° 14' 56.78"	30° 46' 65.06"
3	30° 14' 58.48"	30° 46' 46.36"
Date placed	This information will be provided in the Final BAR	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 54(2)(e) and 54(7) of GN R.543.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Councillor Bayeni	Ward 99 Councillor	mdudzienock@durban.gov.za
	Umkomaas Library	031 311 5444
C Schwegman	Coastwatch	083 987 47 14

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No issues have been raised to date. All comments and responses will be included in the final Bar for review.	

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
DOT	R Ryan	0333872320		Blake.Mackenzie@kzntransport.gov.za	P/Bag X9043, Pietermaritzburg, 3200
DAFF	W Rudzani	033 392 7761		wisemanR@nda.agric.za	P/Bag X 9029, PMB, 3200
EKZN Wildlife	D Wieners	033 845 1472		wienersd@kznwildlife.com	P.O.Box 13053, Cascades, PMB, 3202
Ethekwini Municipality	D van Rensburg	031 311 7136	031 311 7859	vanrensbergd@durban.gov.za	P.O.Box 680, Durban, 4000
DWA	S Sikhosana	031 336 2933	031 305 9915	sikhosanas@dwa,gov.za	P.O.Box 1018, Durban, 4000
KZN DAEA	Y Govender	082 921 9340	031 302 2284	Yugeshnie.govender@kzndae.gov.za	Private Bag X54321, Durban, 4000
AMAFA	Weziwe Tshabalala	Information is required to be uploaded onto the SAHRIS Website. The project has been allocated with the following reference number: Case ID 3880			

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
The Impacts and mitigation measures below are applicable to both Alternative S1 (preferred alternative) & Alternative S2 unless otherwise specified			
	Direct impacts:		
	Impact on flora during the preconstruction phase - Search and Rescue	1	A qualified and / or appropriately experienced botanist or an experienced person who knows specific vegetation types well, in consultation with KZN Wildlife, should mark the River liles identified on site. These species must be removed prior construction and replanted during the rehabilitation process. It is recommended that the plants can be dug-up, and moved a few meters to just outside the development footprint, and then replanted temporarily. This should be done on the same day to minimise the risk of introducing diseases and parasites to the plants. Removal of plants should be done mechanically, using hand tools. The optimal timeframe for removal and replanting is to perform the search, rescue and relocation in spring or early summer, once first rains have fallen, in order to facilitate establishment.
	Impact on flora and fauna during site preparation	1	During site preparation, topsoil and subsoil are stripped

Activity	Impact summary	Significance	Proposed mitigation
			separately from each other and must be stored separately from spoil material for use in the rehabilitation phase. It should be protected from wind and rain, as well as contamination from diesel, concrete or wastewater. Records of all environmental incidents must be maintained and a copy of these records must be made available to authorities on request throughout the project execution. During site preparation special care must be taken during the clearing of the works area to minimise damage or disturbance of roosting and nesting sites. Barricading measures to be utilised should not restrict the movement of the fauna in the area.
	Impact on fauna during the pre-construction phase – search and rescue	1	A qualified and / or appropriately experienced Zoologist or an experienced person who knows the animals in the region well will identify any possible Red Data fauna on site and the necessary permits to relocate fauna must be obtained if avoidance is not possible. Training of construction workers to recognise threatened animal species will reduce the probability of fauna being harmed unnecessarily. Posters should be displayed on sight to sensitise workers to fauna in the region.
	Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.	1	Employ on site personnel responsible for preventing and controlling potential soil pollution through fuel and oil leaks and spills. Make sure construction vehicles are maintained and serviced to prevent oil and fuel leaks. Emergency on-site maintenance should be done over appropriate drip trays and all oil or fuel must be disposed of according to waste regulations. Drip-trays must be

Activity	Impact summary	Significance	Proposed mitigation
			placed under vehicles and equipment when not in use. Require the suitable establishment of erosion control mechanisms. Also require the moderation of blasting which will probably be required at some point.
	Incorrect management of stormwater resulting in erosion	1	Implement suitable stormwater measures during construction to manage ingress of runoff. Manage stormwater from construction site to avoid environmental contamination and erosion. Storm water control measures as specified by the Engineer shall be applied to keep soil on site by minimising silt-laden run off from all areas stripped of vegetation, including excavation stockpiles of spoil and topsoil; contaminated run off from storage areas; thereby preventing it from entering water courses
	Vegetation and habitat disturbance due to the accidental introduction of alien species.	1	Promote awareness of all personnel. After construction programme, monitoring and control of alien weeds and invaders through hand removal; slashing (annuals) or chemical control (perennials). Chemical control may only be done by a registered Pest Control Operator upon approval from the ECO.
	Vegetation and habitat disturbance due to pollution and littering during construction phase.	1	Employ personnel on site responsible for preventing and controlling of litter. Promote housekeeping with daily clean-ups on site. Before construction commences, construction workers should be educated with regards to littering, ad hoc veld fires, and dumping. No fires to be allowed on site.
	Damage to plant life outside of the proposed development area	1	Construction activities should be restricted to the footprint area. All workers must be trained before construction commences.
	Disturbance to animals	1	Animals which might be residing within the designated area shall not be unnecessarily disturbed. Before construction starts,

Activity	Impact summary	Significance	Proposed mitigation
			construction workers must be educated with regards to littering and poaching. The Contractor and his/her employees shall not bring any domestic animals onto site. Toolbox talks should be provided to contractors regarding disturbance to animals. Particular emphasis should be placed on talks regarding snakes. A methodology to manage fauna found on site must be developed
	Restriction of the safe animal passage through and specifically out of the construction site.	1	Construction areas must be demarcated but should allow for the migration of small faunal species out of the construction zone. Fencing types must be selected for minimal disturbance to animal movement corridors (e.g. palisade fencing is preferable to diamond-mesh fencing).
	The proposed development may affect biodiversity through the encroachment of exotic vegetation following soil disturbance, in addition the maintenance of the area would disturb naturalised species within the area. (Construction and operation phases)	1	Encroachment of alien vegetation should be monitored regularly and controlled; the area must be kept clear of invader plants as per the Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983). Rehabilitation measures must be employed until such a time as indigenous species are established.
	Potential visual impact on residences, settlements and farmsteads - (Construction and operation phases)	Medium (36)	During decommissioning, the applicant must remove all visible structures to reverse visual impact.
	Potential visual impact on tourists - (Construction and operation phases)	Low (21)	Decommissioning: remove all visible structures to reverse visual impact.
	Potential visual impact on motorists - (Construction and operation phases)	Low (21)	Decommissioning: remove all visible structures to reverse visual impact.
	Potential disruption of traffic during the construction phase	1	• Adequate signage must be implemented along the construction route as required; • Flagmen must be used to control the traffic flow if necessary; • All conditions of the EMPr must be adhered to.

Activity	Impact summary	Significance	Proposed mitigation
	Potential damage to existing infrastructure during the construction phase	1	All infrastructure must be clearly identified and demarcated prior to the commencement of construction activities.
	Health and safety impact during the construction phase	1	All health and safety regulations must be adhered to during the construction phase.
	Potential health and safety hazard to the surrounding public as a result of the operation of the mast	1	The MPT1327 Trunked radio technology will be used for the new mast. There is not anticipated to be any health and safety impacts as the equipment is currently in operation and has been operating for a number of years from this location (i.e. inside the lighthouse at present).
	Potential damage to the Lighthouse which is a national monument – (construction and operation)	1	The lighthouse must be clearly demarcated at all times. Removal of the telecommunication equipment from the lighthouse must be done cautiously and care must be taken not to alter or damage the structure in any way. Should the applicant deem that alteration is required in any way, then construction must stop and a permit must be submitted to AMAFA for the alteration of a structure older than 60 years.
	Alternative S2 only – Restriction on future expansion activities	2	Should the telecommunication mast be located at this site, then the future expansion activities required by Transnet will be hampered, which may result in the telecommunication mast and associated infrastructure being relocated.
	Indirect impacts:		
	Cumulative impacts: Increase in waste being sent to the landfill	1	• Recycling must be undertaken where possible to reduce the amount of waste sent to the landfill

Activity	Impact summary	Significance	Proposed mitigation
			site. • Waste must be sent to registered landfills and safe disposal certificates must be retained on site. • All conditions of the EMPr must be adhered to.
	Encroachment of alien vegetation	1	Rehabilitation measures must be implemented once construction activities are complete to ensure that. Alien vegetation must be controlled during the construction and operational phases. All conditions of the EMPr must be adhered to.
No-go option			
The no-go option will mean that the equipment will remain within the Greenpoint Lighthouse which is a National Monument. The public access to this site, although limited, and resultant access to the Telecomm equipment, is a safety and security risk, for TFR as this may have an impact on train control and may result in train accidents. The uncontrolled environment (i.e. temperature and humidity) inside the lighthouse is not ideal for the telecommunications equipment. These impacts cannot be mitigated against should the no-option be approved.			

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative S1,A1 (preferred alternative)

The applicant, TFR, therefore proposes to construct a mast and associated infrastructure. The proposed site will be located on 90 Lot 1, Clansthal. The proposed site will be 12 x 6 meters, consisting of a 3 x 3 meter telecommunications container, a 30 meter lattice mast, with a 2.1 meter palisade fence around the site.

The preferred technology for the operation of the new infrastructure is MPT1327 trunked radio. This technology serves the communication requirements between the Central Traffic Control centre, and trains within the RF coverage area of the proposed site. This technology is used throughout the country and is an integral part of train control in TFR. The linking of this site into the rest of the network will be achieved by microwave radio link, into the rest of the transmission network.

The most significant impacts relate to the potential damage to Lighthouse which is a national monument, however provided that the structure is clearly demarcated at all times and that the equipment is removed cautiously, the potential impacts can bit mitigated against. The new mast may poses a visual impact, to residents, motorist and tourists, however the potential impact can only be mitigated against should the structure be decommissioned. This mast is absolutely necessary to ensure that radio communication to the trains is not disrupted and can only be located within a specific distance from its current location. From an ecological perspective, all identified impacts can be mitigated against and as such the impacts that may occur as a result of this activity can be deemed of low significance.

All recommendations made by the wetland specialist must be adhered to where applicable and the site specific Environmental Management Programme (EMPr) must be implemented to ensure that all potential impacts are mitigated against. The findings of the impact assessment carried out concluded that there is no fatal flaw which prevents the proposed project from proceeding.

Alternative S2, A1

The applicant, TFR, therefore proposes to construct a mast and associated infrastructure. The proposed site will be located on R/7 of the Farm Clansthal. The proposed site will be 12 x 6 meters, consisting of a 3 x 3 meter telecommunications container, a 30 meter lattice mast, with a 2.1 meter palisade fence around the site.

The preferred technology for the operation of the new infrastructure is MPT1327 trunked radio. This technology serves the communication requirements between the Central Traffic Control centre, and trains within the RF coverage area of the proposed site. This technology is used throughout the country and is an integral part of train control in TFR. The linking of this site into the rest of the network will be achieved by microwave radio link, into the rest of the transmission network.

The most significant impacts relate to the potential damage to Lighthouse which is a national monument, however provided that the structure is clearly demarcated at all times and that the

equipment is removed cautiously, the potential impacts can bit mitigated against. The new mast may poses a visual impact, to residents, motorist and tourists, however the potential impact can only be mitigated against should the structure be decommissioned. This mast is absolutely necessary to ensure that radio communication to the trains is not disrupted and can only be located within a specific distance from its current location. From an ecological perspective, all identified impacts can be mitigated against and as such the impacts that may occur as a result of this activity can be deemed of low significance.

All recommendations made by the wetland specialist must be adhered to where applicable and the site specific Environmental Management Programme (EMPr) must be implemented to ensure that all potential impacts are mitigated against. **The findings of the impact assessment carried out concluded that there is no fatal flaw which prevents the proposed project from proceeding at this site, however should this site be approved, then the mast and associated infrastructure may need to be once again be relocated to an alternative location, as Transnet plans to utilise this site at a later stage.**

Alternative C

[redacted]

No-go alternative (compulsory)

The no-go option will mean that the equipment will remain within the Greenpoint Lighthouse which is a National Monument. The public access to this site, although limited, and resultant access to the Telecomm equipment, is a safety and security risk, for TFR as this may have an impact on train control and may result in train accidents. The uncontrolled environment (i.e. temperature and humidity) inside the lighthouse is not ideal for the telecommunications equipment. These impacts cannot be mitigated against should the no-option be approved.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES X	

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

Based on the information contained in this report, and taking into account the outcome of the impact assessment, opinions and recommendations included in the specialist studies as well as all supporting documentation it is the recommendation of the practitioner that Environmental Authorisation (EA) be granted by the Department of Environmental Affairs (DEA) for Alternative S1 and A1.

Furthermore the following conditions for inclusion in the EA are recommended:

- Construction should where possible, take place during the dry season (i.e. low rainfall period);
- The Environmental Management Programme should form part of the contract with the Contractor appointed by the proponent, as a means of facilitating compliance with environmental specifications and the implementation of mitigation measures;
- Preventative measures avoiding contaminated runoff from the construction area into the watercourses, must be implemented throughout the construction phase;
- An Internal Environmental Control Officer (IECO) must be appointed by the proponent prior to the commencement of construction activities. The IECO's primary role will be to assess whether construction activities are implemented as per the conditions stipulated in the EA;
- The applicant must ensure that the Lighthouse is protected at all times and that the operation of the lighthouse is not affected in any way; and
- All recommendations made by the Ecological, Heritage and Visual specialist must be adhered to at all times.

Is an EMPr attached?	YES X	

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Manogrie Chetty

_____

NAME OF EAP

13 November 2013

_____ _____

SIGNATURE OF EAP DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

- A1: Locality Map Showing Alternative Sites
- A2: Map Illustrating the Site in Relation to Surrounding Towns
- A3: Map Illustrating Road Access
- A4: Map Illustrating Major Roads Around the Site
- A5: Map Illustrating the Site in Relation to Surrounding Properties
- A6: Land Use / Zoning Map
- A7: Map Illustrating the Servitude
- A8: Map Illustrating the Watercourses
- A9: Map Illustrating the Site in Relation to the Lighthouse
- A10: Map Illustrating the DMOSS Area
- A11: Map Illustrating the CBA Areas
- A12: Map Illustrating the ESA Areas

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information