



DRAFT BASIC ASSESSMENT REPORT

**THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND
THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.**

October 2021

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

PROPOSED DEVELOPMENT OF A 35M HIGH TELECOMMUNICATION MAST ON PORTION 22 OF FARM 22, ZOUTERIVIER, WESTERN CAPE



IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.
2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".
3. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.
4. All applicable sections of this BAR must be completed.
5. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.
6. This BAR is current as of **November 2019**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at <http://www.westerncape.gov.za/eadp> to check for the latest version of this BAR.
7. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.
8. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.
9. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.
10. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.
11. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.
12. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.
13. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link <https://screening.environment.gov.za/screeningtool> to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

14. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA"), the submission of the Report must also be made as follows, for-
Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 and REGION 2 (Region 1: City of Cape Town, West Coast District) (Region 2: Cape Winelands District & Overberg District)	GEORGE OFFICE: REGION 3 (Central Karoo District & Garden Route District)
<p>BAR must be sent to the following details:</p> <p>Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483-5829 Fax (021) 483-4372</p>	<p>BAR must be sent to the following details:</p> <p>Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530</p> <p>Registry Office 4th Floor, York Park Building 93 York Street George</p> <p>Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650</p>

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
<p>Locality Map:</p>	<p>The scale of the locality map must be at least 1:50 000. For linear activities or development proposals 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:</p> <ul style="list-style-type: none"> • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. <p>For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken.</p> <p>Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.</p>

Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	<p>Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following:</p> <ul style="list-style-type: none"> • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development must be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): <ul style="list-style-type: none"> ◦ Watercourses / Rivers / Wetlands ◦ Flood lines (i.e., 1:100 year, 1:50 year and 1:10 year where applicable); ◦ Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"); ◦ Ridges; ◦ Cultural and historical features/landscapes; ◦ Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow <p>A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.</p>
Site photographs	<p>Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as Appendix C. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.</p>
Biodiversity Overlay Map:	<p>A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as Appendix D.</p>
Linear activities or development and multiple properties	<p>GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system.</p> <p>Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix.</p> <p>For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as Appendix A3.</p>

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBS:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ (tick) or a x (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			✓ (Tick) or x (cross)
Appendix A:	Maps		
	Appendix A1:	Locality Map	✓
	Appendix A2:	Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning	N/A
	Appendix A3:	Map with the GPS co-ordinates for linear activities	✓
Appendix B:	Appendix B1:	Site development plan(s)	✓
	Appendix B1	A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	✓
Appendix C:	Photographs		✓
Appendix D:	Biodiversity overlay map		✓
Appendix E (See Appendix F2):	Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.		
	Appendix E1:	Acknowledgment of NID from HWC Appendix E1.1) and Comment from the HWC (Appendix E1.2)	✓
	Appendix E2:	Copy of comment from Cape Nature	✓
	Appendix E3:	Comment from the DWS	x
	Appendix E3.1:	Existing Water Use Rights	x
	Appendix E3.2:	WULA Process	x
	Appendix E4:	Comment from the DEA: Oceans and Coast	x
	Appendix E5:	Comment from the DAFF	x
	Appendix E6:	Comment from WCG: Transport and Public Works	x

	Appendix E7:	Comment from WCG: DoA	x
	Appendix E8:	Comment from WCG: DHS	x
	Appendix E9:	Comment from WCG: DoH	✓
	Appendix E10:	Comment from DEA&DP: Pollution Management	x
	Appendix E11:	Comment from DEA&DP: Waste Management	x
	Appendix E12:	Comment from DEA&DP: Biodiversity	x
	Appendix E13:	Comment from DEA&DP: Air Quality	x
	Appendix E14:	Comment from DEA&DP: Coastal Management	x
	Appendix E15:	Comment from the local authority (CoCT: Environmental & Heritage Management, Environmental Management Department) (Appendix E15.1) and CoCT Municipal By-Law Planning Directorate (Appendix E15.2)	✓
	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	x
	Appendix E17:	Comment from the District Municipality (City of Cape Town Spatial Planning & Environment Directorate, Environmental Management Department) – please refer to Appendix E15.	✓
	Appendix E18:	Copy of an exemption notice	x
	Appendix E19	Pre-approval for the reclamation of land	x
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	N/A – please refer to Appendix G
	Appendix E21:	Proof of land use rights	N/A
	Appendix E22:	Proof of public participation agreement for linear activities	N/A
	Appendix E23:	Acknowledgment of Receipt of NOI by the DEA&DP and other comments raised	✓

	Appendix E24:	Comment from SACAA	✓
	Appendix E25:	Comment from Eskom	✓
Appendix F:	Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.		✓
	Appendix F1	I&AP Register	✓
	Appendix F2	Comments and Responses Report	✓
	Appendix F3	Proof of Notification	✓
	Appendix F4	Advertisement	✓
	Appendix F5	Proof of posters and notices	✓
	Appendix F6 (Please refer to Appendix C)	Site photos	✓
Appendix G:	Specialist Report(s)		
	Appendix G1	Heritage (NID)	NID submitted on 15 th April 2021
Appendix H:	EMPr		✓
Appendix I:	DEA Screening Tool		
	Appendix I.1	DEA Screening Tool report	✓
	Appendix I.2	Site Sensitivity Verification (SSV) Report	✓
Appendix J:	The impact and risk assessment for each alternative		✓
Appendix K:	Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline		Detailed in report (Section E)
Appendix L	Any other attachments must be included as subsequent appendices		
	Appendix L.1	EAP CV and Details of EAP	✓

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE:		GEORGE OFFICE:
	REGION 1 (City of Cape Town, West Coast District)	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent Name of Applicant/Proponent: Name of contact person for Applicant/Proponent (if other): Company/ Trading name/State Department/Organ of State: Company Registration Number: Postal address: Telephone: E-mail:	CTC Operations (Pty) Ltd		
	Lian Kruger		
	CTC Operations (Pty) Ltd		
	4 Pastorale Avenue,		
	Durbanville Business Park		Postal code: 7550
	(027) 21 111 0466		Cell: (+27) 82 954 5702
	Lian@ctc-ops.co.za		Fax: N/A
Company of EAP: EAP name: Postal address: Telephone: E-mail: Qualifications: EAPASA registration no:	EnviroAfrica		
	Ansone' Esterhuizen		
	P.O. Box 5367,		
	Helderberg		Postal code: 7135
	(021) 851 1616		Cell: 076 714 1234
	ansone@enviroafrica.co.za		Fax: (086) 512 0154
	Ansone - BA Environmental Management, BSc (Hons) (currently completing)		
	Clinton Geyser – MSc: Geography and Environmental Management		
Duplicate this section where there is more than one landowner Name of landowner: Name of contact person for landowner (if other): Postal address: Telephone: E-mail:	Mr Leon Van Zyl		
	P.O. Box 864, Malmesbury		
			Postal code: 7299
	N/A		Cell: (+27) 82 905 1405
	vanzyl@lantic.net		Fax: ()
Name of Person in control of the land: Name of contact person for person in control of the land: Postal address: Telephone: E-mail:	Person in control of the land is the Landowner		
			Postal code:
	()		Cell:
			Fax: ()
Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall: Contact person: Postal address: Telephone: E-mail:	City of Cape Town Metropolitan		
	Ms. Natalie Newman		
	1st Floor Municipal Offices, Cnr Fagan and Main Road		
	Strand		Postal code: 7139
	021 850 4132 / 021 444 2172		Cell: N/A
	Natalie.Newman@capetown.gov.za		Fax: 086 576 1790

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INCLUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New	<input checked="" type="checkbox"/>	Expansion	
2.	Is the proposed site(s) a brownfield or greenfield site? Please explain.				
Greenfields site where disturbed land will be developed					
3.	For Linear activities or developments (N/A)				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
N/A					
3.2.	Development footprint of the proposed development for all alternatives.				m ²
N/A					
3.3.	Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.				
N/A					
3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
N/A					
3.5.	SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives		N/A		
3.6.	Starting point co-ordinates for all alternatives				
	Latitude (S)				
	Longitude (E)				
	Middle point co-ordinates for all alternatives				
	Latitude (S)				
	Longitude (E)				
	End point co-ordinates for all alternatives				
	Latitude (S)				
Longitude (E)					
Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.					
4.	Other developments				
4.1.	Property size(s) of all proposed site(s):				
	Portion 22 of Farm No. 22, Zouterivier	429 900m ² (42.99ha)			m ²
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):				
	Approximately 90m ² .				m ²
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:				
	Approximately 90m ² (< 100m ²).				m ²
4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).				
<p>The proposed project is for the development of a 35m high telecommunication mast and associated infrastructure on a disturbed site (Portion 22 of Farm 22, Zouterivier). The total footprint of the proposed development (35m high mast and associated infrastructure) will be approximately 90m². The site has been previously disturbed by grazing activities. The proposed development (Figure 1) will be comprised of:</p> <ul style="list-style-type: none"> 35m High Telecommunication Mast, comprising of; <ul style="list-style-type: none"> Standard platform; Proposed 1 x 300mm M/W Dish; Proposed antenna mounted on H-Boom; 					

- Navigation lights and earth lightning spike.
- Four (4) proposed equipment containers on concrete slab and plinths, including;
 - Three (3) x proposed 4.5kg DCP Fire Extinguishers per a container
- 2.4m high palisade fence;
- Low wall;
- 3m vehicle sliding gate (access); and;
- Proposed crusher stone (site surface).

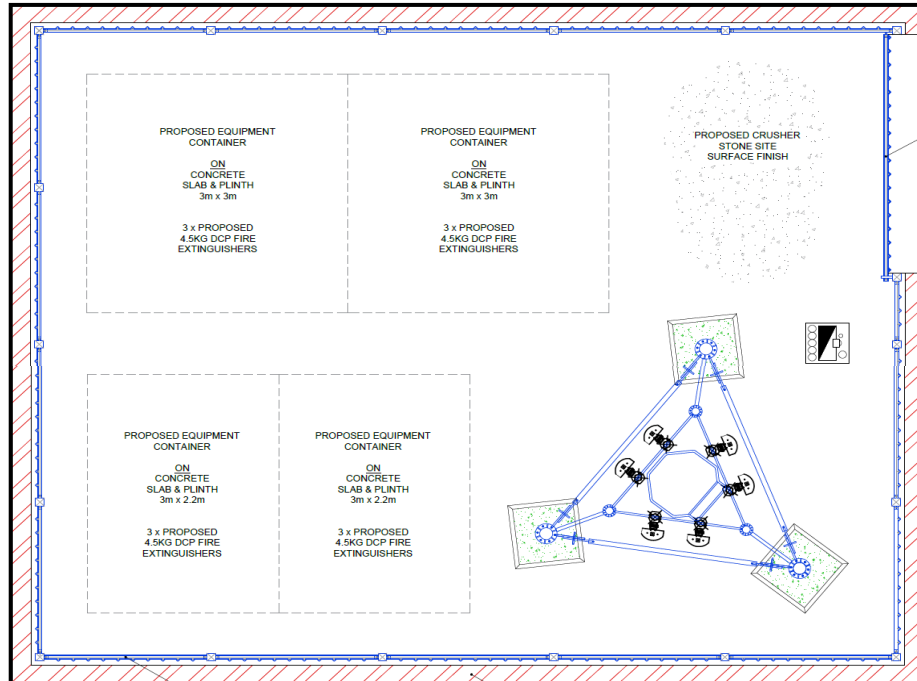


Figure 1. The layout of the proposed development of a 35m high telecommunication mast on Portion 22 of Farm 22, Zouterivier. Source: CTC Operations.

4.5.		Indicate how access to the proposed site(s) will be obtained for all alternatives.																			
Existing farm roads will be used to gain access to the proposed development.																					
4.6	SG Digit Codes	Portion 22 of Farm No. 22, Zouterivier																			
		C	0	1	6	0	0	0	0	0	0	0	0	0	2	2	0	0	0	2	2
4.7.	Coordinates of the proposed site(s) for all alternatives:																				
	Alternative 1 (Preferred Location)	Latitude (S)			33°			36'			22.90"										
		Longitude (E)			18°			35'			34.49"										
	Alternative 2	Latitude (S)			33°			36'			21.18"										
		Longitude (E)			18°			35'			29.86"										

SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	YES	NO
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2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES	NO
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1.	YES	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES	NO
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:QA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.
N/A

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
<p>Guidelines on EIA Regulations 2014; DEA Screening Tool. The City of Cape Town Telecommunication Mast Infrastructure Policy (dated April 2015)¹ was also considered. This policy comprises of various objectives which must be considered with telecommunication developments. These objectives include;</p> <ol style="list-style-type: none"> 1. Improving and maintaining communication; 2. Ensuring the development is placed in the best possible location; 3. Ensuring the co-location or sharing of telecommunication mast infrastructure (TMI) where possible; 4. Retaining the visual integrity, special character, and amenity of the Metropolitan; 5. Designing with the landscape and using modern mitigation measures to reduce identified impact(s); 6. Retaining and improving the environmental and heritage quality of the public arena; 7. Ensuring (where possible), the TMI is not situated within an area of environmental or heritage significance; 8. Ensuring the construction and operation of the proposed development does not compromise surrounding utility functions; 9. Placing (where/ if possible) the TMI on other structures such as light posts, road signs, etc.; and 10. Protecting the health, safety and wellbeing of the inhabitants of Cape Town Metropolitan.

¹<http://www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf>

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.	
DEADP Guidelines	The DEA&DP Guideline on Need & Desirability (2010), DEA&DP Guideline on Public Participation (2010), DEA&DP Guideline on Alternatives (2010), and DEA&DP Guideline for Environmental Management Plans (2005) were consulted and adhered to when undertaking this Basic Assessment Report.
National Environmental Management Act (107 of 1998) (NEMA) and Environmental Impact Assessment (EIA) Regulations, 2010	Principles of environmental management, procedures to be followed and adhered to for a Basic Assessment process and Environmental Authorisation
Guideline on need and desirability (2017)	Although some overlap with the DE&DP Guideline (2010), this guideline was consulted and adhered to with regards to considering the need and desirability aspects of the proposed Dam Enlargement.
Public Participation guideline in terms of NEMA (2017)	Although some overlap with the DE&DP Guideline (2010), this guideline was consulted and adhered to with regards to considering the public participation process required for the proposed project.
Impact significance, Integrated Environmental Management, Information Series 5 (2002) and Environmental Impact Reporting, Integrated Environmental Management, Information Series 15 (2004)	These guidelines were consulted and adhered to with regards to the assessment of the significance of impacts associated with the proposed development.

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form	
Protocols included the general requirements for conducting initial verification of site sensitivity.	The DEA Screening Tool, as well as the nature of the proposed project (i.e. 35m high mast and associated infrastructure), identified the need for certain specialist studies. It is envisaged that no specialist studies are required (please see site sensitivity verification report – Appendix I).

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		
Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3	Describe the portion of the proposed development to which the applicable listed activity relates.
3	<p>The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower—</p> <p><i>(a) is to be placed on a site not previously used for this purpose; and</i></p> <p><i>(b) will exceed 15 metres in height—</i></p> <p><i>i. Western Cape</i></p> <p><i>i. All areas outside urban areas;</i></p> <p><i>ii. Areas designated for conservation use in Spatial Development Frameworks adopted by</i></p>	The proposed development comprises of a 35m high telecommunication mast and associated infrastructure, located within an area zoned as Agriculture.

	<i>the competent authority, or zoned for a conservation purpose, within urban areas; or</i> <i>iii. Areas zoned for use as public open space or equivalent zoning within urban areas.</i>	
Note: <ul style="list-style-type: none"> The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted. Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority. 		

List the applicable waste management listed activities in terms of the NEM:WA

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Category A	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		

List the applicable listed activities in terms of the NEM:AQA

Activity No(s):	Provide the relevant Listed Activity(ies)	Describe the portion of the proposed development to which the applicable listed activity relates.
N/A		

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.
<p>The proposed project is for the development of a 35m high telecommunication mast and associated infrastructure on a disturbed site (Portion 22 of Farm 22, Zouterivier). The total footprint of the proposed development (35m high mast and associated infrastructure) will be approximately 90m². The site has been previously disturbed by grazing activities. The proposed development (Figure 1) will be comprised of:</p> <ul style="list-style-type: none"> 35m High Telecommunication Mast, comprising of; <ul style="list-style-type: none"> Standard platform; Proposed 1 x 300mm M/W Dish; Proposed antenna mounted on H-Boom; Navigation lights and earth lightning spike. Four (4) proposed equipment containers on concrete slab and plinths, including; <ul style="list-style-type: none"> Three (3) x proposed 4.5kg DCP Fire Extinguishers per a container 2.4m high palisade fence; Low wall; 3m vehicle sliding gate (access); and; Proposed crusher stone (site surface). <p>Please refer to Figure 1 for design layout.</p>	
2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.
The proposed free-standing telecommunication mast falls within one of the consent uses in terms of the property's zoning, zoned as Agricultural (AG).	
3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.
N/A.	
4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.

This application is for the construction of a telecommunications mast, which is considered as part of the essential services for the greater community.

4.2 The Integrated Development Plan of the local municipality.

As per the City of Cape Town's SDF, in order to enable resource-efficient development advances, effective telecommunication is required. Therefore, the proposed development will contribute to the Municipality's ability to achieve this policy statement. Moreover, this proposed project is for the construction of a telecommunication mast, which is considered as part of the essential services for the greater community. The proposed development will have no negative impact on the municipality's Integrated Development Plan ("IDP") or Spatial Development Framework ("SDF").

4.3. The Spatial Development Framework of the local municipality.

As per the City of Cape Town's SDF, in order to enable resource-efficient development advances, effective telecommunication is required. Therefore, the proposed development will contribute to the Municipality's ability to achieve this policy statement. Moreover, this proposed project is for the construction of a telecommunication mast, which is considered as part of the essential services for the greater community. The proposed development will have no negative impact on the municipality's Integrated Development Plan ("IDP") or Spatial Development Framework ("SDF").

4.4. The Environmental Management Framework applicable to the area.

The proposed activity (i.e. development of a telecommunication mast) is in line with the Environmental Management Framework of the City of Cape Town as the construction of the telecommunication mast is an essential service for the greater community.

5. Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.

Due to the current phase of the Environmental Application process, namely the Pre-Application Basic Assessment Process (BAR) phase, comments received from I&APs will be addressed in the Draft BAR (i.e. Post-application BAR).

6. Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.

As per the Western Cape Biodiversity Spatial Plan (BSP), the site is not located within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA) (Figure 6).

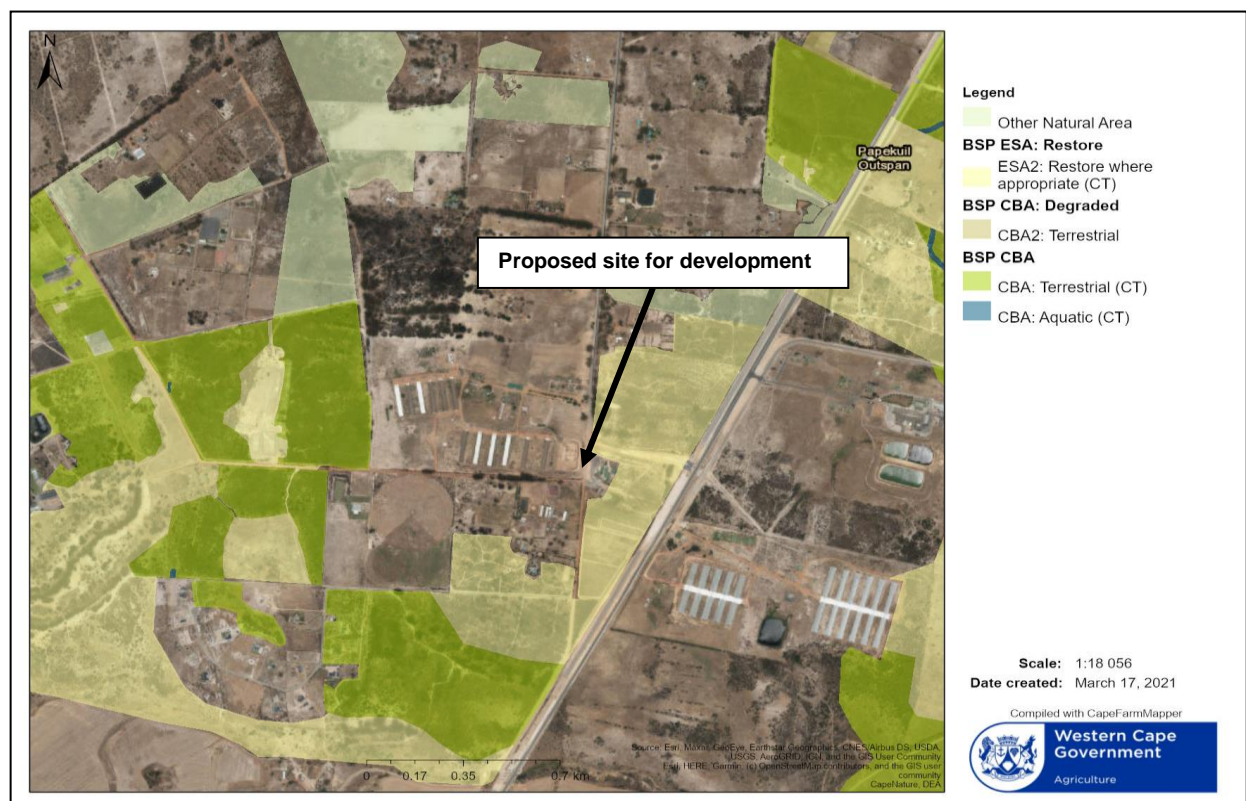


Figure 6. Biodiversity Spatial Plan (BSP) associated with the proposed site for development.

Thus, from an environmental perspective, the proposed 35m mast and associated infrastructure is highly unlikely to impact any BSP.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.
N/A	
8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.
N/A. It must be noted that this report is a pre-application BAR. The DEA Screening Tool and Site Sensitivity Verification (SSV) Report are attached as Appendix I.	
9.	Explain how the proposed development will optimise vacant land available within an urban area.
The proposed site is located outside an urban area.	
10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
Existing infrastructure (e.g. powerlines, farm roads, etc.) will be utilized for the proposed development. The proposed location for the 35m high mast development is unlikely to be used for existing or future land uses due to its proximity to the property boundary. Thus, the proposed development will not impact on any existing or future land uses.	
11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).
Necessary services are available.	
12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.
<p>The consideration of "need and desirability" in EIA decision-making requires the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest. While the concept of need and desirability relates to the type of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which need refers to <i>time</i> and <i>desirability to place</i> – i.e. Is this the <i>right time</i> and is it the <i>right place</i> for locating the type of land-use/activity being proposed? Need and desirability can be equated to <i>wise use of land</i> – i.e. The question of what the most sustainable use of land is.</p> <p>The proposed telecommunication mast will increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home. The proposed telecommunication services is also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP)², South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals.</p> <p>Moreover, the proposed development will provide various signal and connectivity enhancements in the immediate and surrounding areas, providing benefits such as; security, improved medical response, socio-economic development, and access to education. The position of the mast will not affect access to the property. Furthermore, and as previously mentioned, the proposed development is in line with the <i>17 Strategic Infrastructure Projects (SIP)</i> with regards to expanding access to communication technology.</p> <p>Moreover, as per the City of Cape Town Telecommunication Mast Infrastructure Policy (dated April 2015), the nature of the proposed development (i.e. telecommunication) falls within the integrated development plan (IDP) and CoCT SDF, and provides an integral linkage between policy (e.g. spatial plans – comprised of district and local area plans) and regulatory (Cape Town Zoning Scheme and Regulations) environments (Figure 7).</p>	

² https://www.gov.za/sites/default/files/gcis_document/201409/ndp-2030-our-future-make-it-workr.pdf

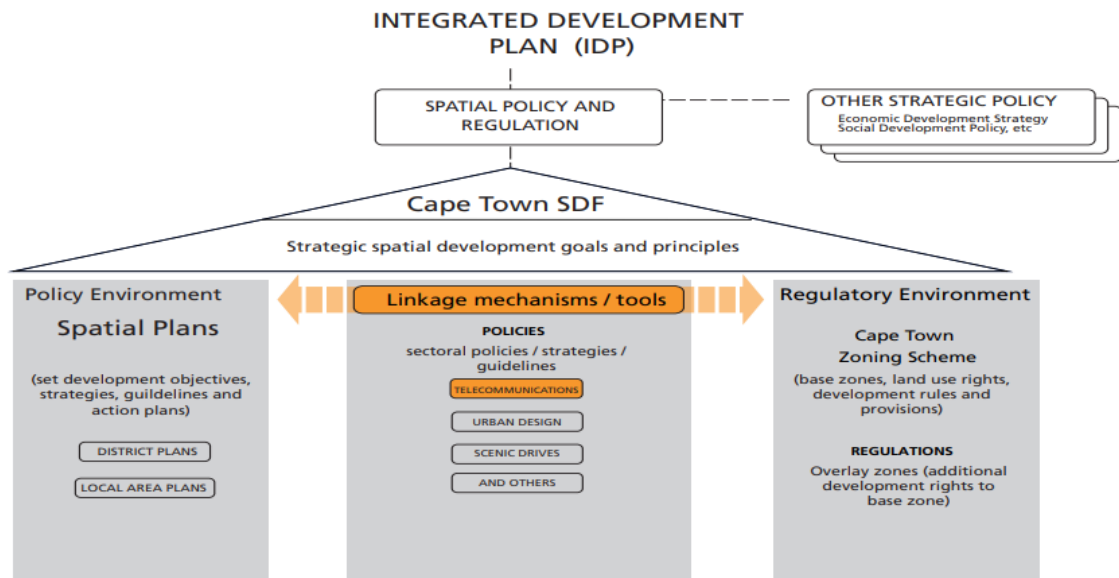


Figure 7. City of Cape Town Municipal By-Laws and Policy. Source: CoCT Telecommunication Mast Infrastructure Policy (dated April 2015) [<http://www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf>].

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

N/A

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

A pre-application meeting was held with the DEA&DP on the **27th May 2021**.

Yes, please see table below for PP undertaken:

Table 1. Public participation undertaken for the proposed development of the 35m high mast and associated infrastructure on Portion 22 of Farm No. 22, Zouterivier.

In terms of Regulation 41 of the EIA Regulations, 2014 (as amended) -			
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -			
(i) the site where the activity to which the application relates, is or is to be undertaken; and	YES	EXEMPTION	
(ii) any alternative site	YES	EXEMPTION	N/A
(b) giving written notice, in any manner provided for in Section 47D of the NEMA, to –			
(i) the occupiers of the site and, if the applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	EXEMPTION	N/A
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	YES	EXEMPTION	
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	YES	EXEMPTION	
(iv) the municipality (Local and District Municipality) which has jurisdiction in the area;	YES	EXEMPTION	
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	YES	EXEMPTION	
(vi) any other party as required by the Department;	YES	EXEMPTION	N/A
(c) placing an advertisement in -			
(i) one local newspaper; or	YES	EXEMPTION	
(ii) any official <i>Gazette</i> that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	YES	EXEMPTION	N/A
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken.	YES	EXEMPTION	N/A
(e) using reasonable alternative methods, as agreed to by the Department, in those instances where a person is desirous of but unable to participate in the process due to—	YES	EXEMPTION	N/A
(i) illiteracy;			
(ii) disability; or			
(iii) any other disadvantage.			

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

Yes, the following State Departments / organs of state were consulted:

Please note that these I&APs were initially notified on the **26th January 2021**.

Table 2. State Departments / Organs of State consulted for comment.

Contact Person			Organization	Contact Number	Email Address
Ms	Vicki	Hudson	Cape Nature	021 866 8029	vhudson@capenature.co.za
Ms	Alana	Duffell-Canham			aduffell-canham@capenature.co.za
Mr	Waseefa	Dhansay	Heritage Western Cape	021 483 9543	Waseefa.Dhansay@westerncape.gov.za
Mr	Cor	Van der Walt	WC Department of Agriculture - Landuse Management	021 808 5099	corvdW@elsenburg.com / rudolphr@elsenburg.com
Ms	Alkerine	Roussouw	Breede Gouritz Catchment Management Agency	0233468000	erossouw@bgcma.co.za / info@bgcma.co.za
Mr	Derrill	Daniels	Department of Water & Sanitation	021 950 7267	DanielsD@dws.gov.za / dreyerw@dws.gov.za
Mr	Morné	Theron	Spatial Planning and Environment Directorate, Environmental Management Department (Blaauwberg District)	084 222 1410	Morne.Theron@capetown.gov.za
Ms	Naadiya	Wookey	Dept. of Environmental Affairs and Development Planning	021 483 2742	Naadiya.Wookey@westerncape.gov.za
Mr	Keith	Wiseman	Environmental Resource Management	021 487 2283	keith.wiseman@capetown.gov.za
Mr	Kobus	Swanepoel	Transport Department (City of Cape Town)	021 400 1676	kobus.swanepoel@capetown.gov.za / transport.info@capetown.gov.za
Mr	Stanley	Nomdo	Department of Health		Stanley.Nomdo@westerncape.gov.za
Mr	John	Geeringh	Eskom	083 632 7663	john.geeringh@eskom.co.za
Mr	Riaan	Smit	Eskom	082 774 9288	SmitR@eskom.co.za
Ms	Justine	Wyngaardt	Eskom Land Development, Western Region		-

Mr	Harry	Roberts	Civil Aviation Authority (CAA)	011 545 1071	robertsh@caa.co.za / pretoriusc@caa.co.za / StrohL@caa.co.za
Ms	Leona	Bruiners	Department of Rural Development and Land Reform Spatial Planning		notified via post
Mr	Anton	Groenewald	City of Cape Town Economic Development		notified via post
Mr	Japie	Hugo	City of Cape Town: Energy, Environmental and Spatial Planning		notified via post
Ms	Marilyn	Kleinhans	SANRAL		notified via post
Ms	Jacqui	Gooch	Department of Transport and Public Works		HOD.TransportPublicWorks@westerncape.gov.za / Jandre.Bakker@westerncape.gov.za
Mr	Dan	Plato	City of Cape Town Metropolitan (Executive Mayor)	021 400 1313	mayor.mayor@capetown.gov.za
Mr	Achmat	Ebrahim	City of Cape Town Metropolitan (Municipal Manager)	021 400 1313	achmat.ebrahim@capetown.gov.za
Ms	Babara	Rass	Ward 32, City of Cape Town Metropolitan		Babara.Rass@capetown.gov.za

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

N/A

5. If any of the State Departments and Organs of State did not respond, indicate which.

Comments raised on the Pre-Application BAR (i.e. this report) will be incorporated and addressed in the Draft BAR.

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

Please refer to Appendices F2 for the Comments and Responses Report and comments raised by I&APs. Comments raised on initial public participation include, but are not limited to;

- Registration of I&APs;
- Whether the mast be used for 5G?
- Details of process to be followed; and
- Site sensitivity as identified by the DEA Screening Tool and public participation plan.

Please refer to the Comments and Responses Report (Appendix F2) for responses to comments raised by I&APs. Comments raised on the Pre-Application BAR (i.e. this report) will be incorporated and addressed in the Draft BAR.

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that "*Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority.*"

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
 - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
 - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
 - if a facsimile was sent, a copy of the facsimile Report;
 - if an electronic mail was sent, a copy of the electronic mail sent; and
 - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	YES	NO
1.2.	Provide the name and or company who conducted the specialist study.	N/A	
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.	N/A	
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.	N/A	

2. Surface water

2.1.	Was a specialist study conducted?	YES	NO
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2.2.	Provide the name and/or company who conducted the specialist study.
<p>The Freshwater Assessment was undertaken by Dr Dirk Van Driel a freshwater specialist of WATSAN Africa of Cape Town. This Report was undertaken in line with the DWS regional office in Bellville' s request, demanding a S21(c) and (i) WULA on the premise as there is a wetland within 500m from the proposed cell phone tower (letter, Appendix).</p>	
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.
<p>The requested WULA entails a Fresh Water Report. This report must supply adequate information for the decision-makers to arrive at informed decision. It must be written according to a fixed and established outline and contents. It must contain a Risk Matrix, according to which it is decided if a License or a General Authorisation is the indicated level of authorisation. Once completed, the WULA, together with the required documentation, must be uploaded on the on-line eWULAAS facility.</p> <p>The proposed development "triggers" sections of the National Water Act. These are the following:</p> <p>S21 (c) <i>Impeding or diverting the flow of a water course</i> The proposed development is near a wetland, or what the DWS perceive as a wetland. A drainage line would be altered, should the development go ahead.</p> <p>S21 (i) <i>Altering the bed, bank, course of characteristics of a water course.</i> Some part of the proposed development may alter the bank of the wetland.</p> <p>A non-operational, artificial wetland is located within 32m of the proposed site for development. The artificial wetland is comprised of alien invasive plant species, namely <i>Acacia cyclops</i>.</p>	
	
<p>Figure 7. Artificial wetland comprised of the alien invasive plant species <i>Acacia cyclops</i>.</p>	

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO
3.2.	Provide the name and/or company who conducted the specialist study.		
	N/A		
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
	N/A		
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		
	N/A		
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.		
	N/A		

4. Biodiversity

4.1.	Were specialist studies conducted?	YES	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
N/A			
4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.		
<p>Desktop studies (including the Western Cape Biodiversity Spatial Plan, vegetation maps (Vegetation map of SA (Mucina & Rutherford, 2006), NFEPA, land-use map, google earth imagery and historical imagery) in combination with a site visit was performed to evaluate the proposed site in terms of potential impacts on any botanical features of significance and to make recommendations on mitigation measures (should it be required). As per images below, the vegetation associated with the site is sparse and has been disturbed due to previous livestock grazing activity.</p>			
<div></div>			
<p>Figure 8. Disturbed vegetation associated with the proposed development of the 35m high telecommunication mast and associated infrastructure. The proposed development footprint will be approximately 90m².</p>			
4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.		

The 2017 Western Cape Biodiversity Spatial Plan (WCBSP) includes a map of biodiversity importance for the entire province, covering both the terrestrial and freshwater realms, as well as major coastal and estuarine habitats (Pool-Stanvliet, 2017). The WCBSP is the product of a systematic biodiversity plan that delineates, on a map, Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), which require safeguarding to ensure the continued existence and functioning of species and ecosystems, including the delivery of ecosystem services. As per the Western Cape Biodiversity Spatial Plan (BSP), the site is not located within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA) (Figure 9).

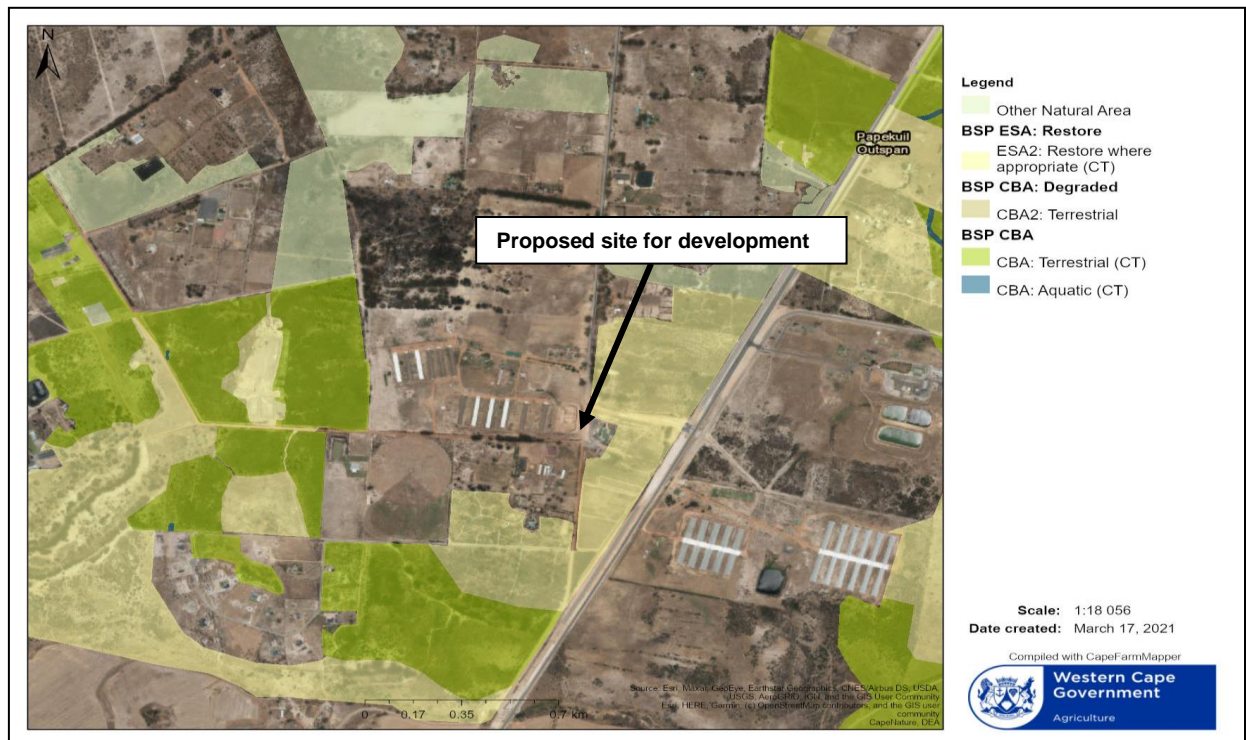


Figure 9. Biodiversity Spatial Plan (BSP) associated with the proposed site for development.

According to the 2018 (beta 2) update of the Vegetation map of SA (Mucina & Rutherford, 2006) the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) in terms of the “*List of ecosystems that are threatened and in need of protection*” (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004. The proposed development footprint is approximately 90m² and will thus, not exceed 100m². As per Figures 4 and 5, the proposed site for development is comprised of disturbed, sparse vegetation structure (due to previous livestock grazing).

4.5.	Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.
N/A. The proposed development of the 35m high mast and associated infrastructure will not impact any CBA or ESA (Figure 9).	
4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.
N/A	
4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

No animals were observed in, or around, the proposed site for development. The proposed site for development is disturbed due to previous grazing by livestock. Faunal diversity changes through space and time and are directly (change in land cover and disturbance of vegetation by previous grazing by livestock and edge effects) and indirectly (i.e., change in soil biogeochemistry) influenced by anthropogenic activities (Tilman *et al.*, 1997³; Chapin *et al.*, 2000⁴; Didham *et al.*, 2015⁵; McDonald *et al.*, 2020⁶).

Moreover, the previous erection of fences around the property would have physically restricted the movement of medium and larger animals in and out of the property – limiting the number and diversity of animals present within the property. Based on the site's level of disturbance, it is unlikely that the proposed site for development would adequately support vegetation characteristic of the Atlantis Sand Fynbos vegetation type, and consequently, fauna which may have naturally depended on the vegetation structure associated with this vegetation type. Furthermore, edge effects have diverse impacts on biodiversity and ecological functioning, further contributing to the disturbance of the site (Razafindratsima *et al.*, 2018⁷).

Such effects contribute to a disturbance factor, which is likely to have driven most wild animals away from the proposed site for development due to current land use activities. This in turn would have affected the food chain and ultimately the number and type of tertiary predators, particularly mammals and larger birds of prey, as well as animals on lower trophic levels. Although no animals were observed on-site during the site visit, conditions and measures will be incorporated in the EMP to mitigate any potential impact(s) of the proposed development on animal species. Due to long-term impacts associated with the disturbance of the proposed site for development, it is envisaged that the proposed development will have a negligible impact(s) on the animal species within the property.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.

As per the site visit and desktop study, the proposed development is highly unlikely to impact on geographical, geological or physical environmental, or heritage aspects as the site has been previously disturbed with little-to-no indigenous vegetation present on site.

6. Heritage Resources

6.1.	Was a specialist study conducted?	YES	NO
6.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		
N/A			

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.

No archaeological and cultural heritage resources were observed during the site visit. A NID has been submitted to the HWC whereby the specialist stated that the anticipated impacts on heritage resources will be very low and that a Heritage Impact Assessment will not be required for the proposed development. It is therefore envisaged that the proposed development will have a negligible impact on the Archaeological and Cultural Heritage aspects.

³ Tilman, D. and Wardle, D.A., 1997. Biodiversity and Ecosystem Properties. *Science*, 278 (5345), pp.1865-1869.

⁴ Chapin III, F.S., Zavaleta, E.S., Eviner, V.T., Naylor, R.L., Vitousek, P.M., Reynolds, H.L., Hooper, D.U., Lavorel, S., Sala, O.E., Hobbie, S.E. and Mack, M.C., 2000. Consequences of changing biodiversity. *Nature*, 405(6783), pp.234-242.

⁵ Didham, Raphael K., Gary M. Barker, Scott Bartlam, Elizabeth L. Deakin, Lisa H. Denmead, Louise M. Fisk, Jennifer MR Peters, Jason M. Tylianakis, Hannah R. Wright, and Louis A. Schipper. "Agricultural intensification exacerbates spillover effects on soil biogeochemistry in adjacent forest remnants." *PloS one* 10, no. 1 (2015): e0116474

⁶ McDonald, R.I., Mansur, A.V., Ascensão, F., Crossman, K., Elmqvist, T., Gonzalez, A., Güneralp, B., Haase, D., Hamann, M., Hillel, O. and Huang, K., 2020. Research gaps in knowledge of the impact of urban growth on biodiversity. *Nature Sustainability*, 3(1), pp.16-24.

⁷ Razafindratsima, O.H., Brown, K.A., Carvalho, F., Johnson, S.E., Wright, P.C. and Dunham, A.E., 2018. Edge effects on components of diversity and above-ground biomass in a tropical rainforest. *Journal of applied ecology*, 55(2), pp.977-985.

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.																						
	As per the City of Cape Town (CoCT) Integrated Development Plan (IDP, 2012 – 2017) and Socio-Economic Profile, 2017 ⁸ , the CoCT's population is estimated at 4 232 276 people and 33 097 households in 2018. The predicted increase in population is expected to exacerbate various challenges including unemployment (where the unemployment rate was 11.9% in 2016), criminal activity, and substance abuse. Economic growth decreased from 2007 to 2013 which may have been attributed to lower household consumption and consumer spending. Access to basic services, namely access to water (98.4%), refuse removal (78.7%), electricity (90.1%), sanitation (92.8%), and housing (77.5%), is relatively high compared with other provinces. The largest sectors include wholesale and retail trade, catering, and accommodation (17.8%), followed by finance, insurance, real estate and business services (16.6%), and subsequently agriculture, forestry and fishing (14.1%). The main socio-economic challenges faced by the CoCT include (1) drought, (2) financial sustainability (i.e. grant dependency), and (3) stagnating economic growth. The main environmental factors faced by the COCT include (1) climate change adaptation and mitigation, (2) conservation of environmental resources, and (3) resource depletion.																						
8.2.	Explain the socio-economic value/contribution of the proposed development.																						
	<table border="1"> <tr> <td>Expected capital value of the project on completion?</td><td>~ R1 300 000</td></tr> <tr> <td>Expected yearly income or contribution to the economy that will be generated by or as a result of the project?</td><td>TBC</td></tr> <tr> <td>Project contribution to service infrastructure?</td><td>YES NO</td></tr> <tr> <td>Is the project a public amenity?</td><td>YES NO</td></tr> <tr> <td>Number of new employment opportunities will be created during the development phase?</td><td>~5</td></tr> <tr> <td>Expected value of the employment opportunities during the development phase?</td><td>TBC</td></tr> <tr> <td>Percentage accruing to previously disadvantaged individuals?</td><td>TBC</td></tr> <tr> <td>N/A</td><td></td></tr> <tr> <td>Number of permanent new employment opportunities will be created during the operational phase of the project?</td><td>TBC</td></tr> <tr> <td>Expected current value of the employment opportunities during the first 10 years?</td><td>TBC</td></tr> <tr> <td>Percentage accruing to previously disadvantaged individuals?</td><td>TBC</td></tr> </table>	Expected capital value of the project on completion?	~ R1 300 000	Expected yearly income or contribution to the economy that will be generated by or as a result of the project?	TBC	Project contribution to service infrastructure?	YES NO	Is the project a public amenity?	YES NO	Number of new employment opportunities will be created during the development phase?	~5	Expected value of the employment opportunities during the development phase?	TBC	Percentage accruing to previously disadvantaged individuals?	TBC	N/A		Number of permanent new employment opportunities will be created during the operational phase of the project?	TBC	Expected current value of the employment opportunities during the first 10 years?	TBC	Percentage accruing to previously disadvantaged individuals?	TBC
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Project contribution to service infrastructure?	YES NO																						
Is the project a public amenity?	YES NO																						
Number of new employment opportunities will be created during the development phase?	~5																						
Expected value of the employment opportunities during the development phase?	TBC																						
Percentage accruing to previously disadvantaged individuals?	TBC																						
N/A																							
Number of permanent new employment opportunities will be created during the operational phase of the project?	TBC																						
Expected current value of the employment opportunities during the first 10 years?	TBC																						
Percentage accruing to previously disadvantaged individuals?	TBC																						
8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.																						
	This application is for the construction of a telecommunications mast, which is considered as part of the essential services for the greater community. As per the City of Cape Town's SDF, in order to enable resource-efficient development advances, effective telecommunication is required. Therefore, the proposed development will contribute to the Municipality's ability to achieve this policy statement. Moreover, this proposed project is for the construction of a telecommunication mast, which is considered as part of the essential services for the greater community. The proposed development will have no negative impact on the municipality's Integrated Development Plan ("IDP") or Spatial Development Framework ("SDF").																						
8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.																						
	The proposed development is not expected to have any adverse effects on people's health and well-being. The South African Department of Health (DoH) states that at present, there is no confirmed scientific evidence that points to any health hazard associated with the very low levels of exposure that the general public would typically experience in the vicinity of a cellular base station. The Department endorses the use of ICNIRP guidelines to protect people against the known adverse health effects of EMF at high exposure levels, and is therefore satisfied that the health of the general public is not being compromised by their exposure to the microwave emissions of cellular base stations (please refer to Appendix K4 and Appendix K5). It is also not expected to produce any noise or odours during the operational phase. Some noise can be expected during the construction phase, but this will be temporary, and the impact is expected to be negligible. Due to the design and location of the proposed communications mast, the activity is expected to have a medium impact on the visual character of the area.																						

⁸ https://www.westerncape.gov.za/assets/departments/treasury/Documents/Socio-economic-profiles/2017/city_of_cape_town_2017_socio-economic_profile_sep-1g_-_26_january_2018.pdf

SECTION H: **ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES**

1. **Details of the alternatives identified and considered**

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred property and site alternative.	

Location Alternative (preferred alternative):

The preferred alternative is located at: 33°36'22.90"S; 18°35' 34.49"E (Figure 10). The proposed location has been previously disturbed due to livestock grazing. The preferred location is also in proximity to powerlines.




Figure 10. Proposed location of preferred site location.

Location Alternative 2:

The proposed project is situated on Portion 22 of Farm 22, Zouterivier. An alternative location was proposed (33°36'21.18"S; 18°35'29.86"E) (Figure 11).



Figure 11. Proposed alternative site.

<p>This alternative location was identified and considered however, was not the preferred location due to;</p> <ul style="list-style-type: none"> (i) Elevated impact on vegetation (and indigenous plant species namely <i>Searsia</i> sp.) (blue arrow); (ii) Proximity to chicken broiler (red arrow); and (iii) Proximity to powerlines.
<p>Provide a description of any other property and site alternatives investigated.</p>
<p>Please see above.</p>
<p>Provide a motivation for the preferred property and site alternative including the outcome of the site selectin matrix.</p>
<p>The preferred alternative is located at: 33°36'22.90"S; 18°35' 34.49"E (Figure 10). The proposed location has been previously disturbed due to livestock grazing.</p> <p>This alternative location (Figure 11) was identified and considered however, was not the preferred location due to;</p> <ul style="list-style-type: none"> (i) Elevated impact on vegetation (and indigenous plant species namely <i>Searsia</i> sp.) (blue arrow); (ii) Proximity to chicken broiler (red arrow); and (iii) Proximity to powerlines.
<p>Provide a full description of the process followed to reach the preferred alternative within the site.</p>
<p>N/A (please see below)</p>
<p>Provide a detailed motivation if no property and site alternatives were considered.</p>
<p>The proposed project is for the construction of a 35m high mast and associated infrastructure. The construction of the proposed development alternative will result in an elevated impact on vegetation compared with the preferred location (considered disturbed due to previous livestock grazing).</p>
<p>List the positive and negative impacts that the property and site alternatives will have on the environment.</p>
<p>Preferred Alternative (Figure 10):</p> <p>Construction phase</p> <ul style="list-style-type: none"> • Noise aspects – Very Low (Negative) • Visual aspects – Medium-low (Negative) • Socio-economic aspects – Medium (Positive): job creation and improved cellular network coverage. The proposed telecommunication mast will increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home. The proposed telecommunication services is also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP) , South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals. • Heritage and Cultural or historic aspects – Very Low (Negative) • Ecological / Biodiversity aspects – Negligible - The activity is not expected to have any impact on ecological or biodiversity aspects on the site, as the site is not located within a CBA and/ or ESA. Vegetation associated with the site is disturbed due to previous grazing by livestock. The site is zoned as Agriculture. Moreover, the proposed development footprint will not exceed 100m². <p>Operational Phase</p> <ul style="list-style-type: none"> • Noise aspects – The activity is not expected to have noise impacts during the operational phase. • Visual aspects – Medium-low (Negative) • Socio-economic aspects – Medium (Positive): Increased coverage of telecommunications services and its associated benefits. • Heritage and Cultural or historic aspects – The activity is not expected to have any impact on cultural or heritage aspects on the site. • Ecological / Biodiversity aspects – The activity is not expected to have any impact on ecological or biodiversity aspects on the site.

Decommissioning

- The project as proposed does not require 'decommissioning' or 'closure', as such the potential impacts thereof is considered irrelevant.

Alternative Location (Figure 11):

Construction phase

- Noise aspects – **Very Low (Negative)**
- Visual aspects – **Medium-low (Negative)**
- Socio-economic aspects – **Medium (Positive)**: job creation and improved cellular network coverage. The proposed telecommunication mast will increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home. The proposed telecommunication services is also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP), South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals.
- Heritage and Cultural or historic aspects – **Very Low (Negative)**
- Ecological / Biodiversity aspects – **Low (negative)** - The activity is expected to impact indigenous vegetation. However, the proposed development will not be located within a CBA and/ or ESA. The proposed development footprint will not exceed 100m².

Operational Phase

- Noise aspects – The activity is not expected to have noise impacts during the operational phase.
- Visual aspects – **Medium-low (Negative)**
- Socio-economic aspects – **Medium (Positive)**: Increased coverage of telecommunications services and its associated benefits.
- Heritage and Cultural or historic aspects – The activity is not expected to have any impact on cultural or heritage aspects on the site.
- Ecological / Biodiversity aspects – **Low (negative)**: The activity is expected to impact indigenous vegetation. However, the proposed development will not be located within a CBA and/ or ESA. The proposed development footprint will not exceed 100m².

Decommissioning

The project as proposed does not require 'decommissioning' or 'closure', as such the potential impacts thereof is considered irrelevant.

As per the CoCT Telecommunication Mast Infrastructure Policy (dated April 2015), the following impacts relative to the objectives outlined in the policy have been identified and mitigated for in the following ways:

1. **Improving and maintaining communication:** The proposed development will provide various signal and connectivity enhancements in the immediate and surrounding areas, providing benefits such as; security, improved medical response, socio-economic development, and access to education. **This is a positive impact.**
2. **Ensuring the development is placed in the best possible location:** An alternative site was investigated however, was not deemed a feasible location due to (i) elevated impact on vegetation (and indigenous plant species namely *Searsia* sp.) (Figure 11), (ii) proximity to chicken broiler facilities, and (iii) the proximity to powerlines. Thus, the proposed location is the preferred location. The development is also located within a property zoned as Agriculture where freestanding base telecommunication base station is listed as a consent use⁹.
3. **Ensuring the co-location or sharing of telecommunication mast infrastructure (TMI) where possible:** Four (4) equipment containers have been proposed. Proposed service providers will be confirmed.
4. **Retaining the visual integrity, special character, and amenity of the Metropolitan:** the proposed site for development is disturbed. The proposed development will be surrounded by powerlines (please refer to Figure 8) and chicken broiler facilities. Moreover, the site is not located within a CBA or ESA.

⁹<https://resource.capetown.gov.za/documentcentre/Documents/Bylaws%20and%20policies/Municipal%20Planning%20Amenity%20By-law%202016.pdf>

The development is also located within a property zoned as Agriculture where freestanding base telecommunication base station is listed as a consent use¹⁰.

5. **Designing with the landscape and using modern mitigation measures to reduce identified impact(s);** Mitigation measures have been incorporated into the Environmental Management Program (EMPr). Should the development be authorised, these mitigation measures must be complied with.
6. **Retaining and improving the environmental and heritage quality of the public arena:** The construction and operation of the proposed development will have limited environmental impact on the area based on (i) the high level of disturbance (due to previous grazing) associated with the site (Figure 8) and limited plant species which are disturbance indicators (namely common duwweltjie (*Tribulus terrestris*), Fynkweek (*Cynadon dactylon*), and potentially *Cephalophyllum* spp - possibly *Cephalophyllum loreum* - identified during the site visit). As per the NID, the anticipated impact on heritage resources was very low. Furthermore, the heritage specialist recommended that a heritage impact assessment will not be required.
7. **Ensuring (where possible), the TMI is not situated within an area of environmental or heritage significance:** As per responses to Objective 6 above, the proposed location has been previously disturbed (including grazing by livestock) and will not impact any plant species of conservational significance. These plant species are disturbance indicators. As per the recommendation by the heritage specialist (please refer to NID), the anticipated impact on heritage resources will be low and the undertaking of a heritage impact assessment is not recommended. Therefore, the location of the proposed development will not be situated in an area of environmental or heritage significance.
8. **Ensuring the construction and operation of the proposed development does not compromise surrounding utility functions:** Noted. Mitigation measures have been incorporated into the EMPr to mitigate any impacts on surrounding utility functions.
9. **Placing (where/ if possible) the TMI on other structures such as light posts, road signs, etc:** Due to the nature of the proposed development (i.e. telecommunication mast base station), the proposed development cannot be constructed on any pre-existing structures.
10. **Protecting the health, safety and wellbeing of the inhabitants of Cape Town Metropolitan:** The proposed development is in line with CoCT Telecommunication Mast Policy,
 - a. Access to the proposed development will be restricted in an appropriate manner (pre-existing fence surrounding the property) and an additional fence around the proposed development. This will restrict public or unauthorized persons from gaining entry to the development;
 - b. The site is not located within 50m of any habitable structure (Figure 12 below);

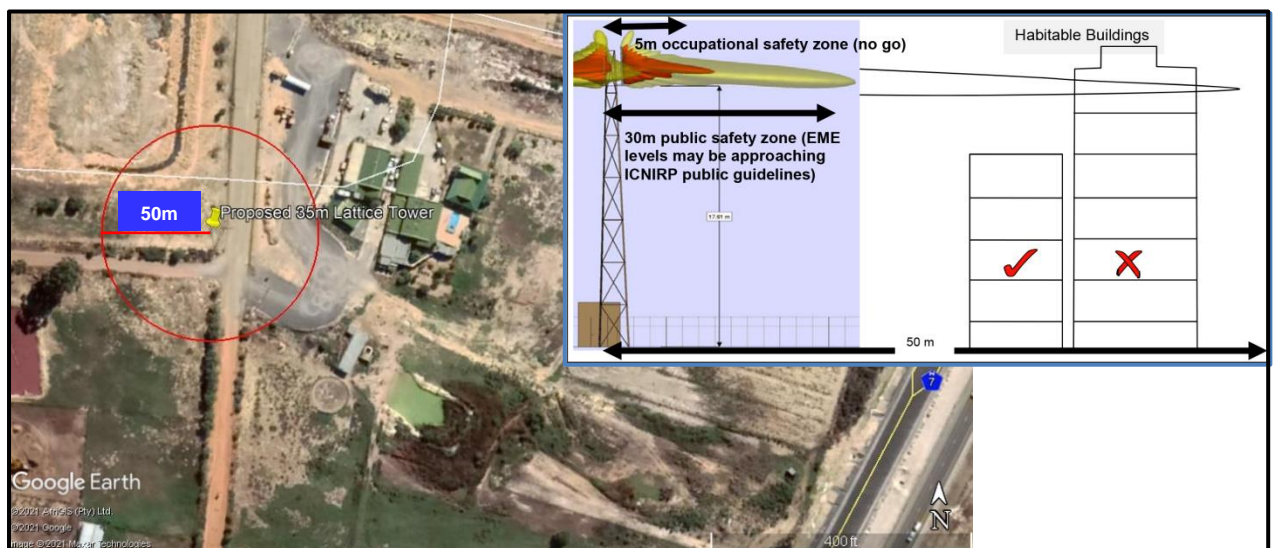


Figure 12. Proximity of proposed development to nearest habitable building. Insert Source (blue outline): CoCT Telecommunication Mast Infrastructure Policy (dated April 2015) [<http://www.emrsa.co.za/wp-content/uploads/2016/09/20150817-TMIP-final-approved.pdf>].

No property alternatives have been investigated.

¹⁰<https://resource.capetown.gov.za/documentcentre/Documents/Bylaws%20and%20policies/Municipal%20Planning%20Amendment%20By-law%202016.pdf>

1.2.	Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred activity alternative.	
No activity alternatives have been investigated as this application is for the development of a 35m high mast and associated infrastructure.	
Provide a description of any other activity alternatives investigated.	
No activity alternatives have been investigated as this application is for the development of a 35m high mast and associated infrastructure.	
Provide a motivation for the preferred activity alternative.	
No activity alternatives have been investigated as this application is for the development of a 35m high mast and associated infrastructure.	
Provide a detailed motivation if no activity alternatives exist.	
No alternative activities were investigated as the proposed project is for the development of a 35m high mast and associated infrastructure to increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home. The proposed telecommunication services is also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP), South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals.	
List the positive and negative impacts that the activity alternatives will have on the environment.	
No activity alternatives were investigated.	
1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts
Provide a description of the preferred design or layout alternative.	
<p>A lattice mast design is a viable option and preferred design alternative for the applicant due to the following reasons:</p> <ul style="list-style-type: none"> • Load: the proposed lattice mast can hold the necessary equipment required for multiple service providers and thus, future demand. The thickness (and therefore cost) of monopoles rapidly increases as load required increases. • Costs: lattice masts are generally cheaper to construct compared with monopoles and tree masts. As monopoles require specialized plates and the thickness (and therefore cost) rapidly increases as height and load increases, lattice masts are the preferred design alternative. • Transportation: lattice masts are typically easier to transport due to the weight and sizes of these masts compared with transporting a tubular mast. Moreover, components of lattice masts can be bundled together. • On-site construction: components of lattice masts can be performed con-currently, therefore expediting the construction process and reducing potential impacts on the surrounding environment due to laborers on site. • Visual: lattice masts are highly transparent, compared with monopoles, and therefore, have a lower visual impact on the surrounding landscape compared with monopoles. Thus, the lattice mast will be less visually intrusive and more aesthetically pleasing. <p>Alternative design and layouts, such as monopole mast, were considered however, such designs require high capital cost due to specialized plate bending (i.e. monopole structure), and the design would not be able to hold as much equipment as a lattice mast if future demand requires additional equipment.</p> <p>Therefore, no reasonable or feasible alternatives other than the preferred option (i.e. lattice mast) and the no-go exists.</p>	
Provide a description of any other design or layout alternatives investigated.	

Monopole design was considered however, due to the aforementioned motivation for lattice mast design, the considered monopole mast design was not further investigated.

Provide a motivation for the preferred design or layout alternative.

A lattice mast design is a viable option and preferred design alternative for the applicant due to the following reasons:

- **Load:** the proposed lattice mast can hold the necessary equipment required for multiple service providers and thus, future demand. The thickness (and therefore cost) of monopoles rapidly increases as load required increases.
- **Costs:** lattice masts are generally cheaper to construct compared with monopoles and tree masts. As monopoles require specialized plates and the thickness (and therefore cost) rapidly increases as height and load increases, lattice masts are the preferred design alternative.
- **Transportation:** lattice masts are typically easier to transport due to the weight and sizes of these masts compared with transporting a tubular mast. Moreover, components of lattice masts can be bundled together.
- **On-site construction:** components of lattice masts can be performed con-currently, therefore expediting the construction process and reducing potential impacts on the surrounding environment due to laborers on site.
- **Visual:** lattice masts are highly transparent, compared with monopoles, and therefore, have a lower visual impact on the surrounding landscape compared with monopoles. Thus, the lattice mast will be less visually intrusive and more aesthetically pleasing.

Alternative design and layouts, such as monopole mast, were considered however, such designs require high capital cost due to specialized plate bending (i.e. monopole structure), and the design would not be able to hold as much equipment as a lattice mast if future demand requires additional equipment.

Therefore, no reasonable or feasible alternatives other than the preferred option (i.e. lattice mast) and the no-go exists.

Provide a detailed motivation if no design or layout alternatives exist.

A lattice mast design is a viable option and preferred design alternative for the applicant due to the following reasons:

- **Load:** the proposed lattice mast can hold the necessary equipment required for multiple service providers and thus, future demand. The thickness (and therefore cost) of monopoles rapidly increases as load required increases.
- **Costs:** lattice masts are generally cheaper to construct compared with monopoles and tree masts. As monopoles require specialized plates and the thickness (and therefore cost) rapidly increases as height and load increases, lattice masts are the preferred design alternative.
- **Transportation:** lattice masts are typically easier to transport due to the weight and sizes of these masts compared with transporting a tubular mast. Moreover, components of lattice masts can be bundled together.
- **On-site construction:** components of lattice masts can be performed con-currently, therefore expediting the construction process and reducing potential impacts on the surrounding environment due to laborers on site.
- **Visual:** lattice masts are highly transparent, compared with monopoles, and therefore, have a lower visual impact on the surrounding landscape compared with monopoles. Thus, the lattice mast will be less visually intrusive and more aesthetically pleasing.

Alternative design and layouts, such as monopole mast, were considered however, such designs require high capital cost due to specialized plate bending (i.e. monopole structure), and the design would not be able to hold as much equipment as a lattice mast if future demand requires additional equipment.

Therefore, no reasonable or feasible alternatives other than the preferred option (i.e. lattice mast) and the no-go exists.

List the positive and negative impacts that the design alternatives will have on the environment.	
<p>A lattice mast is a viable option for the applicant, as it is able to hold the necessary amount of equipment, allowing for equipment from various service providers, is cheaper to construct compared with a monopole design and is considered as the preferred alternative.</p> <p>Positive and negative aspects associated with the proposed development includes;</p> <ul style="list-style-type: none"> • Noise aspects – Very Low (Negative) • Visual aspects – Medium (Negative) • Socio-economic aspects – Medium (Positive): job creation and improved cellular network coverage. The proposed telecommunication mast will increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home. The proposed telecommunication services is also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP) , South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals. • Heritage and Cultural or historic aspects – Very Low (Negative) • Ecological / Biodiversity aspects – Negligible - The activity is not expected to have any impact on ecological or biodiversity aspects on the site, as the site is not located within a CBA and/ or ESA with disturbed vegetation. Moreover, the proposed development footprint will not exceed 100m². 	
1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred technology alternative;	
N/A. No technological alternatives were considered.	
Provide a description of any other technology alternatives investigated.	
N/A. No technological alternatives were considered.	
Provide a motivation for the preferred technology alternative.	
N/A. No technological alternatives were considered.	
Provide a detailed motivation if no alternatives exist.	
N/A. The proposed development is for the construction of a 35m high mast and associated infrastructure, an essential service required by the greater community.	
List the positive and negative impacts that the technology alternatives will have on the environment.	
N/A.	
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred operational alternative.	
No operational alternatives were considered or are applicable.	
Provide a description of any other operational alternatives investigated.	
No operational alternatives were considered / investigated as the proposed project will be operated as a telecommunication mast.	
Provide a motivation for the preferred operational alternative.	
No operational alternatives were considered / investigated as the proposed project will be operated as a telecommunication mast.	
Provide a detailed motivation if no alternatives exist.	
No operational alternatives were considered / investigated as the proposed project will be operated as a telecommunication mast.	
List the positive and negative impacts that the operational alternatives will have on the environment.	
<p>Operational Phase</p> <ul style="list-style-type: none"> • Noise aspects – The activity is not expected to have noise impacts during the operational phase. • Visual aspects – Medium (Negative) • Socio-economic aspects – Medium (Positive): Increased coverage of telecommunications services and its associated benefits. • Heritage and Cultural or historic aspects: The activity is not expected to have any impact on cultural or heritage aspects on the site. 	

<ul style="list-style-type: none"> • Ecological / Biodiversity aspects: The activity is not expected to have any impact on ecological or biodiversity aspects on the site. 	
1.6.	The option of not implementing the activity (the 'No-Go' Option).
Provide an explanation as to why the 'No-Go' Option is not preferred.	
<p>This is the option of not installing the proposed mast, and its associated infrastructure. Although this option would result in no potential negative environmental impacts, the social benefits from implementing the activity would not be achieved/ realized. A more efficient telecommunications service, considered as essential for the business sector and private/social communication, would therefore not be achieved. The proposed activity is not expected to have any high negative environmental impacts; therefore, there are no environmental benefits from not implementing the activity. Moreover, the proposed site for development may be characterized as highly disturbed where vegetation present within the construction footprint are disturbance indicators.</p>	
1.7.	Provide an explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.
N/A	
1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.
<p><u>35m high Lattice Mast and Associated Infrastructure– (Preferred location and design)</u></p> <p>This alternative entails the proposed development of a 35m high telecommunications lattice mast and associated infrastructure on Portion 22 of Farm No. 22, Zouterivier. A lattice mast is the most viable option for the applicant due to the;</p> <ul style="list-style-type: none"> • Load: the proposed lattice mast can hold the necessary equipment required for multiple service providers and thus, future demand. The thickness (and therefore cost) of monopoles rapidly increases as load required increases. • Costs: lattice masts are generally cheaper to construct compared with monopoles and tree masts. As monopoles require specialized plates and the thickness (and therefore cost) rapidly increases as height and load increases, lattice masts are the preferred design alternative. • Transportation: lattice masts are typically easier to transport due to the weight and sizes of these masts compared with transporting a tubular mast. Moreover, components of lattice masts can be bundled together. • On-site construction: components of lattice masts can be performed con-currently, therefore expediting the construction process and reducing potential impacts on the surrounding environment due to laborers on site. • Visual: lattice masts are highly transparent, compared with monopoles, and therefore, have a lower visual impact on the surrounding landscape compared with monopoles. Thus, the lattice mast will be less visually intrusive and more aesthetically pleasing. <p>According to the 2018 (beta 2) update of the Vegetation map of SA (Mucina & Rutherford, 2006) the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) in terms of the “<i>List of ecosystems that are threatened and in need of protection</i>” (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004. The proposed development footprint is approximately 90m² and will thus, not exceed 100m². As per Figures 4 and 5, the proposed site for development is comprised of disturbed, sparse vegetation structure (due to previous livestock grazing). Although the entire property is located within the Atlantis Sandstone Fynbos vegetation type (EN), the preferred location (Figure 10) has been previously disturbed and is characterized as disturbed, and sparse vegetation. The preferred location is situated in closer proximity to the electrical supply compared with the alternative location which will be sourced from the landowner.</p>	

2. “No-Go” areas

Explain what “no-go” area(s) have been identified during identification of the alternatives and provide the co-ordinates of the “no-go” area(s).
Areas outside of the proposed development footprint and access roads to the proposed development were identified as no-go areas.

3. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.

Please refer to **Appendix J** for more information.

The following impact rating approach used by EnviroAfrica cc is a basic exponential rating system to assess actual and potential negative and positive environmental impacts.

Environmental activities or aspects are identified, based on:

- the phases of the project,
- the nature (or description) of the actual and potential impacts of the activities.

For every project activity or aspect, various environmental impacts are listed. Every negative impact is allocated a negative (-) value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Consequence (Receiving Environment)
- Magnitude (Intensity/severity)

Every positive impact is allocated a positive (+) value as per each of the following criteria:

- Probability (Likelihood)
- Extent
- Duration (Frequency)
- Magnitude (Intensity/severity)

Once a value is allocated for each of the criterion, the scores are averaged to determine the final impact rating see Table 2 below.

EnviroAfrica then further assesses environmental significance¹¹, based on the nature of the impact, as per the score and colour key which forms part of Table 5 below. This results in impacts having either a low (indicated in green), medium (indicated in yellow) or high (indicated in orange and red) negative significance, and a low (light blue), medium (blue) or a high (dark blue) positive significance.

Table 5. Environment Impact Significance criteria used to rank the significance of impacts associated with the proposed expansion of the Zwartfontein Dam.

SIGNIFICANCE CRITERIA	Very High	High	Medium	Low	Negligible (very-low)
Value	16	8	4	2	1
Probability (likelihood) (P)	Definite. Impact will definitely occur (impact will occur regardless of any prevention measures)	Highly probable. Very likely for impact to occur.	Probable. Impact may likely occur.	Improbable. Impact may occur. Distinct Possibility	Improbable. Low likelihood/unlikely for impact to occur.
Extent (E)	Impact potentially reaches beyond national boundaries	Impact has definite provincial/potential national consequences	Impact confined to regional area/ town	Impact confined to local region and impact on neighbouring properties	Impact confined to project property / site
Duration (D)	Permanent The impact is expected to have a	Long-Term The impact is expected to last	Medium-term The impact is expected to last for	Short-term The impact is expected to last for	Very short/ temporary The impact is expected to be

¹¹As a baseline, impact rating values/scores are allocated taking the worst-case scenario into account i.e. with no mitigation. The baseline rating is compared with those after mitigation has been taken into account i.e. the post-mitigation rating. Post mitigation rating is used for the actual impact assessment.

	permanent impact, with very little to no rehabilitation possible	for a long time after construction with rehabilitation expected to be 15-50 years. Impact is reversible but only with long-term mitigation	some time after construction with rehabilitation expected to be 5 - 15 years. Impact is reversible but only with on-going mitigation	a relatively short time with rehabilitation expected to be 2-5 years. The impact is reversible through natural process and/or some mitigation.	temporary and last for a very short time with rehabilitation expected to be less than 2 years. The impact is easily reversible through natural process and/or some mitigation.
Magnitude (Intensity/Severity) (M)	It is expected that the activity will have a very severe to permanent impact on the surrounding environment. Functioning irreversibly impaired. Rehabilitation often impossible or unfeasible	It is expected that the activity will have a severe impact on the surrounding environment. Functioning may be severely impaired and may be temporarily cease. Rehabilitation will be needed to restore system integrity	It is expected that the activity will have an impact on the surrounding environment, but it will maintain its function, even if moderately modified (overall integrity not compromised). Rehabilitation easily achieved	It is expected that the activity will have a perceptible impact on the surrounding environment, but it will maintain its function, even if slightly modified (overall integrity not compromised). Rehabilitation easily achieved	It is expected that the impact will have little or no effect on the integrity of the surrounding environment
Receiving environment (Consequence): (RE)	Very sensitive, pristine area – protected site or species permanently or seasonally present	Unused area containing only indigenous fauna / flora species	Unused area containing indigenous and alien fauna / flora species	Semi-disturbed area already rehabilitated / recovered from prior impact, or with moderate alien vegetation	Disturbed area/ transformed/ heavy alien vegetation

ENVIRONMENTAL RATING SIGNIFICANCE KEY:

Negative Impacts

SIGNIFICANCE	RATING	Final rating score / value range
Very Significant	Very High	-11 to -16
Significant	High	-7 to <-11
Increasing Significance	Medium	-4 to <-7
Insignificant	Low	-2 to <-4
	Very Low	-1 to <-2

Positive Impacts

SIGNIFICANCE	RATING	Final rating score / value range
Significant	High	10 to 16
Increasing Significance	Medium	4 to <10
Insignificant	Low	1 to <4

Environmental Significance Rating Methodology (rating criteria and significance key)

4. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

Please refer to Appendix J of the Pre-Application BAR.

Alternatives

Alternative 1:	
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	
Nature of impact:	
Extent and duration of impact:	
Consequence of impact or risk:	
Probability of occurrence:	
Degree to which the impact may cause irreplaceable loss of resources:	
Degree to which the impact can be reversed:	
Indirect impacts:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Residual impacts:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Potential impact and risk:	
Nature of impact:	
Extent and duration of impact:	
Consequence of impact or risk:	
Probability of occurrence:	
Degree to which the impact may cause irreplaceable loss of resources:	
Degree to which the impact can be reversed:	
Indirect impacts:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Residual impacts:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Potential impact and risk:	
Nature of impact:	
Extent and duration of impact:	
Consequence of impact or risk:	

Probability of occurrence:	
Degree to which the impact may cause irreplaceable loss of resources:	
Degree to which the impact can be reversed:	
Indirect impacts:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be avoided:	
Degree to which the impact can be managed:	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Residual impacts:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.
<p>Please refer to Appendix D with regards to the DEA Screening Tool and Site Sensitivity Verification (SSV) Report. During the site visit, no plant species of conservational value were observed. Mitigation measures, incorporated in the EMPr will be implemented should the proposed development be approved.</p> <p>Botanical Features:</p> <p>According to the 2018 (beta 2) update of the Vegetation map of SA (Mucina & Rutherford, 2006) the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) in terms of the “<i>List of ecosystems that are threatened and in need of protection</i>” (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004. The proposed development footprint is approximately 90m² and will thus, not exceed 100m². Limited plant species were observed within the proposed development footprint (Figures 2, 3, and 7). The construction and operation of the proposed development will have a negligible impact on the Plant Species Theme as no plant species of conservational value was observe within the proposed development footprint. Moreover, the (i) the high level of disturbance (due to previous grazing) associated with the site (Figure 8) and limited plant species which are disturbance indicators (namely common duwweltjie (<i>Tribulus terrestris</i>), Fynkweek (<i>Cynadon dactylon</i>), and potentially <i>Cephalophyllum</i> spp - possibly <i>Cephalophyllum loreum</i> - identified during the site visit) may characterize the sensitivity of the proposed site for development as ‘insignificant’. <i>Cynodon dactylon</i> is found in a wide range of edaphic and climatic conditions and has been demonstrated to rapidly grow and invade a range of soil types, enabling the species to be a tool for erosion prevention¹². This plant species is not threatened and invades disturbed areas¹³. <i>Tribulus</i> spp have been identified as a noxious weed in many countries around the world, especially in disturbed habitats and transformed sites (e.g., sites used for agricultural practices) (Pacanoski <i>et al.</i>, 2014)¹⁴. This plant species has been reported to reduce plant biodiversity due to its high invasion / encroachment potential (Van Vleet, 2005¹⁵), and has been declared a weed in approximately 37 countries (Kir and Dogan, 2009)¹⁶. The plant’s root system (tap root with fine roots) enables this species to grow in semi- and arid-areas in loose sandy soils, outcompeting indigenous and / or desirable plant species – especially in disturbed habitats. <i>Cephalophyllum</i> spp (possibly <i>Cephalophyllum loreum</i>) is a plant species with a stable population within the Western Cape and is classified as Least Concern¹⁷. Therefore, no plant species</p>	

¹² Shukla, S.K., Singh, K., Singh, B. and Gautam, N.N., 2011. Biomass productivity and nutrient availability of *Cynodon dactylon* (L.) Pers. growing on soils of different sodicity stress. *Biomass and Bioenergy*, 35(8), pp.3440-3447.

¹³ Van Oudtshoorn, F. 1999. Guide to the grasses of southern Africa. Briza Publications, Pretoria.

¹⁴ Pacanoski, Z., Týr, Š. and Vereš, T., 2014. Puncturevine (*Tribulus terrestris* L.): noxious weed or powerful medical herb. *Journal of Central European Agriculture*.

¹⁵ Van Vleet, S.M. 2005. Invasive Weeds of Eastern Washington. Pullman: Washington State University Extension.

¹⁶ Kir, K., Dogan, M.N. 2009. Weed control in maize (*Zea mays* L.) with effective minimum rates of foramsulfuron. *Turk. J. for Agric.*, 33(6), 601–610.

¹⁷ Burgoyne, P.M. 2006. *Cephalophyllum loreum* (L.) Schwantes. National Assessment: Red List of South African Plants version 2020.1. Accessed on 2021/05/19

of conservational value are located within the proposed site for development. Although the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) [in terms of the “List of ecosystems that are threatened and in need of protection” (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004], the vegetation present within the proposed site for development is not characteristic of this vegetation type (as outlined in Mucina and Rutherford, 2006¹⁸). Furthermore, the proposed development footprint will be approximately 90m² and will thus, not exceed 100m². Furthermore, these observed plant species, indicators of disturbed sites, are established outside the proposed development footprint. Therefore, it is envisaged that the proposed site for development is unlikely to impact the Plant Species Theme and thus, the Plant Species Theme was lowered to an insignificant sensitivity.



Figure 13. Plant species present on site, namely (A): *Cynodon dactylon* (Fynkweek); (B); *Tribulus terrestris*; and C: *Cephalophyllum* spp (possibly *Cephalophyllum loreum*). Note, these plant species are indicators of disturbed areas and are not of conservational significance.

NFEPA Rivers and Wetlands

An artificial water attenuation feature, located within 32m of the proposed site for development, is not operational. This forms part of stormwater management on the property. Moreover, due to the restriction of construction activities to the development footprint, the proposed development is unlikely to impact any remaining functionality of the water attenuation feature. No watercourses are present on or within 32m of the proposed site for development.

Heritage

As per the NID, the anticipated impact on heritage resources will be very low. Furthermore, the heritage specialist recommended that a heritage impact assessment will not be required.

Visual Impact:

The development of the mast will most probably have a visual impact because of the height of the mast (35m in height) located within an agricultural area (it must be noted that the nature of this development is in line with the consent uses of agricultural zoning). The following measures have been proposed to limit the potential visual impact of the proposed development:

- Restrict the height of the mast to only 35m.
- Construct a lattice mast.
- Galvanise the mast so as to blend in with the surrounding background sky.
- The base station's palisade fence will be painted green to blend in with the surrounding landscape.

2. List the impact management measures that were identified by all Specialist that will be included in the EMPr

Please refer to Appendix I with regards to the DEA Screening Tool and Site Sensitivity Verification (SSV) Report. Mitigation measures, incorporated in the EMPr must be implemented should the proposed development be approved.

Botanical Features:

The following mitigation measures should be implemented during the construction phase:

- A suitably qualified Environmental Control Officer must be appointed to monitor the construction phase;
- Before any work is done the site and access routes must be demarcated;

¹⁸ Mucina, L. and Rutherford, M.C., 2006. *The vegetation of South Africa, Lesotho and Swaziland*. South African National Biodiversity Institute.

- Lay-down areas or construction sites must be located within already disturbed areas or areas of low ecological value and must be pre-approved by the ECO (note, the proposed site for development comprises of disturbed vegetation where plant species within and around the footprint are not of conservational significance);
- Indiscriminate clearing of areas must be avoided;
- All areas impacted outside of the proposed construction footprint must be rehabilitated on completion of the project. Except to the extent necessary for the carrying out of the works, no flora may be removed, damaged, or disturbed;
- Alien invasive plant species encroachment must be monitored in and around the proposed development footprint. Alien invasive plants must be cleared and removed by hand (where applicable). Where the use of herbicides, pesticides, and other poisonous substances are to be used, the Contractor must submit a Method Statement;
- An integrated waste management approach (including recycling and reusing where possible) where must be implemented during construction.
- Trapping, poisoning, and/or shooting of animals is strictly forbidden.
- The Contractor may not deface, paint, damage or mark any natural features, if these should occur (e.g. trees, rock formations, buildings, etc.) situated in or around the Site for survey or other purposes unless agreed beforehand with the Engineer and the ECO. Any features affected by the Contractor in contravention of this clause must be restored/rehabilitated to the satisfaction of the Engineer and the ECO.

Freshwater Features:

- The proposed development is highly unlikely to impact the non-operational artificial, water attenuation feature. This forms part of stormwater management on the property
- Mitigation measures stipulated above ("Botanical Features") must be implemented.

Heritage

- The heritage specialist recommended that no Heritage Impact Assessment will be required as the potential impact on any heritage resources is very low;
- Although unlikely, should any heritage resources be discovered/uncovered during the construction phase, construction activities must be immediately ceased. The ECO must be immediately notified and the relevant personnel at Heritage Western Cape (HWC) must be contacted to advise on the way forward.

Visual Impact:

The development of the mast will most probably have a visual impact because of the height of the mast (35m in height) located within an agricultural area (it must be noted that the nature of this development is in line with the consent uses of agricultural zoning).

- Restrict the height of the mast to only 35m.
- Construct a lattice mast.
- Galvanise the mast so as to blend in with the surrounding background sky.
- The base station's palisade fence will be painted green to blend in with the surrounding landscape.

3.	List the specialist investigations and the impact management measures that will not be implemented and provide an explanation as to why these measures will not be implemented.
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Please refer to Appendix I with regards to the DEA Screening Tool and Site Sensitivity Verification (SSV) Report.

4.	Explain how the proposed development will impact the surrounding communities.
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The proposed development will provide various signal and connectivity enhancements in the immediate and surrounding areas, providing benefits which include, but are not limited to, security, improved medical response, socio-economic development, and access to education.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.
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The development of the proposed telecommunication masts will promote the development of information and communication technology (ICT) infrastructure which has been identified as being critically important in the contribution to climate-related responses and adaptive practices to climate change. Should the proposed development be authorised, various signal and connectivity enhancements in the immediate and surrounding areas will promote community members' access to information regarding climate change and appropriate mitigation measures¹⁹.

¹⁹Fu, G., Horrocks, L. and Winne, S., 2016. Exploring impacts of climate change on UK's ICT infrastructure. *Infrastructure Asset Management*, 3(1), pp.42-52.

6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.
Please see response to Section I.1.	
7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.
Please refer to Appendix D with regards to the DEA Screening Tool and Site Sensitivity Verification (SSV) Report.	
8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.
<p>The mitigation hierarchy is comprised of four actions which are designed to be implemented sequentially²⁰, namely (1) avoidance, (2) minimization, (3) rehabilitation, and (4) offset (if required), where the following actions are applicable and have been applied in the context of this environmental process to promote the best feasible environmental option:</p> <ol style="list-style-type: none"> (1) Avoidance: avoiding impacts on biodiversity within the proposed site of development and surrounding area and includes identifying potential risks and investigating alternatives²¹. Avoidance was carried out in the context of this process as environmental components (namely potential botanical, freshwater, and heritage impacts) were identified and considered relative to the proposed location and design of the mast. The preferred location was selected due to the disturbed nature of the proposed site for development where no plant species of conservational value were present. Alternative location would result in an elevated botanical impact as the alternative site is less disturbed compared with the preferred site (please refer to Figures 10 and 11). (2) Minimize potential impacts: mitigation measures and recommendations have been proposed for the Botanical, Freshwater, Heritage features to mitigate and reduce identified potential impacts. These mitigation measures and recommendations have been incorporated into the EMPr and are to be implemented during the construction and operational (where applicable) phases. (3) Rehabilitation: as per action 2 above, mitigation measures, including the need to rehabilitate areas (which also aids in reducing erosion during the operational phase) outside the construction footprint has been included in the EMPr. 	

²⁰Arlidge, W.N., Bull, J.W., Addison, P.F., Burgass, M.J., Gianuca, D., Gorham, T.M., Jacob, C., Shumway, N., Sinclair, S.P., Watson, J.E. and Wilcox, C., 2018. A global mitigation hierarchy for nature conservation. *BioScience*, 68(5), pp.336-347.

²¹Phalan, B., Hayes, G., Brooks, S., Marsh, D., Howard, P., Costelloe, B., Vira, B., Kowalska, A. and Whitaker, S., 2018. Avoiding impacts on biodiversity through strengthening the first stage of the mitigation hierarchy. *Oryx*, 52(2), pp.316-324.

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.
<p>Key findings regarding Biodiversity:</p> <p>According to the 2018 (beta 2) update of the Vegetation map of SA (Mucina & Rutherford, 2006) the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) in terms of the “<i>List of ecosystems that are threatened and in need of protection</i>” (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004. The proposed development footprint is approximately 90m² and will thus, not exceed 100m². From the Biodiversity Overlay Maps from Cape Farm Mapper, the site does not fall within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA). No animals were observed in, or around, the proposed site for development. The proposed site for development is disturbed due to previous grazing by livestock. Faunal diversity changes through space and time and are directly (change in land cover and disturbance of vegetation by previous grazing by livestock and edge effects) and indirectly (i.e., change in soil biogeochemistry) influenced by anthropogenic activities (Tilman et al., 1997; Chapin et al., 2000; Didham et al., 2015; McDonald et al., 2020). Moreover, the previous erection of fences around the property would have physically restricted the movement of medium and larger animals in and out of the property – limiting the number and diversity of animals present within the property. Based on the site’s level of disturbance, it is unlikely that the proposed site for development would adequately support vegetation characteristic of the Atlantis Sand Fynbos vegetation type, and consequently, fauna which may have naturally depended on the vegetation structure associated with this vegetation type. Furthermore, edge effects have diverse impacts on biodiversity and ecological functioning, further contributing to the disturbance of the site (Razafindratsima et al., 2018) Such effects contribute to a disturbance factor, which is likely to have driven most wild animals away from the proposed site for development due to current land use activities. This in turn would have affected the food chain and ultimately the number and type of tertiary predators, particularly mammals and larger birds of prey, as well as animals on lower trophic levels. Although no animals were observed on-site during the site visit, conditions and measures will be incorporated in the EMP to mitigate any potential impact(s) of the proposed development on animal species. Due to long-term impacts associated with the disturbance of the proposed site for development, it is envisaged that the proposed development will have a negligible impact(s) on the Animal Species Theme. Based on factors highlighted above, it is envisaged that the proposed site for development has an insignificant sensitivity with regards to the Animal Species Theme. Limited plant species were observed within the proposed development footprint. The construction and operation of the proposed development will have a negligible impact on the Plant Species Theme as no plant species of conservational value was observed within the proposed development footprint. Moreover, the (i) the high level of disturbance (due to previous grazing) associated with the site and limited plant species which are disturbance indicators (namely common duwweltjie (<i>Tribulus terrestris</i>), Fynkweek (<i>Cynodon dactylon</i>), and potentially <i>Cephalophyllum</i> spp - possibly <i>Cephalophyllum loreum</i> - identified during the site visit) may characterize the sensitivity of the proposed site for development as insignificant”.</p> <p>Key findings regarding Freshwater resources:</p> <p>The Artificial water attenuation feature, located within 32m of the proposed site for development, is not operational. This forms part of stormwater management on the property. Moreover, due to the restriction of construction activities to the development footprint, it is unlikely that the proposed development will impact the functioning of the water attenuation feature. No watercourses are present within the proposed site for development.</p> <p>Key findings regarding Heritage Resources:</p> <p>As per the NID, the anticipated impact on heritage resources will be very low. Furthermore, the heritage specialist recommended that a heritage impact assessment will not be required.</p>	
1.2.	Provide a map that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)
	<i>Please see Appendix B for attached maps.</i>
1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.
<p>Positive and negative impacts associated with the proposed development of a 35m high telecommunication mast:</p>	

As per the CoCT Telecommunication Mast Infrastructure Policy (dated April 2015), the following impacts relative to the objectives outlined in the policy have been identified and mitigated for in the following ways:

1. **Improving and maintaining communication:** The proposed development will provide various signal and connectivity enhancements in the immediate and surrounding areas, providing benefits such as; security, improved medical response, socio-economic development, and access to education. Moreover, the proposed development will promote job creation and improved cellular network coverage. The proposed telecommunication mast will increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home. The proposed telecommunication services are also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP), South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals. **This is a positive impact.**
2. **Ensuring the development is placed in the best possible location:** An alternative site was investigated however, was not deemed a feasible location due to (i) elevated impact on vegetation (and indigenous plant species namely *Searsia* sp.) (Figure 11), (ii) proximity to chicken broiler facilities, and (iii) the proximity to powerlines. Thus, the proposed location is the preferred location. The property is zoned as Agriculture where freestanding base telecommunication base station is listed as a consent use²².
3. **Ensuring the co-location or sharing of telecommunication mast infrastructure (TMI) where possible:** Four (4) equipment containers have been proposed. Proposed service providers will be confirmed.
4. **Retaining the visual integrity, special character, and amenity of the Metropolitan:** the proposed site for development is disturbed. The proposed development will be surrounded by powerlines (please refer to Figure 8) and chicken broiler facilities. Moreover, the site is not located within a CBA or ESA. The property is zoned as Agriculture where freestanding base telecommunication base station is listed as a consent use¹⁶.
5. **Designing with the landscape and using modern mitigation measures to reduce identified impact(s):** Mitigation measures have been incorporated into the Environmental Management Program (EMPr). Should the development be authorised, these mitigation measures must be complied with.
6. **Retaining and improving the environmental and heritage quality of the public arena:** The construction and operation of the proposed development will have limited environmental impact on the area based on (i) the high level of disturbance (due to previous grazing) associated with the site (Figure 8) and limited plant species which are disturbance indicators (namely common duwweeltjie (*Tribulus* sp.), Fynkweek (*Cynodon dactylon*), and *Cephalophyllum* spp. (possibly *Cephalophyllum loreum*) - identified during the site visit). As per the NID, the anticipated impact on heritage resources was very low. Furthermore, the heritage specialist recommended that a heritage impact assessment will not be required.
7. **Ensuring (where possible), the TMI is not situated within an area of environmental or heritage significance:** As per responses to Objective 6 above, the proposed location has been previously disturbed (including grazing by livestock) and will not impact any plant species of conservational significance. These plant species are disturbance indicators. As per the recommendation by the heritage specialist (please refer to NID), the anticipated impact on heritage resources will be low and the undertaking of a heritage impact assessment is not recommended. Therefore, the location of the proposed development will not be situated in an area of environmental or heritage significance.
8. **Ensuring the construction and operation of the proposed development does not compromise surrounding utility functions:** Noted. Mitigation measures have been incorporated into the EMPr to mitigate any impacts on surrounding utility functions.
9. **Placing (where/ if possible) the TMI on other structures such as light posts, road signs, etc:** Due to the nature of the proposed development (i.e. telecommunication mast base station), the proposed development cannot be constructed on any pre-existing structures.

²²<https://resource.capetown.gov.za/documentcentre/Documents/Bylaws%20and%20policies/Municipal%20Planning%20Amendment%20By-law%202016.pdf>

- 10. Protecting the health, safety and wellbeing of the inhabitants of Cape Town Metropolitan:** The proposed development is in line with CoCT Telecommunication Mast Policy,
- a. Access to the proposed development will be restricted in an appropriate manner (pre-existing fence surrounding the property) and an additional fence around the proposed development. This will restrict public or unauthorized persons from gaining entry to the development;
 - b. The site is not located within 50m of any habitable structure (please refer to Figure 12);

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr
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Impact management, mitigation, and monitoring measures are captured in the impact assessment and significance rating, attached as Appendix J, as well as in the Environmental Management Plan/Programme (EMPr) attached as Appendix H. Please refer to Appendix D with regards to the DEA Screening Tool and Site Sensitivity Verification (SSV) Report.

The EMPr forms part of the contractual obligations to which all persons including but not limited to, contractors/sub-contractors or employees involved in construction, operation, maintenance, or decommissioning work, must be committed. It also serves as a baseline information document for the project applicant and any entity working on behalf of the applicant, during the various phases of the proposed activity.

The EMPr aims to comply with Section 24N of the National Environmental Management Act No. 107 of 1998, as amended (NEMA), as well as any additional specific information requested by any government department, including the regulating authority for this specific project, the DEA&DP.

The overall objective of the EMPr is to direct and guide all responsible parties, binding all contractors, sub-contractors and all other persons working on the site to adhere to the terms and conditions of the EMPr during the construction, operation, maintenance, and anticipated demolition/decommissioning phases of the project.

The overall outcome of the EMPr is to prevent avoidable damage and / or minimise or mitigate unavoidable environmental damage associated with the construction, operation, maintenance, and possible decommissioning phases of the proposed project.

The specific outcomes of the EMPr will be achieved through ensuring that the mitigation and management measures detailed in the EMPr are implemented and adhered to throughout the project duration.

Compliance monitoring and independent assessment/auditing allow the verification of achievement of the EMPr outcomes and ultimately, fulfilment of the EMPr objectives.

The EMPr is partly prescriptive (identifying specific people or organisations to undertake specific tasks, in order to ensure that impacts on the environment are minimised) but it is also a dynamic, evolving document, in that information gained during the various activities and/or monitoring of procedures on site, could lead to changes in the EMPr.

The EMPr:

- identifies project activities that could cause actual environmental damage (or potential environmental risks) and provides a summary of actions required;
- identifies persons responsible for ensuring compliance with the EMPr;
- provides standard procedures to avoid and/or minimise the identified negative environmental impacts and to enhance the positive impact of the project on the environment;
- provides site and project specific rules and actions required, including a site plan/s showing:
 - areas where construction, maintenance, or demolition work may be carried out;
 - areas where any material or waste may be stored;
 - allowed access routes, parking and turning areas for construction or construction-related vehicles;
- forms a written record of procedures, responsibilities, requirements, and rules for contractor/s, their staff and any other person who must comply with the EMPr;

- provides a monitoring and auditing programme to track and record compliance and identify and respond to any potential or actual negative environmental impacts; and
- provides a monitoring programme to record any mitigation measures that are implemented.

The following aim to give a high-level summary of potential impacts, objectives, and mitigation measures as captured in the EMP:

Objective 1: Maintain a healthy biodiversity environment:

Potential Impacts:

- Impact on plant species present within the proposed site for development;
- Loss of vegetation within the Atlantis Sandstone Fynbos vegetation type (EN); and
- Soil contamination from construction.

The following mitigation/ monitoring measure can be implemented to reduce these impacts and ultimately achieve Objective 1:

- According to the 2018 (beta 2) update of the Vegetation map of SA (Mucina & Rutherford, 2006) the proposed site for development is located within the Atlantis Sandstone Fynbos vegetation type, classified as Endangered (EN) in terms of the “*List of ecosystems that are threatened and in need of protection*” (GN 1002, December 2011), promulgated in terms of the National Environmental Management Biodiversity Act, Act 10 of 2004. The proposed development footprint is approximately 90m² and will thus, not exceed 100m². No plant species of conservational value are present within the proposed development footprint. Plant species present within the construction footprint, namely common duwweltjie (*Tribulus* sp.), Fynkweek (*Cynadon dactylon*), and potentially *Cephalophyllum* spp. (possibly *Cephalophyllum loreum*), are characteristic of disturbed areas (Figure 4). From the Biodiversity Overlay Maps from Cape Farm Mapper, the site does not fall within a Critical Biodiversity Area (CBA) or Ecological Support Area (ESA);
- A suitably qualified Environmental Control Officer must be appointed to monitor the construction phase;
- Before any work is done the site and access routes must be demarcated (with the aim at minimal width/smallest footprint);
- Lay-down areas or construction sites must be located within already disturbed areas or areas of low ecological value and must be pre-approved by the ECO (note, the proposed site for development comprises of disturbed vegetation where plant species within this footprint are not of conservational significance);
- Indiscriminate clearing of areas must be avoided;
- All areas impacted outside of the proposed construction footprint must be rehabilitated on completion of the project. Except to the extent necessary for the carrying out of the works, no flora may be removed, damaged, or disturbed;
- Alien invasive plant species encroachment must be monitored in and around the proposed development footprint. Alien invasive plants must be cleared and removed by hand (where applicable). Where the use of herbicides, pesticides, and other poisonous substances are to be used, the Contractor must submit a Method Statement;
- An integrated waste management approach (including recycling and reusing where possible) where must be implemented during construction.
- Trapping, poisoning, and/or shooting of animals is strictly forbidden.
- The Contractor may not deface, paint, damage or mark any natural features, if these should occur (e.g. trees, rock formations, buildings, etc.) situated in or around the Site for survey or other purposes unless agreed beforehand with the Engineer and the ECO. Any features affected by the Contractor in contravention of this clause must be restored/rehabilitated to the satisfaction of the Engineer and the ECO.

Objective 2: Protection of Freshwater resources:

Potential Impacts:

- Loss of aquatic features and associated biodiversity; and

- Erosion and sedimentation.

The following mitigation/ monitoring measure can be implemented to reduce these impact and ultimately achieve Objective 2:

- The artificial water attenuation feature, located within 32m of the proposed site for development, is not operational and forms part of stormwater management on the property. Moreover, due to the restriction of construction activities to the development footprint, it is unlikely that the proposed development will impact any remaining functioning of the water attenuation feature. No watercourses are present within the proposed site for development.
- A suitably qualified ECO must be appointed;
- Environmental Awareness training to be conducted with all workers;
- Ensure construction activities are restricted to the demarcated footprint, strictly prohibit any vehicles or construction related activities outside of the demarcated footprint area
- No concrete/ cement will be mixed on site and surplus must be disposed of in the correct manner.
- Inspect all vehicles daily for the early detection of deterioration or leaks.
- During construction its footprint should be kept as small as possible; and
- All building rubble should be removed following the completion of the proposed development.

Objective 3: Prevent the loss of any heritage resources

Potential Impact: Loss of paleontological or archaeological resources

The following mitigation/ monitoring measure can be implemented to reduce these impact and ultimately achieve Objective 3:

- The heritage specialist recommended that no Heritage Impact Assessment will be required as the potential impact on any heritage resources is very low;
- Although unlikely, should any heritage resources be discovered/uncovered during the construction phase, construction activities must be immediately ceased. The ECO must be immediately notified and the relevant personnel at Heritage Western Cape (HWC) must be contacted to advise on the way forward;
- A suitably qualified ECO must be appointed;
- Environmental Awareness training to be conducted with all workers; and
- Ensure construction activities are restricted to the demarcated footprint, strictly prohibit any vehicles or construction related activities outside of the demarcated footprint area.

Any potential unforeseen impacts are covered in the EMPr (Appendix H) which should be implemented.

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.
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In terms of Heritage Resources:

Compliance with the Environmental Management Program (Appendix H) must be mandatory; and

- Appointment of an Environmental Control Officer during the construction phase;
- Method statement(s) must be agreed upon and signed off by the ECO;
- Provisions must be made for rehabilitation (if applicable); and
- Recommendations as set out in the EMPr must be adhered to at all times.

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.
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The proposed development of the 35m high telecommunication mast should be authorised for the following reasons:

- The proposed development will provide various signal and connectivity enhancements in the immediate and surrounding areas, providing benefits such as; security, improved medical response, socio-economic development, and access to education, job creation and improved cellular network coverage.

	<p>The proposed telecommunication mast will increase mobile network coverage in the surrounding area and is considered as part of essential services for the greater community. Moreover, due to current Covid-19 restrictions, there is an increased demand for such services due to more people working from home²³. The proposed telecommunication services is also likely to promote business and the private sector (i.e. business profit driver). In terms of the National Development Plan (NDP) , South Africa needs to maintain and expand its telecommunications infrastructure in order to support economic growth and social development goals;</p> <ul style="list-style-type: none"> • No significant botanical features (i.e., no plant species of conservational value) are located within the construction footprint; • Although the proposed site for development is located within an Endangered (EN) vegetation type (namely the Atlantis Sandstone Fynbos), the proposed site is highly disturbed where the construction footprint will be approximately 90m² (less than 100m²); • The site is not located within a feature of the Biodiversity Spatial Plan (i.e. the site is not located within a CBA or ESA); • The proposed development is in line with the CoCT Telecommunication Mast Infrastructure Policy (dated April 2015); • The site is highly unlikely to impact the artificial, non-operational water feature; • It is envisaged that the proposed development's impact on any heritage resources would be very low; • The proposed development is not expected to have any adverse effects on people's health and well-being; • The proposed development is not expected to produce any unacceptable noise or odours during the construction or operational phases. • Although the proposed development will have a visual impact, the property is zoned as Agriculture. The nature of the proposed development (namely a freestanding base telecommunication station) is included as a consent-use. • Considering all the information, it is envisaged that the proposed dam expansion will not pose any significant negative impact on the environment, while it is likely to result in positive socio-economical outcomes. <p><u>It is therefore recommended that this application be authorised with the necessary conditions of approval as described throughout this BAR and in the EMPr.</u></p>
2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.
	<p>The following assumptions are made:</p> <ul style="list-style-type: none"> • The information on which the report is based (i.e. project information) is correct. • The construction and management of this proposed development will be in line with the recommendations in this report, which will be enforced by the implementation of conditions stipulated in the Environmental Management Plan (EMP). Much of the long-term success lies in the effective implementation of the measures prescribed in the EMP. • There are no significant gaps of knowledge that have been identified. <p>There are no uncertainties that we are aware of at present.</p>
2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.
<p><u>The period within which commencement must occur:</u> Construction is expected to take a period of 3 months. The EA should be granted for the maximum of 5 years. This is to be confirmed.</p>	

²³ Dockery, M. and Bawa, S., 2020. Working from Home in the COVID-19 Lockdown. Bentley: Bankwest Curtin Economics Centre.

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

Potable water will only be required for staff. Every reasonable effort must be made to reduce the long-term water demand. Environmental training of personnel must include water conservation awareness. The activity does not require water during the construction or operational phases.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.

Minimal amounts of building rubble will be generated during construction activities. The toilet should not be placed within 32m of any watercourse/ river and should be serviced in a legal manner and removed after construction is completed. Waste receipts will be required as proof of safe disposal.

All waste generated on site (general and hazardous) must be collected, consolidated in dedicated bins, removed, and disposed of at registered disposal facilities. Waste must be separated into recyclable and non-recyclable material and disposed of at a dedicated recycling point (where applicable).

5. Energy Efficiency

8.1. Explain what design measures have been taken to ensure that the development proposal will be energy efficient.

Electricity will be sourced from the landowner.