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**MARCH 2020
DRAFT BASIC ASSESSMENT REPORT
CONSTRUCTION OF THE WESTON MPOFANA
CELL PHONE TOWER
MPOFANA LOCAL MUNICIPALITY
AMERICAN TOWER CORPORATION SOUTH AFRICA
EIA REF NO: DC22/0004/2020**



**This report was prepared by EnviroPro Environmental Consulting in terms of
Appendix 1 to GNR 982**

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Executive Summary

The American Tower Corporation South Africa propose to construct a new cell phone tower within Ward 5 of the Mporofana Local Municipality, uMgungundlovu District Municipality. The cell phone tower, and associated infrastructure will be located on Erf 1167 Mooi River, at the following point location, 29°12'37.61"S, 30°1'5.96"E. The cell phone tower and associated infrastructure will be comprised of a 35m telecommunications mast tower, a generator, and a small container. The total proposed footprint of the cell phone tower and associated infrastructure is 8m x 8m (64m²), and will be surrounded by a 2.4m high steel palisade fence and a 3m sliding gate with concrete access ramp. The 35m monopole mast tower will support aviation lights, crow's nest and a cat ladder. There is currently no cell phone infrastructure in place on the site. The site falls within the uMgungundlovu Environmental Management Framework (EMF), therefore triggering an Environmental Impact Assessment.

The following key impacts and mitigation measures were assessed:

- **Impact to the uMgungundlovu EMF:** The site falls within a Critical Biodiversity Area or Agro-Biodiversity Zone within the uMgungundlovu EMF. The site has been transformed due to previous clearance of vegetation. Vegetation that will be cleared for construction of the tower will consist of indigenous grass and alien invasive plants. There are no protected plant species within the construction footprint. The footprint of the site is small (64 m²) and no vegetation of conservation significance will be cleared.
- **Encroachment of alien vegetation into areas disturbed during the construction:** Alien vegetation must not be allowed to encroach onto the sites and must be continually removed during construction. Construction must not promote further alien plant disturbances in the surrounding area.
- **Damage to protected species within close proximity to the site:** There will be no clearing of vegetation of significant conservation concern. Three individuals of a protected plant species were noted on the property where the cell phone tower will be placed, however the closest specimen is 69m away from the proposed tower construction footprint. Construction activities are to remain strictly within the construction footprint and may not incur into the remainder of the property. Due to the nature and the distance of the construction activities, there will be no negative impact on the protected species.
- **Damage to surrounding properties, services, and businesses:** The construction activities could disrupt access along the R622 and Macrorie road. All services must be identified prior to construction and all stakeholders must be notified prior to any service disruptions.
- **Improved communication and connectivity:** There is currently little to no cell phone signal within the surrounding area. This restricts communication in medical emergencies, and reduces the access to internet and ultimately limiting the resources available for teaching. The proposed cell phone tower will allow communication to clinics and ambulances in emergency situations, and will provide the Mooi River community access to a reliable internet connection.
- **Impact of the non-ionising electromagnetic fields (EMFs) emitted by the tower on the health of the landlord and community:** Although the cell phone tower will be emitting radio frequencies for the transfer of information and to make mobile communications, the tower conforms to the requirements of the International Commission of Non-Ionizing Radiation Protection (ICNIRP) guidelines, which are endorsed by the Department of Health.
- **Impact on bats and bees around the tower location:** No direct impact is expected on bats and bees. The tower is unlikely to attract bats as a roost and ATC have a policy for removal of bee hives from towers which are then safely relocated.

These impacts can be mitigated by following the recommendations in this report and EMPr. Construction activities will be monitored and controlled through the implementation of the Environmental Management Programme (EMPr).

No site alternatives were considered for the construction of the Weston Mporofana Cell Phone Tower. The original location is feasible and ideally situated to provide optimal signal to the surrounding community. The landowner has given ATC consent to construct the cell phone tower. Therefore, no alternative sites were considered.

Taking into consideration the above impacts and mitigation measures, it is the EAP's opinion that there are no significant environmental impacts associated with the proposal which cannot be mitigated. Therefore, it is recommended that the preferred site alternative 1 and technology alternative 1 be authorised for the Weston Mporofana Cell Phone Tower.

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Section 1: Scope of Work and Location of Activity

1.1 Project Title

The construction of the Weston Mpofana Cell Phone Tower.

1.2 A Description of the Activities to Be Undertaken Including Associated Structures and Infrastructure As per Section 3(d) (ii)

The American Tower Corporation South Africa propose to construct a new cell phone tower within Ward 5 of the Mpofana Local Municipality, uMgungundlovu District Municipality. The cell phone tower and associated infrastructure will be located on a private property, Erf 1167 Mooi River, approximately 1.5km west of Mooi River (as the crow flies) at the following point location, 29°12'37.61"S, 30° 1'5.96"E. The cell phone tower and associated infrastructure will be comprised of a 35m telecommunications mast tower, a generator, and a small container. The total proposed footprint of the cell phone tower and associated infrastructure will be 8m x 8m (64m²), and will be surrounded by a 2.4m high steel palisade fence with a 3m sliding with concrete access ramp. The 35m telecommunications mast tower will support aviation lights, a crows nest and a cat ladder. A permanent power connection will be obtained from a power supply box located at the following point location 29°12'37.97"S; 30° 1'3.84"E (refer to Appendix A for design drawings). The generator on site will serve as a backup should there be a power outage on the site (please refer to Appendix B for the specification of the generator). There is currently no cell phone infrastructure in place on the site. Figures 1-4 below illustrate the locality and provide an overview of the proposed development (Additional locality maps have been attached as appendix A).

The cell phone tower falls within the uMgungundlovu Environmental Management Framework, within a Critical Biodiversity Area or Agro-Biodiversity Zone. Vegetation assessment was conducted by EnviroPro , to determine the impacts on the vegetation on site. The site is located on a private property which is fenced off. The site has been previously transformed by the clearance of vegetation. Vegetation that will be cleared for the purposes of constructing the tower will consist of indigenous grass and alien invasive plants. According to the specialist, no vegetation of conservation significance will be impacted on. There were three individuals of protected species found on the property where the cell phone tower is to be situated, however there are no protected species within the construction footprint (Please refer to Section 2.4 and Appendix B). The nearest specimen of the protected species is located 69m away from the construction footprint.

An NFEPA wetland was identified within the 500m DWS regulated area, therefore a wetland specialist was appointed to assess the potential impact of the cell phone tower on the wetland. The wetland is located approximately 120m to the north of the site. The wetland specialist has recommended a 30m buffer zone. The proposed cell phone tower location is therefore well in excess of the recommended buffer zone. According to the specialist, the R622 which is located between the wetland and the proposed cell phone tower location will currently already be intercepting surface flow. Care must however be taken to ensure that sediment and potential contaminants associated with the construction do not accumulate and wash downhill towards the floodplain. Clearing of vegetation beyond the proposed footprint area must be avoided. No indirect impacts to the wetland are anticipated due to the distance between the wetland and the project area. No direct impacts to the wetland are anticipated for the Weston Mpofana Cell Phone Tower provided the recommendations of the wetland specialist are adhered to. Please refer to wetland specialist report attached in Appendix B.

A visual assessment was conducted to determine the visual impacts of the cell phone tower on the natural and cultural landscape. The proposed tower does not fall within close proximity to any protected areas therefore the construction of the cell phone tower will not negatively impact these areas. Most tourist lodges are located more than 2km from the proposed tower. There is expected to be minimal to no visual impact on visitors to the area. Four prominent venues located around the tower were selected to determine whether there is direct line of sight to the proposed tower. Of the four venues assessed, only the Weston Agricultural College, has a line-of-sight to the tower. The students, from the college, are unlikely to be focusing their attention towards the west (towards to the direction of the tower), but rather towards the vegetation surrounding the college. Please refer to Appendix B for the Visual Impact Assessment.

The construction of the cell phone tower will have a positive impact on the community living in this area. There is currently little to no cell phone signal within the surrounding area. This restricts communication in medical emergencies and reduces the access to internet, ultimately limiting the resources available for teaching. The proposed cell phone tower will allow communication to clinics and ambulances in emergency situations, as well as providing the Mooi River community access to a reliable internet connection.

1.2.1 Construction Methodology

The proposed construction methodology for the cell phone tower can be summarised as follows.

- Necessary clearing and grubbing of the site for access and construction will be done. This will include the clearing of vegetation within the construction footprint of the site. Due to the small construction footprint of the cell phone tower, only a 2m construction servitude will be cleared around the proposed footprint.
- The cell phone tower will be located on a previously disturbed private property, therefore there will be some clearing of grass species and alien invasive vegetation. No vegetation of conservation importance will be removed.
- Clearing and grubbing of the site will be undertaken by heavy machinery i.e. a TLB. Earthwork will take place once the site has been prepared.
- Heavy machinery i.e. a TLB will be used to excavate soil, for the constructions of the foundations required for the mast. Bedding material will then be compacted into this excavation. Rebar and formwork will be placed on this bedding material in preparation for the concrete base slab to be cast.
- Ready-mixed concrete will be brought to site and used to cast the base slab/ foundation.
- Finally, rehabilitation / re-vegetation will take place once construction has been completed.

1.3 Description of Feasible Alternatives as Per Section 3(h)(i)

Site Alternatives

There are no site alternatives for the cell phone tower. The selected site offers the best location for optimal cell phone signal for the Mooi River community. The landowner Fanzo Anold Mchunu has provided ATC with permission to construct the cell phone tower on the property and negotiations for a lease agreement have been commenced.

Technology Alternatives

Alternative 1 (Preferred Alternative)

The preferred technology alternative for the cell phone tower is to construct a 35m monopole mast tower and the associated infrastructure. Please refer to Section 1.2 above for a detailed description of the cell phone tower and Appendix A for design drawings.

Alternative 2

Alternative 2 would be to construct a taller lattice tower, requiring larger foundations and the clearance of more vegetation. The construction of a lattice tower would be more visibly displeasing than a monopole structure. Therefore this alternative is not feasible.

The No Go Alternative

The proposed construction of the cell phone tower will not take place. Therefore, the current situation of little to no cell phone signal within the Mooi River community will remain and therefore members within the community will not be able to contact emergency services or have access to educational resources.

See Appendix A for Engineering Drawings.

1.4 All Listed and Specific Activities to Be Triggered and Being Applied For As Per Section 3(d) (i)

GNR	Activity Number	Activity as per the legislation	Activity as it applies to the proposal
Listing Notice 3; 4 th December 2017 as amended	3	<p><i>The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower (a) is to be placed on a site not previously used for this purpose; and (b) will exceed 15 meters in height – but excluding attachments to existing buildings and masts on rooftops.</i></p> <p><i>d. In KwaZulu Natal</i></p> <p><i>(xi) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.</i></p>	The applicant proposes to construct a new cell phone tower measuring 35m in height and within a sensitive area as identified in the uMgungundlovu Environmental Management Framework (EMF).

1.5 Location of Activity as per Section 3 (b)(i)-(iii)

District Municipality	uMgungundlovu District Municipality																					
Local Municipality	Mpofana Local Municipality																					
Wards	Ward 5																					
Area / Town / Village	1.5km west of Mooi River (as the crow flies)																					
Co-ordinates:	Latitude								Longitude													
Tower Location:	29°12'37.61"S								30° 1'5.96"E													
Property Description:	Erf 1167 Mooi River																					
21 Digit Surveyor General no.	N	0	F	T	0	2	1	4	0	0	0	0	0	1	1	6	7	0	0	0	0	0

Figure 1: 1:50 000 Map Indicating the location of the Weston Mpofana Cell Phone Tower.

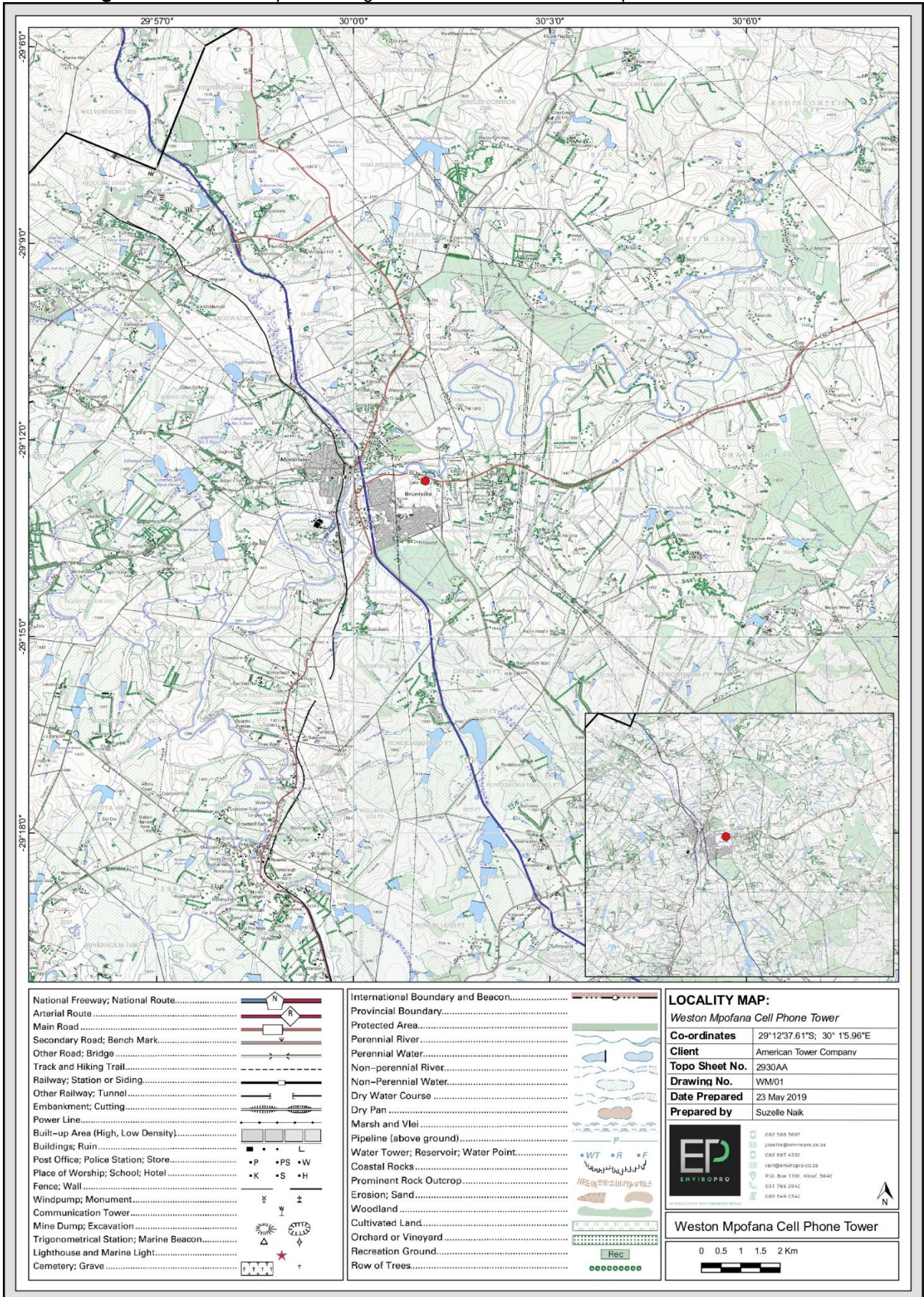


Figure 2: Aerial photograph showing an overview of the Weston Mpfana Cell Phone Tower and wetlands within the 500m regulated area. Google Earth Image, 2019.

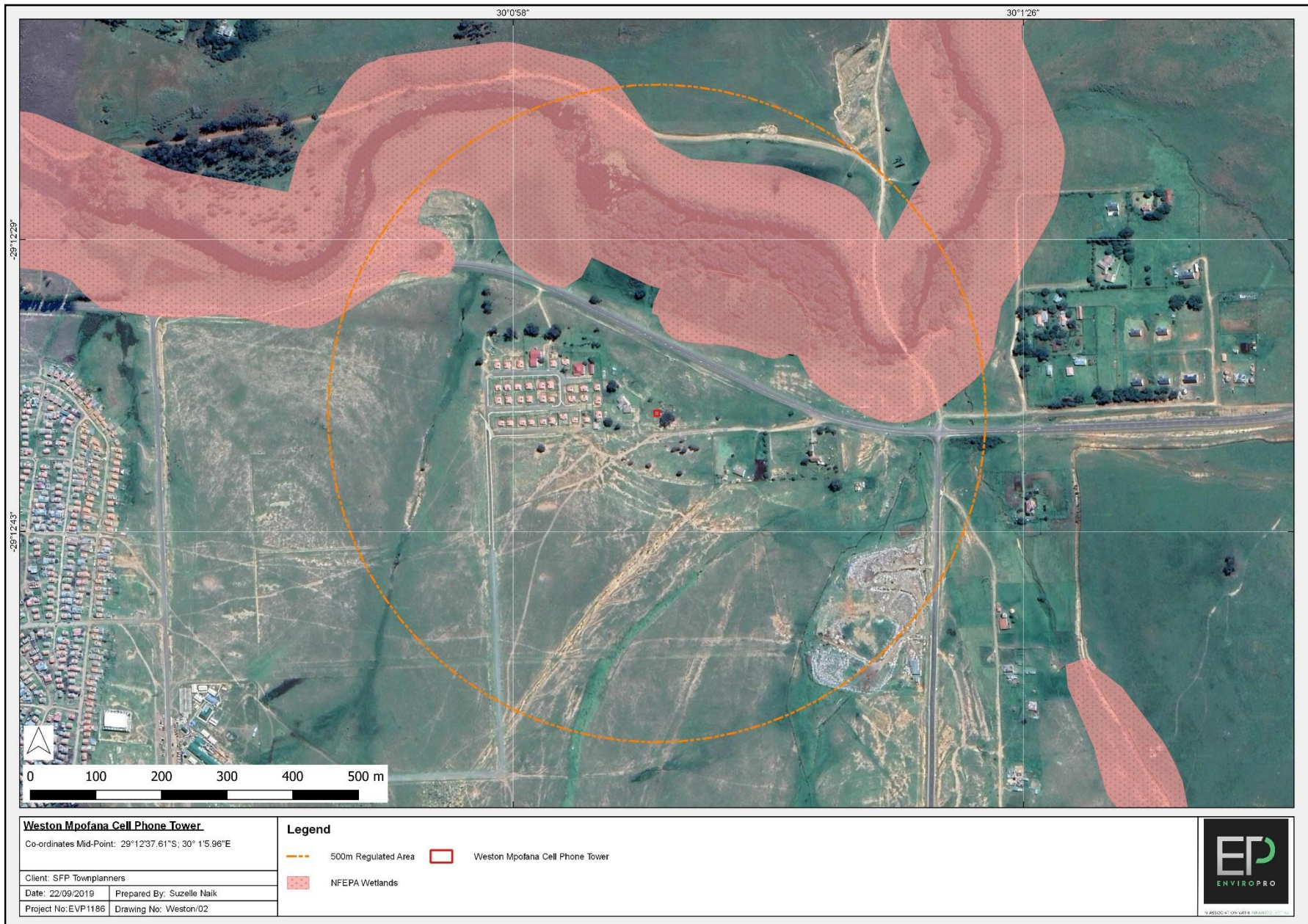


Figure 3: Aerial photograph showing the location of Weston Mpofana. Google Earth Image, 2019.

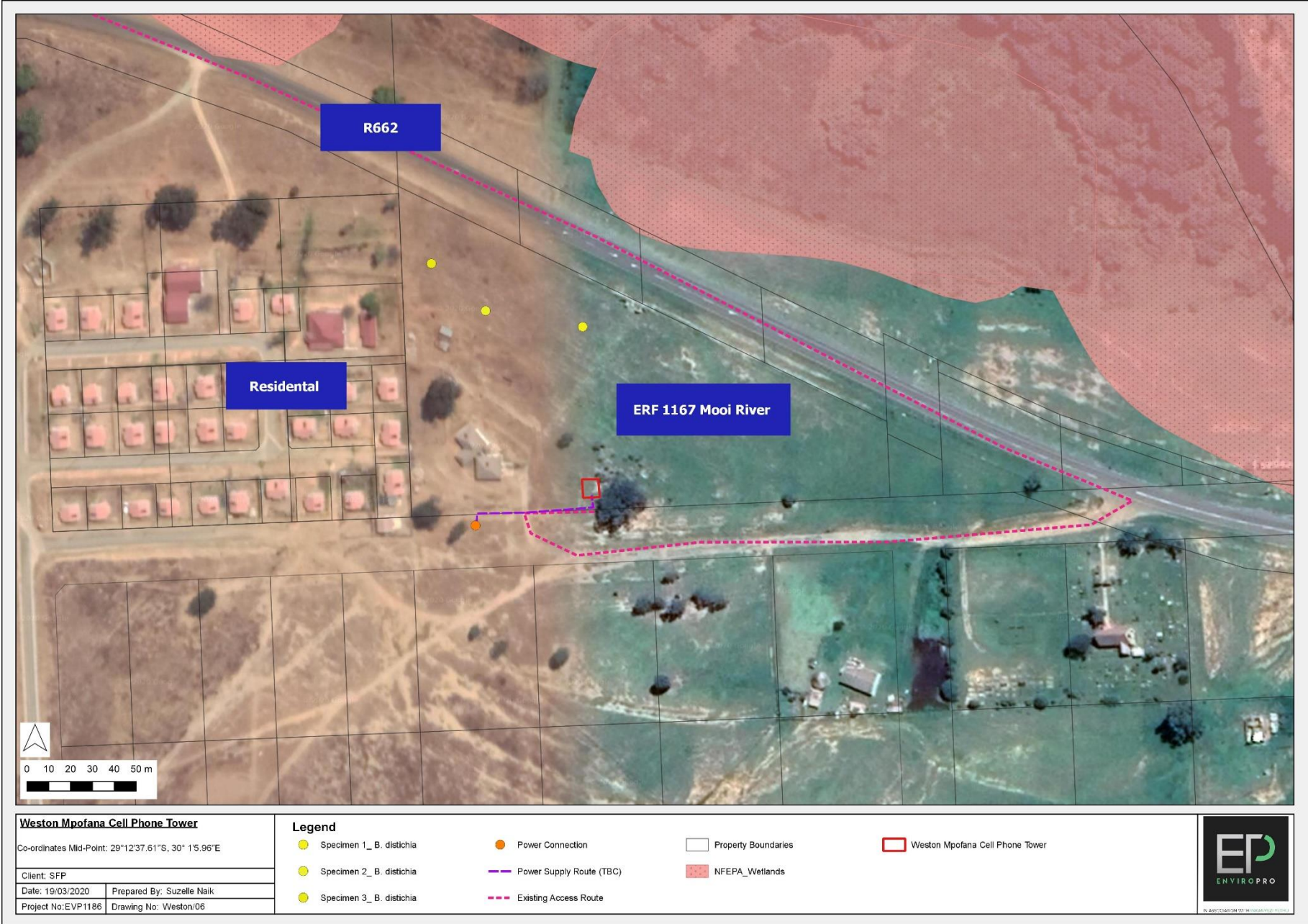


Figure 4: Aerial photograph showing the location of Weston Mpofana. Google Earth Image, 2019.

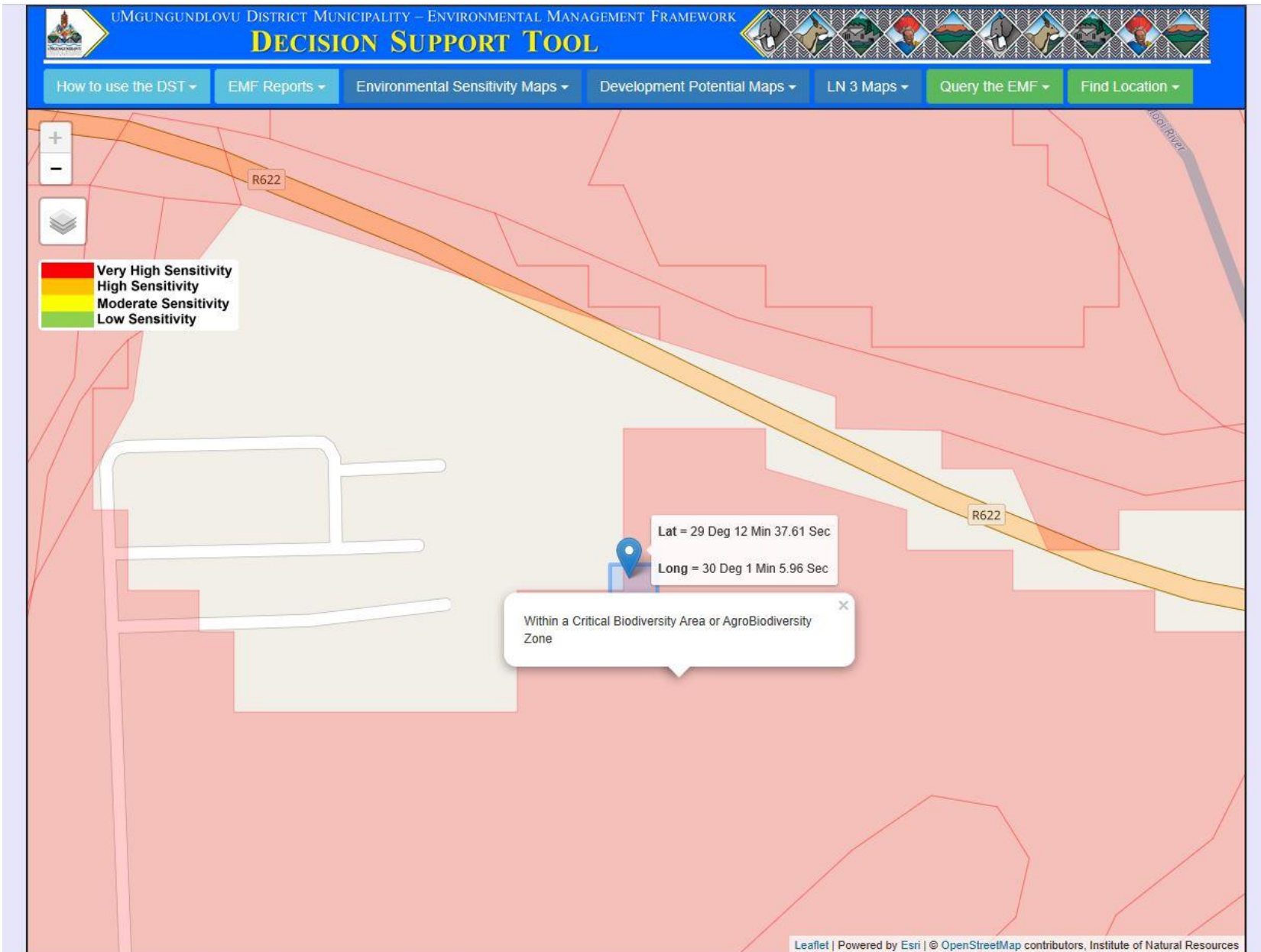
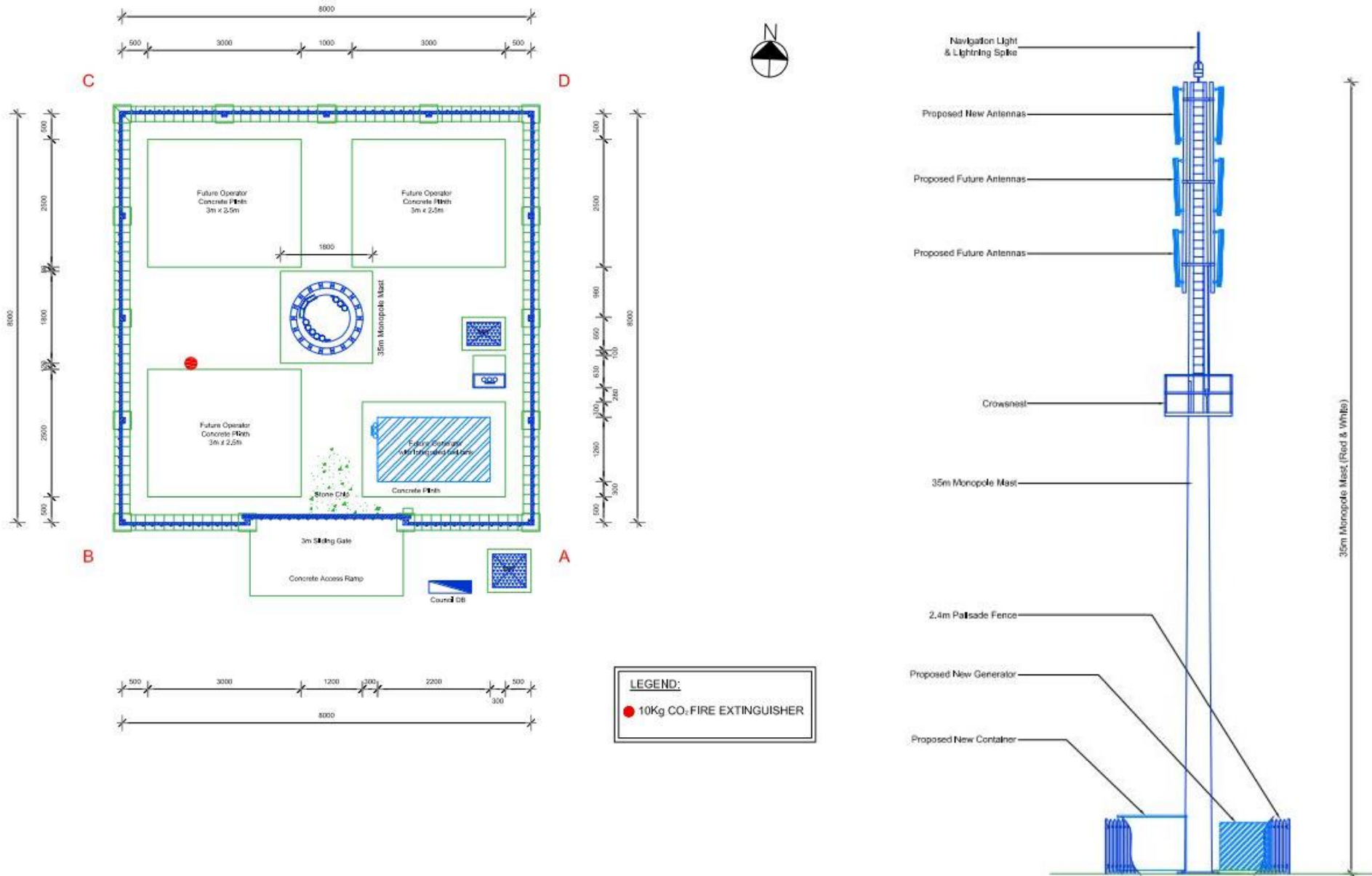


Figure 5: Weston Mpofana Cell Phone Tower designs.



Section 2: Site Description and Surrounding Land Use as per section 3(h)(iv) and (k)

2.1 Topography and Physical Characteristics of Site

The following applies to the area surrounding the sites as per the Figures 1-3 above.

The gradient of the sites are as follows:

Gradient	Description
Flat	N/A
1:50 – 1:20	The site associated with the Weston Mpofana Cell Phone Tower can be described as gently sloping.
1:20 – 1:15	N/A
1:15 – 1:10	N/A
1:10 – 1:7,5	N/A
1:7,5 – 1:5	N/A
Steeper than 1:5	N/A

The topographical features and landforms of the site and surrounding area are as follows:

Topographical Feature	Description
Ridgeline	N/A
Plateau	N/A
Side slope of hill/mountain	The site is located on top of a hill.
Closed valley	N/A
Open valley	N/A
Plain	N/A
Undulating plain/low hills	N/A
Dune	N/A
Sea-front	N/A

2.2 Drainage Lines

There are no drainage lines within 32m of the cell phone tower. The nearest drainage line is located approximately 306m north of the Weston Mpofana Cell Phone Tower.

2.2.1 Wetlands

An NFEPA wetland has been identified within the DWS 500m regulated area.¹ A wetland specialist was appointed to assess the impact of the proposed construction of the cell phone tower. A desktop wetland delineation and risk assessment was conducted (please refer to Appendix B). The wetland is located approximately 120m to the north of the site and is downslope of any surface flow that would emanate from the tower site. However, any surface flow is likely to first be intercepted by the R622 which is located between the wetland and the proposed tower location. The wetland specialist has recommended a 30m buffer zone therefore the proposed cell phone tower is well in excess of the recommended buffer zone. All existing access routes must be used and no new roads are recommended for the project. The footprint area of the cell phone tower must be kept to a minimum. The extent of the working area must be clearly demarcated on site to avoid encroachment into adjacent areas. Care should be taken to ensure that sediment and potential contaminants associated with construction do not accumulate and wash downhill towards the floodplain. Clearing of vegetation beyond the proposed footprint area must be avoided.

No direct impacts to the wetland are anticipated for the Weston Mpofana Cell Phone Tower provided the recommendations of the wetland specialist are adhered to. No indirect impacts are anticipated due to the distance between the wetland and the project area.

2.3 uMgungundlovu Environmental Management Framework (EMF)

The site falls within the uMgungundlovu EMF (refer to Appendix B for uMgungundlovu EMF query). The Weston Mpofana Cell Phone Tower site falls within a Critical Biodiversity Area or Agro-Biodiversity Zone.

¹ The Biodiversity Company, Desktop Wetland Delineation & Risk Assessment for the Weston Mpofana Cell Tower Structure, 2020

EnviroPro assessed the impacts of the proposed cell phone tower on the vegetation on site (please refer to section 2.4 and Appendix B for the vegetation assessment).

2.4 Fauna and Flora

The site is located within a rural area, which is sparsely populated. The fauna and flora found within the area can be described as follows:

- Ecosystem Type: The site does not fall within a threatened ecosystem type.
- Vegetation Type: Mooi River Highland Grassland (Gs8) vegetation type
- Vegetation & Landscape Features:
 - Mainly rolling hills and partly broken landscape, covered in grassland dominated by short bunch grasses, *Heteropogon contortus*, *Themeda triandra* and *Tristachya leucothrix* are dominated in well-managed veld.
- Geology & Soils:
 - A mosaic of generally shallow and poorly drained soils derived from sedimentary rocks, mostly of the Adelaide subgroup (Beaufort Group) of the Karoo Sequence. Almost half of the area is classified as Ac land type, followed by Bb and to lesser extent also Fa.
- Vegetation noted on site:
 - Indigenous vegetation as well as alien invasive vegetation was noted during the vegetation assessment.² The indigenous plant species include *Boophane disticha* (Poison Bulb), as well as numerous grass species, namely *Heteropogon contortus* (Spear grass), *Themeda triandra* (Red grass), and *Tristachya leucothrix* (Hairy Trident grass).
 - Three protected species, *B.disticha* were noted on site. The proposed tower will be located approximately 69m away from the nearest *B.disticha* (Figure 7a below). No indigenous plant species of importance was noted within the construction footprint. The disturbance, damage, destruction and/or removal of protected plant species is strictly prohibited. Due to the small-scale nature of the proposed construction activities and noted location of plants identified, no protected plants species are likely to be disturbed, removed, relocated or destroyed.
 - Alien plant species noted on site include *Eucalyptus globulus* (Southern Blue-Gum), *Opuntia engelmannii* (Small Round-Leaved Prickly Pear), *Argemone Mexicana* (Yellow-Flowered Mexican Poppy), *Verbena bonariensis* (Tall Verbena) and *Bidens pilosa* (Blackjack).
 - Vegetation in the area has been previously cleared and is mostly comprised of alien invasive plant species and exposed soil. Grass species namely *Themeda triandra* and *Tristachya leucothrix* will be cleared. No vegetation outside of the proposed footprint may be cleared. Vehicle access must be restricted to the access road. No ad hoc road must be made. Vehicles are prohibited from areas where protected species are located.
 - No new access roads need to be created. There is an existing access road therefore no vegetation will be cleared for access roads.
 - Disturbed and transformed areas are typically susceptible to encroachment by pioneer grasses and alien vegetation, therefore no alien invasive vegetation must be allowed to establish within the disturbed area.
 - There is an existing power supply box located at the following coordinates 29°12'37.97"S; 30° 1'3.84"E. A power supply route has been indicated on Figure 3, however this is still to be confirmed. The route will follow the shortest route from the power connection to the proposed cell phone tower.



Figure 7: (a): Protected plant species, *Boophane disticha* (Poison Bulb), 69m away from the proposed construction footprint. (b): Overview exotic plant species on site, *Eucalyptus globulus* (Southern Blue-Gum). (c): Image showing *Argemone Mexicana* (Yellow-Flowered Mexican Poppy)

² EnviroPro, Vegetation Assessment Weston Mpofana Cell Phone Tower, 2019

- Fauna
 - No terrestrial fauna was evident around the site.

Given the small construction footprint and the high level of disturbance on the site, it was determined that a specialist vegetation assessment by an external specialist was not required. However, an in house assessment of the vegetation was conducted which concluded that no vegetation of conservation significance will be cleared. The area to be cleared is comprised of exposed soil due to previous disturbance, indigenous grass species and juvenile alien invasive plant species. Therefore the construction of the proposed tower will not significantly impact flora or fauna.

2.5 Heritage and Cultural Aspects

Numerous tourist lodges have been established in the area. A visual assessment was conducted (please refer to Appendix B). The tower is situated on the east of the N3 highway. The Engen One Stop is a popular pit stop for travellers passing by. These facilities attract tourists throughout the year, and therefore the concern would be whether the proposed tower may cause a visual impact that would detract from what tourists and residents could realistically expect to see and if this would in turn detract from their experience and possibly impact tourism and number of tourists visiting the area.

Four prominent venues located around the tower were selected to determine whether there is direct line of sight to the proposed tower. Of the four venues assessed, only the Weston Agricultural College, have a line-of-sight to the tower. The visual impact assessment concluded that the construction and operation of the tower would have no significant visual impact on residents in the area. (Appendix B).

The site does fall within a high sensitivity area for palaeontology according SAHRIS data (Refer to Appendix A). A query has been submitted to AMAFA (Refer to Appendix D).

No items of archaeological significance were noted within the immediate area of the proposed site. Construction workers will be cautioned to operate with care on the site and should any unidentified archaeologically or culturally sensitive aspects be discovered on site, construction activities are to stop immediately and the issue assessed and the authorities (AMAFA) notified if need be.

2.6 Socio Economic Environment

The proposed construction of the Weston Mpofana Cell Phone Tower will provide the local community with access to telecommunications as well as internet access for students to access learning aids. The surrounding area will also have improved access for contacting medical services and doctors in emergency situations and allow farmers to communicate directly with each other in case of security issues. No fences and access roads should require relocation. Should there be a need for the relocation of any infrastructure, an agreement must be made with the contractor and the relevant stakeholder.

ATC support and ensure conformance with the requirements of the International Commission of Non-Ionizing Radiation Protection (ICNIRP) guidelines, which have been endorsed by the Department of Health. Radio frequency radiation is classified as non-ionizing radiation because the energy it carries is too low to cause ionization or the breaking of chemical bonds in human tissue.

Due to the positioning of the antenna at the top of the tower and the very low radio frequencies radiation and EMF produced by the antenna, it is expected that there will be no effect on the community. Therefore, it is unlikely that there will be any negative effects as a result of the cell phone tower on the surrounding community. Please see appendix B for additional documentation pertaining to the effects of these towers. Ultimately, society in general will have improved communication access within the area.

2.7 Surrounding Environment and Land Uses

The land uses surrounding the site is as follows:

- Located within a rural, agricultural area.
- The houses in the area are sparsely located and consist of farm houses positioned some distance from each other.
- The land uses within 500m of the site consists of:
 - A house belonging to the property owner.
 - There is a church at the bottom of Macrorie Street and a residential housing complex bordering the property to the west.
 - Open grasslands to the north and south of the site.
 - The property is border by the R622 Road to the north.
 - The Mooi River is located 306m north of the site.

The surrounding environment and land use will not be negatively affected by the construction of the ATC Cell phone tower as the work is not likely to affect the area outside of the construction footprint i.e. the 64m² area. The tower will have no negative impact or influence on the wetland to the north (see Desktop Wetland Assessment, Appendix B) or on society in general provided the basic mitigation measures are adhered to in this report and EMPr.

The figures below provide photographs of the site taken on the 18th October 2019.



Figure 8: (a): Overview of the site. (b): Overview of the location for the tower. (c): Additional overview of the site, photographer facing south.



Figure 9: (a): Image showing view of the house from the cell phone tower. (b): Photographer facing north east toward the R622. (c): Additional image showing overview of the site.



Figure 10: (a): Photographer facing south looking towards the site. (b): Photographer facing south. (c): Overview of the site.

Section 3: Policy and Legislative Context

3.1 Identification of All Legislation, Policies, Plans, Guidelines, Spatial Tools, Municipal Development Planning Frameworks And Instruments As Per Section 3(e) (i) And Compliance Of Proposed Activity With Legislation And Policy 3(e) (ii)

Legislation	Compliance of Activity
National Environmental Management Act 1998	The National Environmental Management Act (Act 107 of 1998) (NEMA) is South Africa's overarching environmental legislation. It includes a set of principles that govern environmental management and

	<p>against which all Environmental Management Programmes (EMPr) and actions are measured. These principles include and relate to sustainable development, protection of the natural environment, waste minimisation, public consultation, the right to an environment that is not harmful to one's health or wellbeing, and a general duty of care.</p> <p>The Environmental Impact Assessment (EIA) Regulations, 2014: GNR.982, R.983, and R.985 under Section 24 of the NEMA define the activities that require Environmental Authorisation and the processes to be followed to assess environmental impacts and obtain Environmental Authorisation.</p> <p>Environmental authorisation is required for the construction of the Cell Phone Tower within Critical Biodiversity Area or AgroBiodiversity Zone with the uMgungundlovu EMF, therefore this application is in line with the requirements of NEMA.</p>
National Water Act 1998	The site is located within 500m of a wetland; however, a wetland specialist has concluded that the construction and operation of the Cell Phone Tower will have no direct or indirect effects on the wetland. Therefore, a water use authorisation will not be applied for.
National Waste Management Act 2008	Reforms the law regulating waste management to prevent pollution and ecological degradation. Section 19 allows the Minister to publish a list of activities, which require a Waste Management License. The most recent list is published in Government Gazette 37083 Notice No. 921 dated 29 November 2013. It is unlikely that any activities carried out by the development will trigger a Waste Management Activity.
Environmental Conservation Act 1996	Makes provisions for the application of general environmental principles for the protection of ecological processes, promotion of sustainable development and the protection of the environment. This Act has mostly been repealed by NEMA.
National Environmental Management Biodiversity Act 2004	To provide the framework, norms, and standards for the conservation, sustainable use and equitable benefit-sharing of South Africa's biological resources. Section 52 allows for the publication of a list of threatened ecosystems in need of protection. The list was published in Government Gazette No. 34809 Notice No. 1002, dated 9 November 2011. The site is not located within a Critical Biodiversity Area or AgroBiodiversity zone within the uMgungundlovu EMF.
National Heritage Resources Act 25 of 1999	For the protection of South African Heritage to nurture and conserve communities legacy. No archaeological significant artefacts will be disturbed during this project therefore; no permits will be required from the provincial heritage authority, AMAFA. A query was submitted to AMAFA as the site falls within a high sensitivity Palaeontology zone.
Mineral & Petroleum Resources Development 28 of 2002	To provide for the sustainable development of the nation's mineral and petroleum resources which includes activities carried out for the winning of any mineral on, in or under the earth (i.e. the use of borrow pits). The material used to construct the tower must be obtained from a licensed source.
Municipal Planning Framework	
Mpofana Local Municipality - Integrated Development Plan 2019/2020	This project falls in line with the Mpofana Municipality's goal to provide sufficient network coverage throughout the local municipality.

Section 4: Motivation, Need and Desirability

4.1 Need and Desirability as Per Section 3(F)

The following motivation explains the need for the construction of the Weston Mpofana Cell Phone Tower:

- The existing cell phone signal/ reception in the area is of poor quality, with numerous areas having no signal at all.

- It is unlikely that this region will have access to landline services/ telecommunication.
- This poses a problem in emergency situations as there is often no signal to contact emergency services or call an ambulance.
- It is also a problem when security issues arise as community are unable to contact each other by phone due to poor signal.
- The Weston Mpofana Cell Phone Tower will improve the response time of the emergency services and therefore reduce the number of fatalities within the region.
- Scholars and teachers will benefit from the improved cell phone signal. The tower will provide access to the internet, and thus provide additional learning aids to schools.
- The improved cell phone signal would also assist with promoting businesses and therefore growth in the area.

4.2 Motivation for Preferred Site, Activity and Technology Alternative

4.2.1 Preferred Site Alternative

There are no site alternatives for the cell phone tower. The selected site offers the best location for optimal cell phone signal for the Mooi River community. The landowner Anold Fanzo Mchunu has provided ATC with permission to construct the cell phone tower on the property and negotiations for a lease agreement have been commenced.

4.2.2 Preferred Technology Alternative

Alternative 1 (Preferred Alternative)

The preferred technology alternative for the cell phone tower is to construct a 35m monopole mast tower and the associated infrastructure. Please refer to Section 1.2 above for a detailed description of the cell phone tower and Appendix A for design drawings.

Alternative 2

Alternative 2 would be to construct a taller lattice tower, requiring larger foundations and the clearance of more vegetation. This would not be feasible.

Section 5: Public Participation

5.1 Notification of Interested and Affected Parties

- 1) *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 or proposed application relates is or is to be undertaken; and*
 - ii. *any alternative site;*

A noticeboard (isiZulu and English) was placed on the fence of the proposed Weston Mpofana Cell Phone Tower site on the 18th October 2019. The noticeboard detailed ATC South Africa's proposed plan to construct the Cell Phone Tower, subject to a basic assessment. See Appendix C – Proof of Placement of Notice Board.

- 2) *giving written notice, in any of the manners provided for in section 47D of the Act, to-*
 - i. *the occupiers of the site and, if the proponent or 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;*
 - ii. *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;*
 - iii. *the municipality which has jurisdiction in the area;*
 - iv. *any organ of state having jurisdiction in respect of any aspect of the activity, and;*
 - v. *any other party as required by the competent authority;*

The following steps were followed during the public participation process.

- A meeting was held with the Ward Councillor's personal assistant (PA). EnviroPro provided pamphlets detailing the project information to the PA which were passed onto the councillor.
- In addition, an email was sent to the Ward Councilor on the 7th November 2019.
- A noticeboard detailing the proposed development was erected at the entrance of the site on the 18th October 2019.

- The land owner will be given opportunity to review complete copies of the Basic Assessment report.
- With regards to authority communications, all relevant authorities have been notified of the application and have been provided with copies of this BAR.

See Appendix D – Proof of Notification.

- i. *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;*

Email notifications to all I&APs were sent out on the 7th November 2019. See Appendix D – Proof of Notification.

- 3) *placing an advertisement in-*
 - i. *one local newspaper; or*
 - ii. *any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;*
- 4) *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: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph (c)(ii);*

An English and IsiZulu advert was placed in the Witness on the 18th November 2019 detailing the proposed project, Basic Assessment and potential Water Use Licensing requirements and to prove contact details of EnviroPro should anyone wish to register as an I&AP. See Appendix E – Proof of Advert Placement.

5.2 Registered Interested and Affected Parties

42. *A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, which register must contain the names, contact details and addresses of-*
 - (a) *all persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP;*
 - (b) *all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and*
 - (c) *all organs of state which have jurisdiction in respect of the activity to which the application relates.*

The contact details of all I&APs that have registered have been provided in the Registered I&AP list in Appendix F.

5.3 Comments

Comments of interested and affected parties to be recorded in reports and plans.

- 1) *The applicant must ensure that the comments of interested and affected parties are recorded in reports and plans and that such written comments, including responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.*
- 2) *Where a person desires but is unable to access written comments as contemplated in subregulation (1) due to-*
 - i. *a lack of skills to read or write;*
 - ii. *disability; or*
 - iii. *any other disadvantage;*
 - iv. *reasonable alternative methods of recording comments must be provided for.*

All comments received from I&APs have been recorded in the comments and response table. The original comments provided have been provided together with the C&R table. This report has been provided to the Mpofana Local Municipality and uMgungundlovu District Municipality for comment. See Appendix G – Comments and Response table and Comments Received.

Section 6: Impact Assessment

6.1 Methodology to Determine and Rank Significance and Consequences of Impacts Associated With All Alternative as Per Section 3(h) (vi)

Impacts are assessed qualitatively and quantitatively, looking at the duration / frequency of the activity and likely impacts associated with that activity during both construction and operation. If the activity happens frequently, the risk of the associated impact occurring is much higher than if the activity happens less frequently. The geographical extent of the impact is assessed i.e. will the impact be restricted to the point of occurrence or will have it have a local or regional effect. Impacts are also reviewed looking at severity levels and consequences should the impact occur i.e. will the severity be low, medium or high and then probability of the impact occurring is taken into account.

Whether or not the impact can be mitigated and the extent to which it can be avoided, managed, mitigated, or reversed is assessed i.e. the probability of occurrence after mitigation has been applied. This also takes into account likelihood of human error based on construction and operational auditing experience i.e. even though spills can be completely mitigated against and prevented, there is always a small chance that spills will still occur (residual risk). Based on all of these factors, the impact is then rated to determine its significance. For example, an impact can have a regional affect with severe environmental implications, however the probability of it occurring is very low, and the implementation of the proposed mitigation measures means that the ultimate rating is medium or low.

Please see below a description of the scoring. The full impact scoring tables detailing how the significance rating was calculated can be found in Appendix H.

Scoring of Impacts	
Duration / Frequency of activity likely to cause impact	0 = No impact 1 = short term / once off 2 = medium term / during operation 3 = long term / permanent
Geographical Extent	0 = No impact 1 = point of impact / restricted to site 2 = local / surrounding area 3 = regional
Severity (level of damage caused) if impact were to occur	0 = No impact 1 = minor 3 = medium 5 = major
Probability of impact without mitigation	1 - 5 = low. 6 -10 = medium. 11 -14 = high.
Significance before application of Mitigation Measures	A score of between 1 and 5 is rated as low. A score of between 6 and 10 is rated as medium. A score of between 11 and 14 is rated as high.
Will activity cause irreplaceable loss of resources?	10 = Yes 0 = No
Mitigation measures	0 = No impact - 5 = can be fully mitigated - 3 = can be partially mitigated -1 = unable to be mitigated
Probability of impact after mitigation	0 = No impact 1 = Low 2 = Medium 3 = High
Significance after application of Mitigation Measures	A score of between 1 and 5 is rated as low. A score of between 6 and 10 is rated as medium. A score of between 11 and 14 is rated as high.

6.2 Preferred Site and Technology Alternative

ATC Cell Phone Tower (Site specific)

See Appendix H for the full impacts scoring matrix, which assesses the impacts on the above system. The below impacts relate to the site specific preferred site and technology alternatives.

No.	Nature and Consequences of impact	Sig. rating of impacts ³ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
Construction				
Direct Impacts				
1.	Clearing of the Weston Mpofana Cell Phone Tower site resulting in the loss of vegetation. There will be clearing of up to 64m ² of vegetation for the construction of the tower.	5 (Low)	<p>No vegetation of conservation significance will be cleared. The area to be cleared is comprised of exposed soil due to previous disturbance, indigenous grass species and juvenile alien invasive plant species. Therefore the construction of the proposed tower will not impact vegetation.</p> <p>The following measures must be carried out to mitigate against excessive vegetation clearing on the Weston Mpofana Cell Phone Tower site:</p> <ul style="list-style-type: none"> The vegetation that will be cleared must be restricted to the construction footprint of the tower and associated infrastructure. No other vegetation may be cleared other than that required for access to the site. Contractors must avoid damaging any vegetation that is not within the construction footprint; The ECO must be consulted should a tree or any vegetation require clearing outside of the designated construction footprint area. No access roads will be created. All existing access routes must be used. 	3(Low)
2.	Impact on the Critical Biodiversity Area or Agro-Biodiveristy Zone within the uMgungundlovu EMF.	5 (Low)	The Weston Mpofana Cell Phone Tower site has a footprint of 64m ² and is located on private property. No vegetation of conservation significance will be cleared. The area to be cleared is comprised of exposed soil due to previous disturbance. Indigenous grass species and juvenile alien invasive plant species were noted on site.	2 (Low)
3.	Damage to protect species, <i>Boophane disticha</i> , (Poison Bulb) located on the property.	5 (Low)	<p>The closest Poison Bulb is located 69m away from the construction footprint. The disturbance, damage and/or removal of protected species is strictly prohibited. Due to the small scale of the proposed construction activities, no protected species is likely to be disturbed, removed, relocated or destroyed.</p> <ul style="list-style-type: none"> Should a protected plant species be observed within the construction footprint, the ECO must be immediately notified and a permit applied for through the relevant authorities. Protected plant species on the property must be demarcated and protected by a shade cloth fence to avoid damage by construction 	0 Impact) (No

³ See Appendix H for more details.

No.	Nature and Consequences of impact	Sig. rating of impacts ³ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
			activities.	
4.	Removal of alien invasive vegetation found within the Weston Mpofana Cell Phone Tower construction site.	0	This is a positive impact.	0
5.	Disturbance of the Weston Rural Cell Phone Tower site due to construction activities resulting in the encroachment of alien vegetation into disturbed areas.	9 (Medium)	<p>There is currently alien vegetation located within the surrounding area.</p> <ul style="list-style-type: none"> • Alien vegetation must not be allowed to encroach onto the site and must be continually removed during construction. • Construction must not promote further alien plant disturbances in the surrounding area 	5 (Low)
Operation				
Direct Impacts				
6.	Cell phone signal/ reception in the area will be improved, having a direct positive impact on the community members and businesses.	0 (No Impact)	This is a positive impact.	0 (No Impact)
7.	There will be a visual impact of the tower on the sky line impacting the Mooi River and local tourist accommodation.	8 (Medium)	<p>This is a permanent impact, and cannot be completely mitigated against, however the visual impact on the residents and local accommodation is deemed to be minimal (see Appendix B).</p> <p>Numerous tourist lodges have been established in the area. The tower falls to the east of the N3 highway. The Engen One Stop is a popular pit stop for travellers passing by. These facilities attract tourists throughout the year, and therefore the concern would be whether the proposed tower may cause a visual impact that would detract from what tourists and residents could realistically expect to see and if this would in turn detract from their experience and possibly impact tourism and number of tourists visiting the area.</p> <p>Four prominent venues located around the tower were selected to determine whether there is direct line of site to the proposed tower. Of the four venues assessed, only the Weston Agricultural College, have a line-of-sight to the tower. However the students' attention will not be drawn to the tower but rather college gardens. The Weston Mpofana Cell Phone Tower will have not a visual impact on the area.</p>	6 (Medium)
8.	Impact on the Critical Biodiversity Area or Agro-Biodiversity Zone within the uMgungundlovu EMF.	3 (Low)	The Weston Mpofana Cell Phone Tower site has a footprint of 64m ² and is located on private property. No vegetation of conservation significance will be cleared. The area to be cleared is comprised of exposed soil due to previous disturbance. Indigenous grass species and juvenile alien invasive plant species were noted on site.	1 (Low)
9.	Increased levels of radio frequencies and electromagnetic fields within the area.	9 (Medium)	<p>The low levels of non-ionizing radio frequency radiation produced by the antenna is too low to cause ionization or the breaking of chemical bonds in human tissue. However, precautions must still be taken to prevent any unnecessary contact with the non-ionizing radiation; namely:</p> <ul style="list-style-type: none"> • The antenna must be mounted near the top of the cell phone tower to reduce any effects that may be caused by the radio frequencies. • The base station must be fenced off from the public. 	6 (Medium)

No.	Nature and Consequences of impact	Sig. rating of impacts ³ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
			<ul style="list-style-type: none"> The cell phone tower antenna conforms to the ICNIRPs guidelines, which have been endorsed by the World Health Organisation (WHO), and supported by the Department of Health (please see letter from the DoH in Appendix B). These guidelines are set to approximately 50 times below the level where radiation begins to show negative effects. 	
Indirect Impacts				
10.	The new Cell Phone Tower will improve the response time of medical services and therefore reduce the number of fatalities within the area.	0 Impact) (No	This is a positive impact.	0 Impact) (No
11.	Scholars and teachers will have improved access to learning aids through better signal, assisting with improved education within the area.	0 Impact) (No	This is a positive impact.	0 Impact) (No

ATC Cell Phone Tower (Standard Construction Impacts)

See Appendix H for the full impacts scoring matrix, which assesses the impacts on the above system. The below impacts relate to the preferred site and technology alternatives – Generic Impacts.

No.	Nature and Consequences of impact	Sig. rating of impacts ⁴ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
Construction				
Direct Impacts				
No generic direct impacts				
Indirect Impacts				
1.	The increased risk to pedestrians and livestock due to construction activities.	5 (Low)	<p>The construction activity will pose an increased risk to pedestrians and livestock.</p> <ul style="list-style-type: none"> Appropriate construction safety signage must be erected to notify of construction activities and potential hazards on site; Appropriate barriers must be used to cordon off construction excavations, hazardous areas, and areas undergoing construction. Flagmen must be in attendance to direct traffic where required. 	1 (Low)
2.	Dusty conditions generated during the construction of the Weston Mpofana Cell Phone Tower.	4 (Low)	<p>There will be increased dust generated during the construction phase; however, this will be on a temporary basis i.e. the site will be worked continuously for a month until construction is completed. Further to this:</p> <ul style="list-style-type: none"> Vehicle speed limits must be reduced to 40km/hr to reduce the amount of dust raised along the gravel roads to and from the site. The material being transported to the site in the back of the trucks must be covered. Water carts must be used on site should dust levels elevate to a nuisance level. Shade cloth is must be utilised for stockpiled materials where required. The applicant must comply with the National Dust Regulations 	0 Impact) (No

⁴ See Appendix H for more details.

No.	Nature and Consequences of impact	Sig. rating of impacts ⁴ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
			(Government Notice R827, 2013) with regards to dust levels produced on site.	
3.	Increase in heavy truck traffic along the R622 and Macrorie Street as construction vehicles travel to the site for construction activities, impacting existing traffic conditions and pedestrians.	4 (Low)	<p>This cannot be avoided as traffic will increase during the construction phase temporarily until construction is completed. However, very few construction vehicles are required for the construction of the tower.</p> <ul style="list-style-type: none"> All drivers associated with the construction must operate within the speed limits and due caution must be exercised especially when pedestrians are on the road. All drivers must be appropriately licenced and trained. 	0 Impact) (No
4.	Impact on any unidentified existing services on site.	6 (Medium)	<p>No services identified on the site will be impacted on:</p> <ul style="list-style-type: none"> As a standard construction practice the engineer and contractor must identify any potential existing services that may be affected prior to construction. Any infrastructure that is removed must be replaced and any damage caused from construction must be repaired. Should any new power lines be placed on site prior to construction, a 10m buffer must be placed between the existing power lines and the road. 	2 (Low)
5.	Emissions from construction vehicles associated with the Weston Mpofana Cell Phone Tower.	4 (Low)	<p>The construction phase of the project will see the increase in vehicles moving through the area which will result in the increase of emissions into the atmosphere.</p> <ul style="list-style-type: none"> All construction vehicles operating on the site must be fitted with the appropriate silencers and exhausts in order to reduce the emissions and noise into the atmosphere. 	2 (Low)
6.	Temporary increase in waste and litter due to the construction process associated with the construction of the Weston Mpofana Cell Phone Tower.	5 (Low)	<p>The construction phase of the project will see an increase in construction staff on site and therefore an increase in waste on site.</p> <ul style="list-style-type: none"> Littering will not be permitted on site; Designated waste storage areas with appropriate waste receptacles must be set up within the construction site camp; Waste must be removed from site and disposed of at a registered waste disposal site; Safe disposal slips for the disposal of all waste must be obtained and kept on site as proof of safe disposal. 	1 (Low)
7.	Insufficient number of toilet facilities on site.	5 (Low)	<p>The increase in construction personnel during the construction phase will require an appropriate number of toilet facilities for the site.</p> <ul style="list-style-type: none"> Appropriate and sufficient toilet facilities (1 toilet per 15 employees) must be provided by the contractor; All toilet facilities must be checked on a daily basis; All toilet facilities must be emptied 	1 (Low)

No.	Nature and Consequences of impact	Sig. rating of impacts ⁴ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
			and cleaned on a weekly basis.	
8.	Inappropriate disposal of toilet waste resulting in the contamination of the environment.	5 (Low)	The following mitigation measures must be adhered to: <ul style="list-style-type: none"> All toilet facilities on site utilised by the construction personnel must be checked on a daily basis and emptied on a weekly basis by the contractor. A registered waste removal contractor must remove sewage waste from site or sewage waste must be disposed of at a permitted Waste Water Treatment Site; Safe disposal slips for the disposal of effluent waste must be obtained and kept on site as proof of safe disposal. 	3 (Low)
9.	Generation of noise associated with the construction.	5 (Low)	The construction phase of the project will see the increase in vehicles moving through the area which will result in the increase of noise. <ul style="list-style-type: none"> All construction vehicles operating on site must be fitted with standard silencers to reduce the noise levels produced. 	3 (Low)
10.	Damage to property, fences, or cultivated land during construction.	5 (Low)	The following mitigation measures must be adhered to: <ul style="list-style-type: none"> All services must be identified prior to construction through notifying surrounding stakeholders prior to any potential traffic congestion; The contractor must create alternative access routes to the properties where required; The contractor must be aware of the stakeholders' movements and where possible, disruptive activities must be scheduled outside of peak traffic hours; Surrounding land owners and stakeholders must be notified prior to disruptive activities during construction; Any infrastructure that gets removed must be replaced and any damage caused from construction must be repaired. 	1 (Low)
11.	Unsustainable sourcing of raw materials such as gravel, sand, water etc. which could result in the promotion of illegal mining operations which can cause significant damage to the environment.	6 (Medium)	The construction of the tower will require raw materials to be sourced and brought to site. <ul style="list-style-type: none"> Contractors must provide proof of sustainable sourcing of materials i.e. permits for quarries and sand winning operations from which stone and sand have been obtained. 	2 (Low)
12.	Positive impacts due to potential for local employment.	0 (No Impact)	This is a positive impact.	0 (No Impact)
Operation				
Direct Impacts				
No generic direct impacts				
Indirect Impacts				
13.	Positive impacts for the community include potential for local employment.	0 (No Impact)	This is a positive impact.	0 (No Impact)
Cumulative				
14.	Improved cell phone communications within the area.	0 (No Impact)	This is a positive impact.	0 (No Impact)

6.3 Technology Alternative 2

Weston Mpofana Cell Phone Tower (Site specific)

See Appendix H for the full impacts scoring matrix, which assesses the impacts on the above system. The impacts relating to the Alternative 1 and Alternative 2 are very similar, therefore the impacts below include the impacts which differentiate the most between the two alternatives.

No.	Nature and Consequences of impact	Sig. rating of impacts ⁵ :	Proposed mitigation and Extent to which impact can be reversed / avoided, managed or mitigated:	Sig. rating of impacts after mitigation:
Construction				
Direct Impacts				
1.	Clearing of a larger area of vegetation, for the Weston Mpofana Cell Phone Tower site resulting in the loss of vegetation.	6 (Medium)	<p>No vegetation of conservation significance will be cleared. The area to be cleared is comprised of exposed soil due to previous disturbance, indigenous grass species and juvenile alien invasive plant species. Therefore the construction of the proposed tower will not impact vegetation.</p> <p>The following measures must be carried out to mitigate against excessive vegetation clearing on the Weston Mpofana Cell Phone Tower site:</p> <ul style="list-style-type: none"> The vegetation that will be cleared must be restricted to the construction footprint of the tower and associated infrastructure. No other vegetation may be cleared other than that required for access to the site. Contractors must avoid damaging any vegetation that is not within the construction footprint; The ECO must be consulted should a tree or any vegetation require clearing outside of the designated construction footprint area. 	2 (Low)
Indirect Impacts				
Indirect Impacts will remain as per Alternative 1				
Operation				
Direct Impacts				
2.	There will be a greater visual impact of the tower on the sky line due to the increased height and size.	9 (High)	The tower can be designed to be taller. However this is not feasible as it would require deeper foundations and the clearance of more vegetation	9 (High)
Indirect Impacts				
Indirect Impacts will remain as per Alternative 1				
Cumulative				
Indirect Impacts will remain as per Alternative 1				

Weston Mpofana Cell Phone Tower (Standard Construction Impacts)

Generic impacts for the Weston Mpofana Cell Phone Tower will be same for both alternatives.

6.4 Environmental Impact Statement as per section (I)

During construction issues such as clearing of vegetation and dust pollution need to be addressed. These can be best managed by minimising the clearing of vegetation to the construction footprint, and by implementing effective dust management measures.

The cell phone tower falls within the uMgungundlovu Environmental Management Framework, within a Critical Biodiversity Area or Agro-Biodiversity Zone, however no vegetation of conservation significance will be cleared. The area to be cleared is comprised of exposed soil due to previous disturbance, indigenous grass species and juvenile alien invasive plant species. Therefore the construction of the proposed tower will not impact vegetation. Three protected *Boophane disticha* specimens were identified 69m outside the

⁵ See Appendix H for more details.

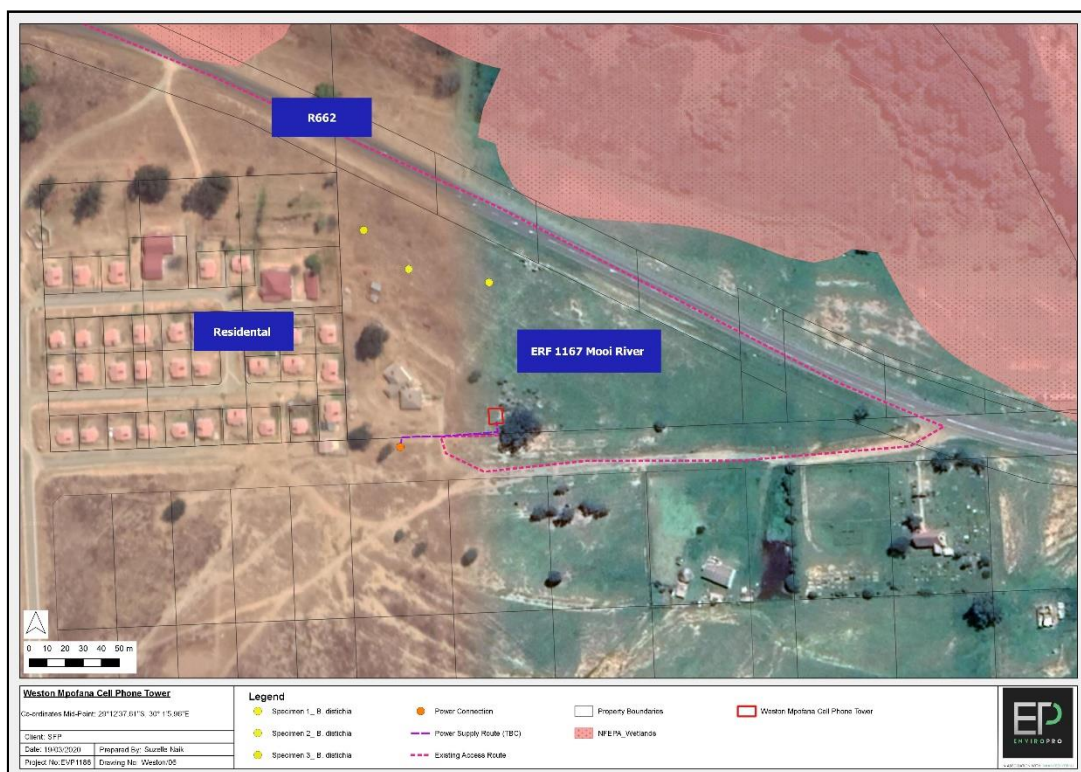
construction footprint. These plants will not be impacted on by the tower and will be demarcated and protected by shadecloth fencing.

A visual assessment was conducted to determine the visual impacts of the cell phone tower on the natural and cultural landscape. Four prominent venues located around the tower were selected to determine whether there is direct line of site to the proposed tower. Of the four venues assessed, only the Weston Agricultural College, have a line-of-sight to the tower. The students, from the college, are unlikely to be focusing their attention towards the west (towards to the direction of the tower), but rather towards the vegetation surrounding the college.

A number of positive impacts may result from the construction of the Weston Mpfana Cell Phone tower. These relate to improved public safety through better communications to emergency services and improved access to learning aids through the internet. All construction activity must be confined to the proposed construction footprint area. Once construction is complete there should be no significant impacts related to the operation of the tower as depicted in Figure 8 below.

Taking into consideration the above impacts and mitigation measures, it is the EAP's opinion that the construction of Weston Mpfana Cell Phone Tower be authorised.

Figure 8: Aerial photograph showing the Weston Mpfana Cell Phone Tower. Google Earth Image, 2019.



6.5 Impact Management Objectives and Outcomes for the Development for Inclusion in the EMP as Per Section 3(m)

The following objectives and outcomes must be considered for this project:

- Objectives:
 - For there to be no lasting negative impacts on the environment once construction is complete.
 - To practice responsible construction, 'best practice' with regards to housekeeping on site during construction (outlined within the EMP) and enforce the polluter pays principle. The applicant / contractor must be responsible for their actions on site during construction and the rehabilitation of the site post construction.
- Outcomes:
 - To promote sustainable development. Create infrastructure and an environment that is healthy and sustainable for future generations to come.

6.6 Assumptions, Uncertainties and Gaps in Knowledge Relating To the Assessment and Mitigation Measures Proposed As Per Section 3(o)

Given the minimal clearing of vegetation required for the project, the temporary nature and small-scale construction planned as well as the previous disturbance on the site, an external specialist vegetation specialist was not deemed necessary, therefore an in house vegetation assessment was carried out.

6.7 Period for Which Authorization Is Required, Proposed Monitoring and Auditing and Post Construction Requirement's

Environmental authorisation is required for the construction of the Weston Mpofana Cell Phone Tower either within the 2020 or 2021 business plan for ATC South Africa, therefore the authorization would need to be valid for a period of five years, within which time construction would need to commence.

Given the nature of this project, it is recommended that **monthly** ECO audits be carried out for the duration of the construction phase of this project. One post construction audit should be conducted once construction is complete.

The EMPr details the post construction, rehabilitation, and closure objectives which will be monitored by the ECO and compliance authorities.

6.8 Financial Provisions as Per Section 3(s)

The contractor is responsible for and must ensure that the site has been rehabilitated in full before leaving the site. No upfront financial provision is required for this project.

6.9 EAP Opinion on Whether Or Not to Authorize Activity and Recommendations and Conditions for Authorisation as Per Section 3(n) and (p)

With respect to the site and technology alternatives, it is recommended that preferred site alternative 1 and technology alternative 1 be authorised. The significance of the impacts associated with the construction of the tower is considered 'low'.

6.10 Summary of Recommendations for the construction of the ATC Cellphone Tower:

Stakeholders, Properties & Services

- As standard construction practices the engineer and contractor should identify all existing services that may be affected prior to construction.
- The contractor should liaise with local community members regarding restriction of access during construction.

Traffic & Construction Pedestrians

- The contractor must take into consideration the potential movements of surrounding stakeholders.
- Appropriate signage and barriers must be used to cordon off construction areas.
- All construction vehicles should be fitted with the appropriate silencers and exhausts.
- Speed limits must be obeyed.

Housekeeping, waste management, storage, and materials handling

- Littering must not be permitted on site.
- All hazardous materials and substances should be stored within a secured area in the construction camp. The storage area should be a hard surfaced, bunded, and covered area.
- Cement mixing must be done on a hard surface that is protected from storm water runoff.
- Contractors should be required to dispose of construction rubble at an appropriate landfill site. Delivery notes and safe disposal certificates to prove appropriate disposal should be available.
- Appropriate and sufficient toilet facilities must be provided by the contractor.
- Toilet facilities must be provided by a registered company and all sewage must be disposed of at an appropriate facility. Safe disposal certificates must be kept on record.
- Toilet facilities must not be located within 32m of any watercourse.

Dust and erosion control

- A water cart should be used to dampen dusty surfaces and suppress dust.
- Exposed areas should be rehabilitated and re-vegetated as soon as possible during construction.
- Areas exposed to erosion must be protected through the use of sand bags, berms and efficient construction processes i.e.: limiting the extent (footprint) and duration period that areas are exposed. The contractor must ensure that any blockages created during construction are resolved.

Stormwater management and protection of the watercourse

- The engineer/contractor must ensure that only clean storm water runoff enters the environment. Any contaminated run off must be collected and disposed of.
- All watercourse must be identified and demarcated at the start of construction.
- No excavated material or fill material may be stored within the drainage line or within 32m of any watercourse.
- Only the area directly in the path of construction may be cleared and excavated. The remainder of the watercourse must be demarcated as a 'no-go' area.
- Heavy vehicles should avoid working near the watercourse as much as possible.
- Stormwater may not be channelled directly into any water body without the flow velocity being slowed. Channelled flows must be diffused.

Protection of Heritage Resources

- Attention is drawn to the South African Heritage Resources Act, 1999 (Act No. 25 of 1999) and the KwaZulu-Natal Heritage Act (Act no 4 of 2008) which, requires that operations that expose archaeological or historical remains should cease immediately, pending evaluation by the provincial heritage agency.

uMgungundlovu EMF and protected species.

- All protected species must be demarcated and protected by a shade cloth fence.
- The construction footprint of the tower must be demarcated.
- The footprint area must be kept to a minimum. The extent of the working area must be clearly demarcated on site avoid encroachment into adjacent areas.
- All existing access route must be used. No new access routes must be created.
- A recommended 30 buffer zone must be adhered to from the wetland.
- Care should be taken to ensure all sediment and potential contaminants associated with the construction do not accumulate and wash downhill towards the floodplain. Vegetation clearing beyond the construction footprint must be avoided and the removal of all soil, gravel, stones and concrete.
- No direct impacts to the wetland are anticipated for the Weston Mpofana Cell Phone Tower provided the recommendations of the wetland specialist are adhered to.
- No alien invasive vegetation must be allowed to establish within the disturbed area.

Appendix A: Drawings and Maps

Appendix B: Specialist Reports & Additional Documentation

No.	Specialist Report
1.	TBC – Wetland Assessment
2.	Visual Impact Assessment
3.	EnviroPro – Vegetation Assessment
4.	Umgungundlovu EMF Query
5.	DOH – Letter on health effects of masts
6.	ATC – Electromagnetic Energy Emissions Information Guide
7.	EMSS Consulting – Base Stations
8.	ATC – Back Up Generator
9.	GSMA – Mobile Communications & Health
10.	RF Safety – Mounted Cellular Antennas
11.	Guideline on removal of Bees

Appendix C: Noticeboard

Appendix D: Notification

Appendix E: Adverts

Appendix F: Registered I &Aps

Appendix G: Comments and Responses

Appendix H: Impacts Scoring Matrix

Appendix I: EAP Declaration

Appendix J: Environmental Management Programme