



Planning Assessment Report

Proposed Installation of a Telecommunications Facility

Address:

Lot 20032 P229771
Bencubbin-Kellerberrin Road
South Trayning WA 6488

RFNSA Site Reference:

6488004

Prepared for Submission to:
SHIRE OF TRAYNING COUNCIL

July 2021

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1 Introduction

Singtel Optus Propriety Limited (Optus) is licensed carrier under the *Telecommunications Act 1997* (Cwlth) (“Telecommunications Act”). Optus is proposing to install a new mobile phone base station being a part of Round 5 of the Mobile Black Spot Program. The Mobile Black Spot Program is a Federal Government initiative to improve and extend mobile phone coverage in regional and remote Australia. The Federal Government has committed \$380 million to this Program, which has been co-invested by State Governments, local governments, businesses, community organisations and telecommunications providers. Under Round 5 of the Program, Optus secured funds to build 36 new sites in Western Australia.

Optus is committed to providing mobile coverage, competition and choice to regional Australia. We believe that real investment in regional and remote telecommunications services is the only sustainable way to improve competition, strength and breadth of coverage in regional Australia.

Our participation in the Mobile Black Spot Program reaffirms Optus’ unrelenting dedication to network investment in metropolitan, regional, holiday and remote locations across Australia. The Program builds on our existing and significant network expansion programs in regional Australia. Our network underpins everything we do, so that our customers can have access to reliable mobile coverage and high-quality internet, no matter where they live.

The Carrier’s mobile phone networks operate through a series of local cells each containing a set of antennas that transmit and receive low-powered radio waves to and from mobile phone handsets in the surrounding area. Each cell contains a mobile telecommunications facility called a base station, with each base station being connected to the whole network via a series of underground cables and in some circumstances point-to-point radio links.

In today’s modern society mobile smart phones have become an essential element within everyday life where there is a demand for high quality mobile phone services, call coverage, and data usage. With the increased demand for technology comes an increased need for infrastructure to ensure such quality coverage is maintained. Currently there are some mobile network problems in and around South Trayning area. These include some areas where there is poor or no coverage due to the location and performance of the existing sites, the inability of the radio signal to penetrate inside buildings, and the increased demand for mobile phone services.

This Planning Assessment Report has been prepared as supporting information to Planning Permit Application for the construction of a mobile phone base station on land at Bencubbin-Kellerberrin Road, South Trayning WA 6488 (Lot 20032 P229771). The preparation of the report and lodgement of the application has been undertaken by CPS Global on behalf of the Optus.

The owner of the land is Peter Wallace and Julie Bethwyn Tiller. A copy of the Certificate of Title has been attached for information purposes (**Appendix A**).

CPS Global has been engaged by Optus to provide property, planning, and project management services to obtain tenure, to design, and to construct appropriate sites for the installation of the Carrier’s mobile network base station. As Optus’ consultants, CPS Global is authorised to facilitate the environmental assessment of identified sites and apply for any planning approvals required to develop the telecommunications facility.

All mobile phone network operators are bound by the operational provisions of the federal *Telecommunications Act 1997* (“The Act”) and the *Telecommunications Code of Practice 1997*. The *Telecommunications (Low-Impact Facilities) Determination 2018* allows for the installation of a new mobile phone network infrastructure without the consent of a relevant statutory authority. In this instance the proposed development does not comply as a “Low Impact facility” under the definitions contained in the Commonwealth legislation. Therefore, it

is subject to the provisions of the *WA Planning and Development Act 2005* and the provisions of the Shire of Trayning Scheme No. 1.

In accordance with the environmental assessment and supplementary documentation, the proposed development is considered appropriate to its context and surroundings, and within the planning parameters with negligible impact.

Mobile phones have formed an integral part of society and they are considered a necessity to everyday life. The proposed facility will have significant benefits to the residents, workers, and travellers to Trayning local government area. It will enable productivity and service delivery in various sectors, including, but not limited to, health, education, finance, and business. The facility will have a significant benefit to the safety of residents providing needed mobile phone coverage. For these reasons, it is considered that the proposed facility is in the public interest.

2 Site Description and Environmental Context

2.1 Site Description

The proposal is at Lot 20032 Bencubbin-Kellerberrin Road, South Trayning WA 6488. The proposed site is located approximately 28km south of Trayning and the same distance north of Kellerberrin.

The site is zoned 'Rural' under the provisions of the Shire of Trayning Scheme No. 1 – refer to Section 7.1 for additional information on planning schemes and map images. The site is currently used for agricultural purposes and will be accessed from Bencubbin-Kellerberrin Road. The surrounding land is also characterised by rural land uses.

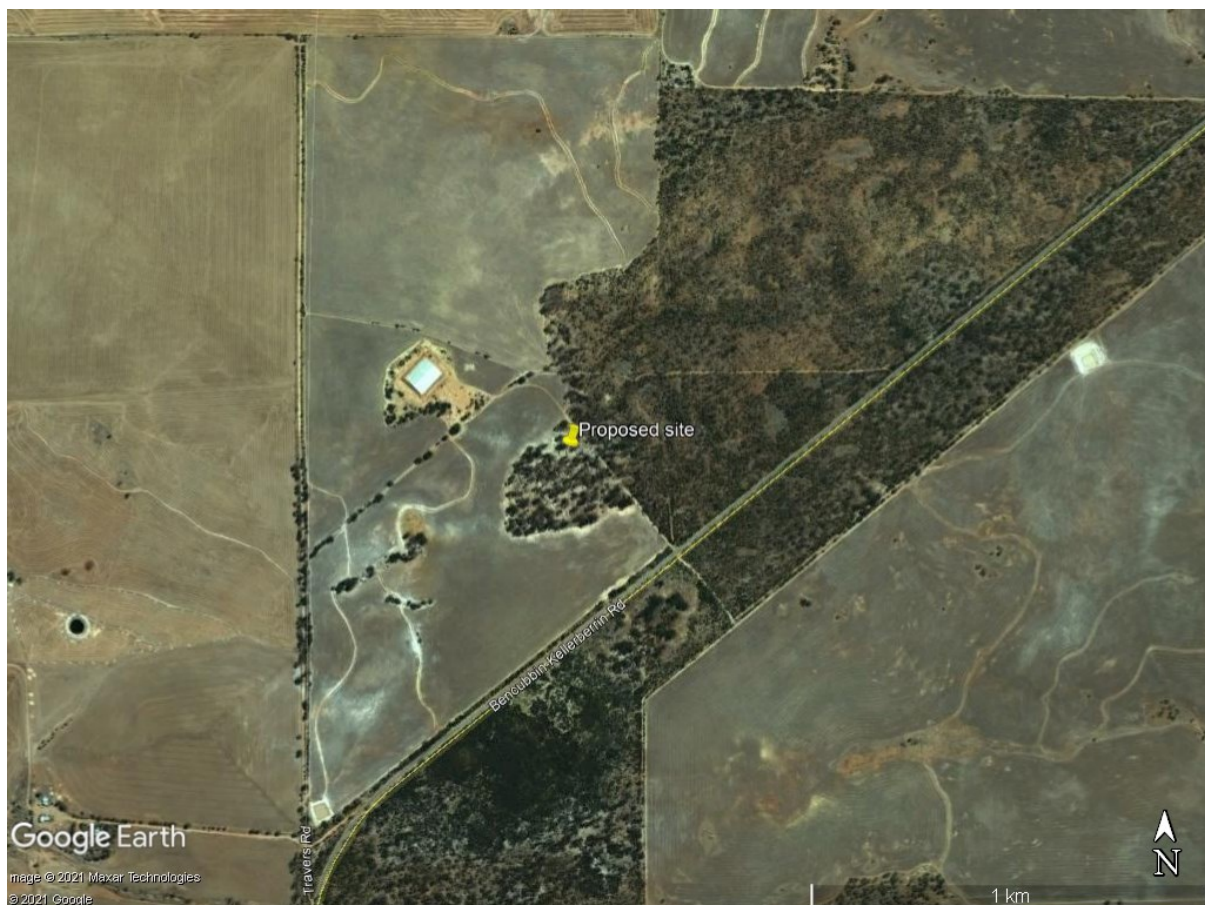


Figure 1: Site Location
(Source: Google Earth, 2021)

The site is not located in an area of environmental significance as defined by the *Telecommunications (Low-Impact Facilities) Determination 2018*.

2.2 Heritage

The subject site is not listed as an item of heritage significance on the Shire of Trayning Scheme No. 1, nor is it within a heritage conservation area. No Aboriginal Sites or Other Heritage Places are found in the area.

3 Alternative Sites Considered

Optus has undertaken a detailed process in selecting the site for the proposed facility. Alternative candidates were considered as part of the proposal.

Co-location opportunities

It is required by all carriers under the *Telecommunications Act 1997* that consideration be given to co-location and the upgrade of existing facilities as a priority.

Below is a map of existing radio and telecommunications facilities (marked in green) surrounding the South Trayning area, the yellow marker indicates the location of the proposed telecommunications facility at Lot 20032 Bencubbin-Kellerberrin Road, South Trayning WA 6488 and the blue polygon – target coverage area. There are no existing telecommunications facilities within a target area. The closest radiocommunications facilities to the site are located at Lot 20 Plan D79899 Harvey Road, North Kellerberrin WA 6410 (RFNSA site ID 6410003) and at 345 Ryans Road, South Kununoppin WA 6489 (RFNSA site ID 6488002). These are located 6.18km and 11.82km respectively from chosen site. The existing structure in South Kununoppin is located at the edge of target coverage area and is only 18m in height, therefore it would not provide a sufficient coverage to the area that would meet RF requirements of the Mobile Black Spot Program. Although the structure in North Kellerberrin is 50m in height, it is not structurally adequate to co-locate telecommunications facility and a new structure would be therefore required. The other existing sites are located well outside the target area and therefore were not considered. Given the above, there is no suitable colocation opportunity to provide the effective coverage to the target area.

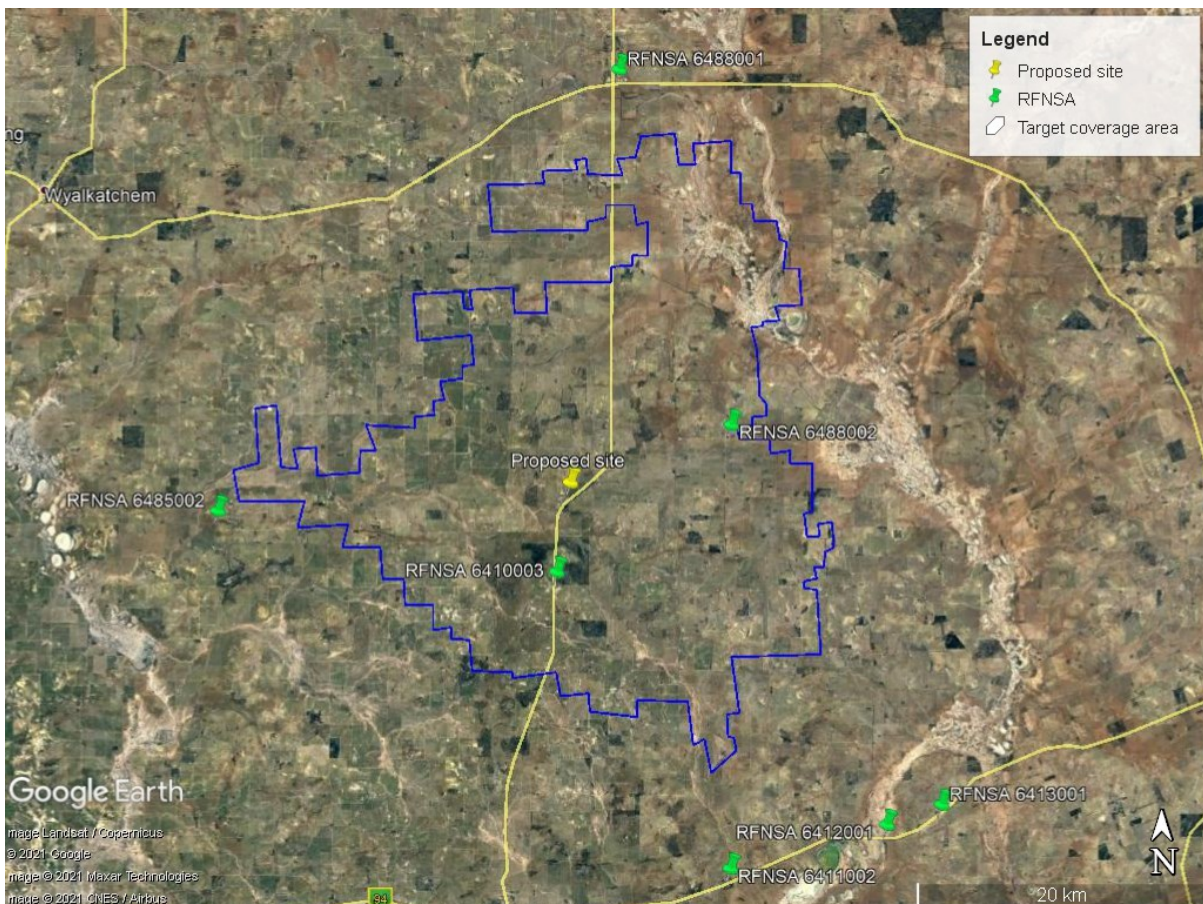


Figure 2: Location of nearby existing telecommunications sites as per RFNSA website (Source: Google Earth, 2021)

Candidates considered

The suitability of each site for the facility is assessed based on a number of factors, which include, but are not limited to, the following:

- Environmental considerations, including local and state planning policies;
- Co-location opportunities;
- Engineering constructability;
- Minimal environmental impact during the construction phase and operation of the facility;
- Visual amenity;
- Topographical constraints;
- Occupational health and safety;
- Radio frequency coverage objectives; and
- The ability to secure tenure on the property.

In addition, the proposed location must meet objectives of the Mobile Black Spot Program, with parameters set by the Federal Government. A number of factors determined which areas received funding, including the lack of outdoor coverage and the number of people who would benefit from a new facility.

As a result of this assessment, the following possible sites were identified.

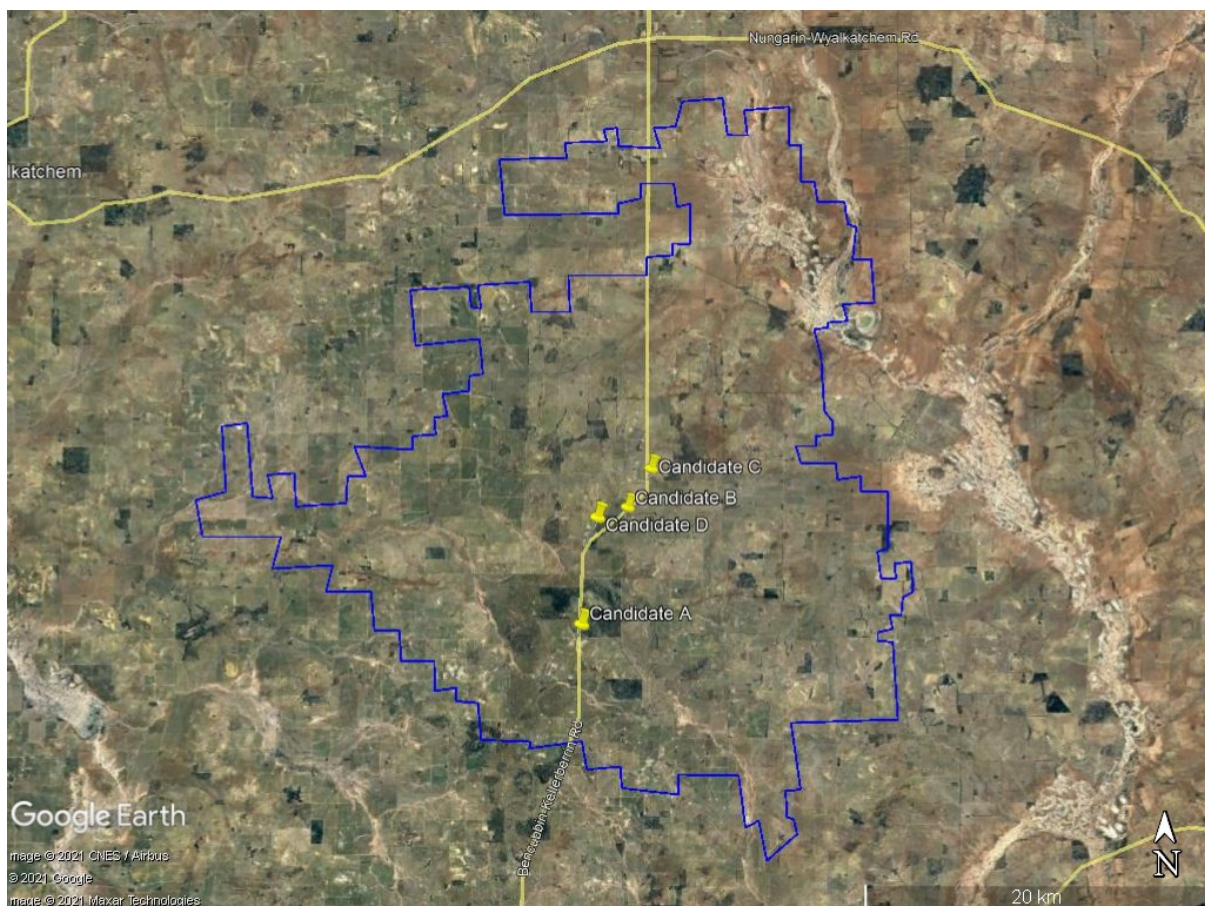


Figure 3: Alternative Candidates Considered
(Source: Google Earth, 2021)

Table 1: Alternative Candidates Considered

Candidate	Proposal	Comment
<u>Candidate A</u> Lot 20 Plan D79899 Harvey Road, North Kellerberrin Lat: -31.424664 Long: 117.750209	Co-location on the existing 50m guyed mast Installation of a new 50 metre lattice tower	The existing mast is not structurally adequate to co-locate telecommunications facility and a new structure would be therefore required. Due to its location within southern portion of the target area, the site would not provide a sufficient coverage to the northern part of the area.
<u>Candidate B</u> Lot 16175 Mission Road, Kellerberrin Lat: -31.373090 Long: 117.763027	Installation of a new 50 metre lattice tower	Ground level of the proposed location would provide good coverage. However, the candidate would provide slightly lower coverage to the target area than the prime candidate.
<u>Candidate C</u> 89 Laird Road, North Bandee Lat: -31.34341 Long: 117.792688	Installation of a new 50 metre lattice tower	This candidate is in proximity of the Candidate D. Ground level of the proposed location would provide good coverage. However, the candidate would provide slightly lower coverage to the target area than the prime candidate.
<u>Candidate D - prime</u> Lot 20032 Bencubbin-Kellerberrin Road, South Trayning Lat: - 31.369294 Long: 117.759940	Installation of a new 50 metre lattice tower	Due to its ground level and central location, the candidate would provide the best coverage to the target area. The site is the preferred candidate and will be discussed in further details throughout this report.

3.1 The Preferred Candidate

As a result of the site selection process undertaken by Optus, the candidate located off the Bencubbin-Kellerberrin Road, is considered to be the most appropriate site, based on the radiofrequency objectives, planning and environmental issues, potential community sensitive uses and engineering. This was based on the following reasons:

- The location will achieve the required coverage objectives for the area as prescribed in the Government’s Black Spot Program;
- The site is appropriately located and sited so as to minimise visual and environmental impact on the immediate and surrounding area;
- The existing vegetation (shrubbery) will provide some screening to the lower portions of the proposed facility from within the immediate locality;
- No proximity to sensitive uses;
- The site will meet design and construction considerations; and
- The proposal operates within the regulatory framework of Commonwealth, State and Local Government;
- The location of the proposed facility will have a minimal impact on the character and setting of the rural area;
- The proposed development will not have a detrimental impact to the objectives of the zone;
- The ability to secure land tenure.

As stated above, the site selection process carefully considered environmental and visual constraints, existing and future land use characteristics, the orderly planning of the area and the design of the facility. On balance, it is considered that the location and height of the facility ensures optimal service provision to the area.

4 Design of the Proposal

4.1 Proposed Equipment to be Installed

The proposal is for a mobile phone network base station that would provide improved depth of coverage to the Carrier's network within Koomberkine and surrounding areas.

- The proposal seeks consent for:
- Installation of a 50m high lattice tower;
- Installation of a triangular headframe atop of the tower;
- Installation of three (3) Optus panel antennas on the headframe;
- Installation of nine (9) Radio Remote Units (RRUS) mounted on the headframe and provisions for twelve (12) future RRUs;
- Installation of a parabolic antenna mounted on the tower;
- Installation of 4-bay outdoor equipment unit (ODU) in standard colour "pale eucalypt";
- Ancillary equipment associated with the safe operation of the facility, including but not limited to, equipment housing, cable trays, cable ladders, cabling, earthing, electrical works, fencing and air conditioning equipment.

Please find enclosed a set of plans as **Appendix B**.

4.2 Access Details

Access to the site is to be off Bencubbin-Kellerberrin Road.

Please refer to the set of plans enclosed as **Appendix B** for further details.

4.3 Electricity Details

Power will be taken from the nearest transformer pole located approximately 300m of the proposed site.

Please refer to the set of plans enclosed as **Appendix B** for further details.

4.4 Strength of the Electromagnetic Field

The facility would operate within the exposure standards in:

- (1) The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Standard (the Radiation Protection Standard for Maximum Exposure levels to Radiofrequency Fields – 3KHz to 30 GHz (ARPANSA Standard));
- (2) Radiocommunications (Electromagnetic Radiation Human Exposure) Standard 2003; and
- (3) Any other standards endorsed by the Commonwealth Government and the Australian Communications and Media Authority (ACMA).

The facility would operate at low power levels as compared to many other radiocommunications transmitters such as television or radio broadcasting facilities.

The maximum strength of the electromagnetic field that the facility will produce will be less than 0.30% of the ARPANSA mandated exposure limit. This estimation is based on the maximum level of radio frequency (RF) / electromagnetic cumulative energy (EME) at 1.5 metres above ground level of the antenna.

Please find enclosed an ARPANSA Environmental EME Report dated 3 June 2021 as **Appendix C**.

4.5 Construction Details of the Proposed Facility

The construction of a telecommunications facility fundamentally consists of three stages, including:

- Site preparation;
- The installation of the tower and equipment; and
- The installation of the communications and antennas involving technicians working within the outdoor equipment unit and riggers fixing the antennas to the tower.

The site preparation stage involves activities such as field testing, excavation, and construction foundations. This is followed by the delivery of pre-fabricated equipment housing and tower sections by low loader trucks, which are then fitted into place by a crane and fixed to the footings. Lastly, the antennas are installed on the tower by riggers and connected with the rest of the outdoor equipment unit and other equipment by qualified technicians.

Any traffic impacts associated with construction will be of short-term duration and are not anticipated to adversely impact on the surrounding road network. In the unlikely event that a road closure would be required, the Carriers would request permission from the relevant authorities.

Noise and vibration emissions associated with the proposed facility will be limited to the construction phase outlined above. Noise generated during the construction phase will be of short duration and will be in accordance with the standards outlined in the Environmental Protection Regulation 1998 and Environmental Protection (Noise) Policy 1997. Construction works will only occur between the hours of 7.00am and 6.00pm or as prescribed in the conditions of any development consent.

There will be some low-level noise from the ongoing operation of the air conditioning equipment associated with the outdoor equipment unit once installed. Noise emanating from the air conditioning equipment is at a comparable level to a domestic air conditioning installation and will generally accord with the background noise levels prescribed by Australian Standard AS1055.

5 Commonwealth Legislative Framework

5.1 Telecommunications Act 1997

The *Telecommunications Act 1997* (Cth) is a federal regulation of telecommunications facilities and the activities of carriers and service providers. Schedule 3 of the *Telecommunications Act* allows carriers to enter on to land and exercise limited defined powers, which include the power to:

- inspect the land to determine whether the land is suitable for the carrier's purposes;
- install a low-impact facility on the land; and
- maintain a facility that is situated on the land.

Schedule 3 of the *Telecommunications Act* exempts carriers from the requirements of State and Territory environmental and planning legislation in some circumstances, including where telecommunications facilities fall under the *Telecommunications (Low-Impact Facilities) Determination 2018* ("the Determination"). In this instance, Optus seeks to erect a telecommunications facility that is not believed to fall within the definition of a "low-impact facility" as defined in the Determination.

5.2 Telecommunications Code of Practice 2018

In exercising the powers given under the *Telecommunications Act*, carriers are required to act in accordance with best engineering practice, comply with recognised industry standards and minimise adverse impacts as much as practicable. The requirements for carrier conduct are outlined in the *Telecommunications Code of Practice 2018* ("the Code").

The Code requires carriers to ensure that design, planning and installation of facilities are in accordance with best practise. Under the Code "best practice" is defined as "using the best available design, planning and location practices to minimise the potential degradation of the environment and the visual amenity associated with the facility".

The facility would comply with the requirements of the Code.

5.3 Telecommunications (Low-impact Facilities) Determination 2018

The Telecommunications (Low-impact Facilities) Determination 2018 came into effect on 2nd March 2018 and the Amendment to the Determination (Temporary Facilities) came into effect on 2nd April 2020.

The Determination contains a list of Telecommunications Facilities that the Commonwealth will continue to regulate. These are facilities that are essential to maintaining telecommunications networks and are unlikely to cause significant community disruption during their installation or operation. These facilities are therefore considered to be 'low-impact' and do not require planning approval under State or territory laws.

The proposed facility at Lot 20032 Bencubbin-Kellerberrin Road, South Trayning WA 6488 does not fall under the Determination and, therefore, requires approval under State planning legislation.

5.4 Industry Code C564:2020 Mobile Phone Base Station Deployment

In response to requests for greater council and community involvement in relation to the installation of the telecommunications facilities, the Communications Alliance Limited (formerly the Australian Communications Industry Forum Limited) was formed by the Australian Communications Industry to ensure a unified approach in the rollout of telecommunications networks.

The Communications Alliance developed an industry code of practice which is reviewed regularly to ensure the highest quality of standards in industry practice relating to the roll out of mobile radio communications equipment. The current code is known as the *Industry Code C564:2020 Mobile Phone Base Station Deployment* (“the Deployment Code”). The Deployment Code replaces the previous code of practice from 2018.

The Deployment Code cannot change the regulatory and legislative regime at the local, state, or federal level. However, it can supplement the existing requirements already imposed on carriers by requiring them to consult with the local community and to adopt a precautionary approach in planning, installing, and operating mobile communications infrastructure.

The proposal is not considered a low-impact facility as prescribed by the Determination and is therefore subject to local and/or state planning processes requiring consent.

Nevertheless, careful consideration and the principles of the ‘precautionary approach’ have been applied in the siting of the proposed infrastructure. This takes into consideration the surrounding context, proximity to community sensitive locations, coverage objectives, and EME exposure which is well within the guidelines of the Australian Standard.

6 Western Australia Legislative Framework

6.1 Planning and Development Act 2005

The Minister of Planning and Infrastructure has ultimate authority for town planning in Western Australia. Development within Western Australia is controlled by the Planning and Development Act 2005 through the application of environmental planning instruments. Under the Planning and Development Act 2005, the Western Australian Planning Commission (WAPC) is the responsible authority for land use planning and development matters and this report seeks to demonstrate compliance with the WAPC and other items of relevant legislation which pertain to the subject application.

6.2 Statement of Planning Policy No. 5.2 – Telecommunications Infrastructures

The Western Australian Planning Commission issued the *State Planning Policy No 5.2 – Telecommunications Infrastructure* (SPP 5.2) which provides a framework for the preparation, assessment and determination of applications for planning approval of telecommunications facilities within the context of the planning system of Western Australia. The policy acknowledges that “adequate and reliable telecommunications are essential for all aspects of contemporary community life, from supporting the State’s economy to creating and maintaining connected and cohesive social networks”. It goes on to state that “contact between emergency services and the community increasingly relies on the telecommunications networks”.

The Policy outlines a number of key issues for consideration by consent authorities (where relevant) and carriers in the determination of the design and siting of telecommunications facilities. These matters have been taken into account as part of the site selection and design for the proposal, these are discussed in more detail below.

Table 2: Table of compliance with the SPP 5.2 measures.

Specific Measures	Complies	Comment
<p><i>Telecommunications infrastructure should be sited and designed to minimise visual impact and whenever possible:</i></p> <p>a) <i>be located where it will not be prominently visible from significant viewing locations such as scenic routes, lookouts and recreation sites;</i></p> <p>b) <i>be located to avoid detracting from a significant view of a heritage item or place, a landmark, a streetscape, vista or a panorama, whether viewed from public or private land;</i></p> <p>c) <i>not be located on sites where environmental, cultural heritage, social and visual landscape values maybe compromised and</i></p> <p>d) <i>display design features,</i></p>	Yes	<p>The proposed 50m lattice tower has been sited to maintain the primary use of the land whilst considering the visual impact to the surrounding area. Given the rural agricultural surrounding land uses, there will be no prominent impact on the surround land, views or landscape features.</p> <p>The proposed facility does not occupy a position that will obstruct views or sightline to any heritage item or place, landmark, streetscape, vista, or panorama.</p> <p>The proposed lattice tower will seek to minimise the visual impact of a telecommunications structure in the area. The lattice tower will remain unpainted (dull grey colour), which has over time been demonstrated to most successfully blend with the uniform colours of the site’s setting.</p> <p>The associated equipment will be</p>

<p><i>including scale, materials, external colours and finishes that are sympathetic to the surrounding landscape;</i></p>		<p>housed in outdoor equipment unit. The equipment unit would be in the standard colour, pale eucalypt. No additional landscaping has been proposed, however if considered necessary, this can be agreed or conditioned by Council as part of any development consent.</p>
<p>In addition to the existing exemptions under the Telecommunication Act, local governments should consider exempting telecommunications infrastructure from the requirement for development approval where:</p> <ul style="list-style-type: none"> a) The infrastructure has a maximum height of 30 metres from finished ground level; b) The proposal complies with the policy measures outlined in this policy; and c) The proponent has undertaken notification of the proposal in a similar manner to 'low impact facilities' as defined and set out in the Mobile Phone Base Station Deployment Industry Code (C564:2011); 	<p>N/A</p>	<p>Optus seeks approval for 50m lattice tower; therefore, the measure is not applicable to the proposed facility.</p>
<p>Telecommunications infrastructure should be located where it will facilitate continuous network coverage and/or improved telecommunications services to the community; and</p>	<p>Yes</p>	<p>Optus wish to establish a new mobile telecommunication base station facility in the area to provide the community with a far greater choice of mobile carrier services, as part of the Mobile Black Spot Program. As such, the facility will provide improved coverage to the surrounding area.</p>
<p>Telecommunications infrastructure should be colocated and whenever possible:</p> <ul style="list-style-type: none"> a) Cables and lines should be located within an existing underground conduit or duct; and b) Overhead lines and towers should be co-located with existing infrastructure and/or within existing infrastructure corridors and/or mounted on existing or proposed buildings. 	<p>N/A</p>	<p>No suitable opportunities for co-location were identified in the area and as such it has been identified that the proposed site location is seen as the preferred site location.</p> <p>As this is a greenfield site there is no option to utilise existing underground conduit or ducts.</p> <p>Overhead lines are not applicable to this application.</p>

7 Local Regulatory Framework

7.1 Shire of Trayning Scheme No. 1

The consent authority for development on the subject site is Shire of Trayning Council. The *Shire of Trayning Scheme No. 1* is the current planning instrument for development in the location of the proposed facility.

Under the scheme, the subject site is zoned 'Rural'. The development of a telecommunications infrastructure is not specifically mentioned within the Shire of Trayning Scheme No. 1 Zoning table nor can be reasonably determined as falling within the type, class nor genus of activity of any other use category. In these instances, the local government may determine that the use is or may be consistent with the objectives of the particular zone and is therefore permitted.

The installation of a telecommunications facility in this location is considered to be generally consistent with the objectives of the zone. The facility will be located within a portion of land that is not used for agricultural purposes. The facility will therefore not change the use of the land nor will it impact on the agricultural activities undertaken on the land.

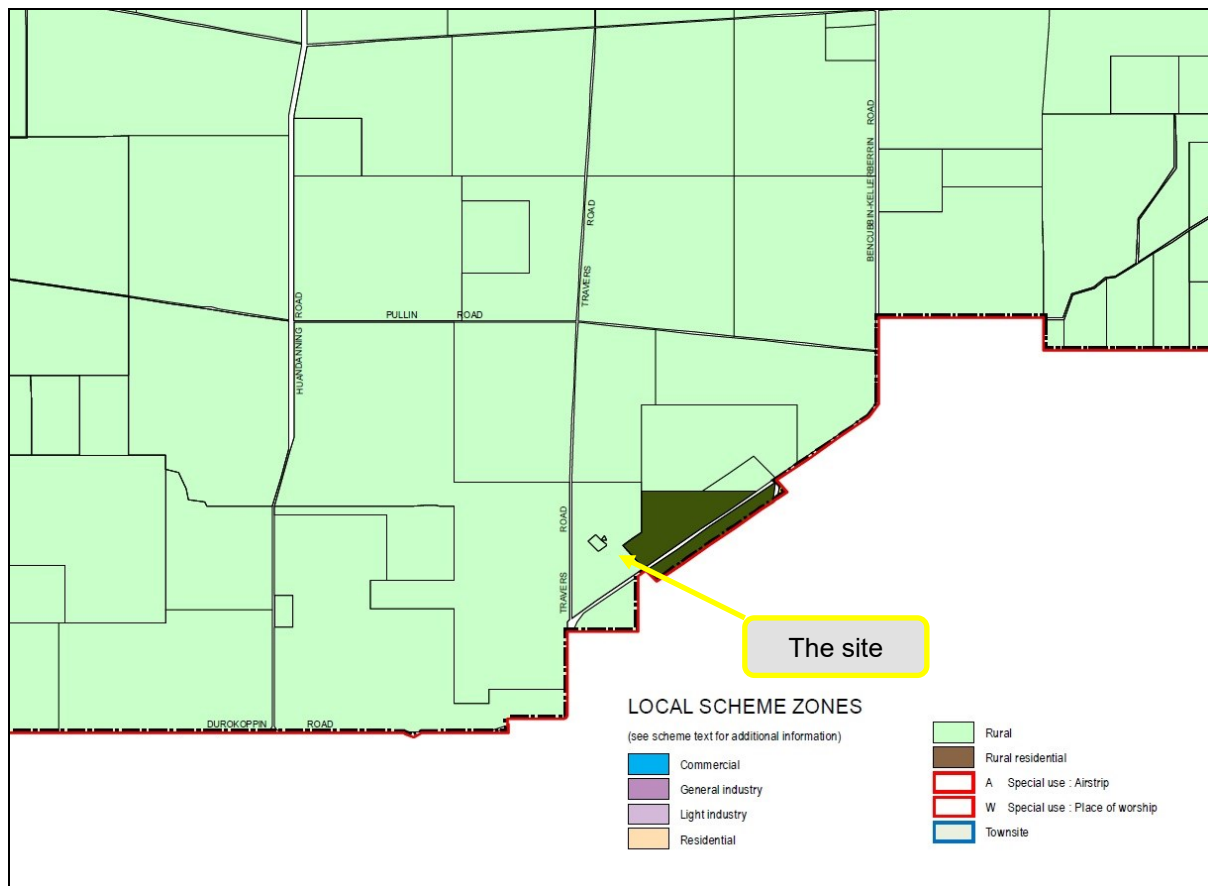


Figure 4: Zoning Map 03 Trayning South
(Source: Shire of Trayning)

The proposal has been sited to retain the land for its current use and minimise visual impact. The detailed siting has been undertaken to maintain the primary use of the land and any potential future use of surrounding land is not negatively impacted upon.

Overall, the proposed development application is consistent with the intent and requirements of Western Australian Planning Commission SSP 5.2 and the Shire of Trayning Scheme No. 1.

8 The Likely Impacts of the Development

The impacts of the proposal in relation to a range of potential issue areas are assessed below. It is considered that the proposal will not create any significant or unacceptable impacts on the locality.

8.1 Visual Character and Impacts

The proposed site is located within a rural setting. The proposed location has been selected to minimise any perceived negative impacts on the visual amenity of the area. The lattice tower is best left unpainted (dull grey in colour) so it blends in with the sky. The proposed site maintains significant separation distance to residential dwellings.

The proposed height is to ensure the proposal will meet coverage objectives of Mobile Black Spot Program. However, it is considered that the subject tower does not have substantial negative effects on the intrinsic character of the wider setting. As a result, this weighting factor is considered to have a neutral impact.

The visual impacts of the proposal on its overall visual catchment were considered to be moderate to low and acceptable regarding potential visual impacts. In our opinion the development application can be supported on visual impact grounds.

8.2 Access, Transport, and Traffic

The proposed facility would be situated on a land at Bencubbin-Kellerberrin Road, South Trayning WA 6488. Access to the site is to be via existing access track off Bencubbin-Kellerberrin Road.

It is considered that there is adequate space on-site to allow all constructions to be contained within the site boundaries. Limited vehicle movements will be associated with the installation and maintenance of the facility. Traffic in the local area will not be impeded by the installation of the proposed telecommunications facility on the site. No road closures will be required during the construction process. There will be no noticeable increase in traffic volumes.

Once the proposed facility is operational it will be unmanned and will only require regular maintenance approximately three times a year. Direct access to the site off Bencubbin-Kellerberrin Road will not require any additional management measures once constructed.

8.3 Utilities

Electricity is available from the nearby transformer pole located approximately 300m of the site. The details of the power run are shown in the plans enclosed as **Appendix B**.

The site does not require any water during operation and as the facility is unmanned, no wastewater is produced.

8.4 Heritage

The site does not contain any items of heritage significance.

8.5 Demolition and Construction

The proposal includes the installation of a new telecommunications facility on site. No demolition is required for the works. It is considered that construction will be undertaken in a short time frame. The majority of the works are internal works within the facility equipment cabin. Should Council be minded approving the application, all construction can take place within hours conditioned as part of any development consent.

8.6 Flora and Fauna

The site does not contain endangered or threatened species. It is considered the proposed development will not impact on any habitat within locality. A protected matters search under the Environmental Protection and Biodiversity Conservation Act 1999 is attached in **Appendix F** for further information.

The site is not located within environmentally sensitive area under section 51B of the Environmental Protection Act 1986.

Although the site is located on rural land, there are existing vegetation within the vicinity of the proposed facility. Majority of land occupied by the proposal is clear of vegetation, however a minor tree and shrubbery trimming and removal may be required during construction stage for the tower and accommodation of building protection zone (BPZ) as well as the installation of the proposed power route. The removal of vegetation will be kept to a minimum and only those that are in the vicinity of the proposed facility. The majority of the existing vegetation that is located on the subject land will be retained to ensure there is no significant impact on the local flora and fauna.

8.7 Bushfire Zones

The site is located within an area of remnant vegetation. As such there is potential for the facility to be at risk in the event of a bushfire in the area. However, the site would be unmanned when operational and hence would not pose a threat to human life in the event of a bushfire.

Additionally, the proposal would provide better community facilities in the event of an emergency. Optus is a part of a national emergency warning system called Emergency Alert. This service will send voice messages to landlines and text messages to mobile phones using the Optus network in areas at risk alerting them to imminent danger.

Given that telecommunications infrastructure is critical in the event of bushfire, it is crucial for the infrastructure to be designed in such a way as to minimise the impact of bushfires and ensure that communications capabilities are not compromised during bush fire emergencies. A 20m building protection zone (BPZ) around a tower and equipment cabinet would be suitable given a low level of bushfire risk.

8.8 Noise

The noise associated with the construction of the facility would not be significant. Construction would take place during the day and works would proceed in accordance with Council's noise controls.

There will be some noise associated with the operational stage of the development with the equipment shelter air conditioning units. The air conditioning is required to comply with Australian Standards for noise and will be comparable to a domestic air conditioning unit.

8.9 Technological Hazards, Health, and Safety

Optus takes the health and safety of the public very seriously.

The Carrier operates within the operational standards set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA is a Federal Government agency incorporated under the Department of Health and is charged with the responsibility for protecting the health and safety of both people and the environment from the harmful effects of radiation (ionising and

non-ionising). The operational standards are based on international standards set by the International Commission for Non-Ionizing Radiation Protection (ICNRP).

All Carriers ensure that their facilities are installed, designed and certified by qualified professionals in accordance with all relevant Australian Standards. This ensures that the Optus' facility will not result in any increase in the level of risk to the public. This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003.

In addition to this, the Carriers undertake further measures when designing the facility, to minimise the EME exposure to the general public, by installing the facility in accordance with the Australian Mobile Telecommunications Association (AMTA) Radio Frequency (RF) Safety Compliance Program – Base Station Design Guidelines Engineering for Access Control to minimise EME. Other preventative measures include:

- Utilising Dynamic/Adaptive Power Control network feature that automatically adjusts the power and hence minimises EME from the facility;
- Varying the facility's transmit power to the minimal required level, minimising EME from the network; and
- Discontinuous transmission, a feature that reduces EME emissions by automatically switching the transmitter off when no data is being sent.

The proposed facility will also have restrictions aimed at preventing public access, including a secured compound fence with a locked gate and warning signs placed around the facility.

The Environmental EME Report associated with this site is enclosed as **Appendix C**. The report shows that the maximum predicted EME levels will equate to 0.30% of the maximum exposure limit, which is significantly below the allowable exposure limit under the Australian Standard (100% – which is still considered to be safe).

Refer to Figure 5 below for EME predictions at various distances within 500m from the facility and 1.5m from ground level. The table illustrates the maximum predicted level from the proposed facility will be 0.30% at 345 metres from the subject site.

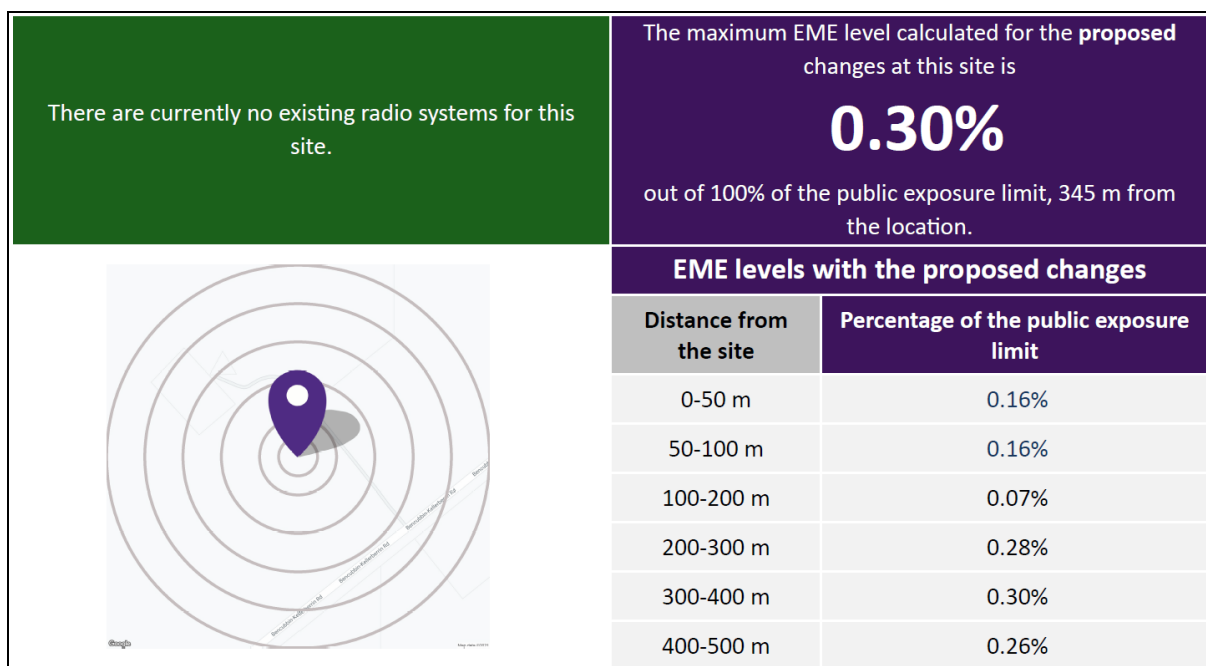


Figure 5: Calculated EME levels as detailed in the ARPANSA Environmental EME Report

This measurement is based on the maximum worst case scenario, considering direct exposure at full operational capacity of the facility which is generally not a true representation of a real-life scenario. The signal from the facility is usually affected by various factors including service demand, the existing network support of surrounding base stations, distance, topography, physical and natural barriers (e.g. hills, trees, buildings et cetera). Other variations include antenna specifications and azimuth, power input to name a few.

8.10 Economic and Social

The proposal would contribute to the provision of improved Optus coverage to South Trayning area and the greater Shire of Trayning LGA. The facility would provide economic benefits through improved services, a greater choice of service carriers, and by maintaining competition between providers will reduce costs to consumers.

The improvement in coverage and call quality would facilitate business opportunities from local operators and the ability of local residents to work from home. Improved service levels would also ensure better coverage for visitors and users of the nearby public recreation areas.

8.11 The Public Interest

The proposed development is in the public interest. Mobile phones are an important part of everyday life; people want to use their phones where they live, work, and play and expect them to operate effectively. Recent technological advances have led to a greater demand for improved mobile phone and wireless coverage, which in turn has led to greater demand for telecommunications infrastructure. The proposed facility is required as there is no sufficient mobile phone coverage in South Trayning and the surrounding areas.

A mobile phone base station that provides coverage to a geographic area is known as a 'cell'. Cells are aligned next to each other in a similar pattern to a honeycomb, and it is for that reason that mobile phone networks are sometimes referred to as a 'cellular' network. The capacity of the cell is often determined by a number of factors that may hinder its efficiency including the topography of the surrounding areas, physical constraints such as trees or buildings, or the cell's capacity to carry the call.

Each base station can only carry a finite number of calls and in areas where the residential density may not be as high, base stations will often be located on hills or tall structures to maximise the coverage area. When a mobile phone base station reaches capacity, its coverage area will shrink. Areas that previously had good network coverage will be left with poor and possibly no network coverage. The proposed facility will be supporting the existing facilities in the area ensuring that network coverage is extended to South Trayning and its surroundings.

Additional benefits that the infrastructure will have for the community include:

- Emergency calls and text alerts – Mobile phones are now the predominant way to access the triple zero service. Additionally, mobile phones will send a text message based on the last known location of the handset at the time of an emergency.
- Landline usage and ownership is declining at an increasing rate and more people now use their mobile phone to make triple zero calls than landlines. (67% of 000 calls made in 2017 came from mobile phones)
- The ability to have phone and mobile data coverage, particularly from within the home or office.
- Increase in the ability to work from home and home occupations.
- Mobile phones are beneficial in the case of road accidents or breakdowns.

- Meeting the demands of residents in the Shire of Trayning local government area, ensuring they have improved network coverage and access to the 4G technology.

It is considered that the safety and ability to assist in the case of an emergency, as well as providing the South Trayning community with 4G technologies, the demand and necessity far outweighs the negative impacts of the development. This proposal is therefore considered to be in the public interest.

8 Conclusion

The proposal is for the installation of a mobile telecommunications base station on land at Lot 20032 Bencubbin-Kellerberrin Road, South Trayning WA 6488. The proposed facility would form an integral part of the wider network. The proposed facility would provide an important community benefit to the Shire of Trayning LGA by providing improved and reliable communications services to the local community.

It is considered that the proposal is in accordance with the objectives of the Shire of Trayning Scheme No. 1 and other state and federal legislations, in particular the State Planning Policy 5.2 Telecommunications Infrastructure 2015.

The environmental impact assessment undertaken has determined that the proposal would not cause any significant environmental impact and would have minimal impact upon the amenity of the area.

Therefore, for the reasons stated above and having regard to the environmental planning assessment set out in this report, it is respectfully requested that Council grant development consent for the proposed works.

Appendix A – Certificate of Title

WESTERN



AUSTRALIA

REGISTER NUMBER	
20032/DP229771	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
1	8/3/2012

RECORD OF CERTIFICATE OF TITLE
 UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **2063** FOLIO **655**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts
 REGISTRAR OF TITLES



LAND DESCRIPTION:

LOT 20032 ON DEPOSITED PLAN 229771

REGISTERED PROPRIETOR:
 (FIRST SCHEDULE)

PETER WALLACE TILLER
 JULIE BETHWYN TILLER
 BOTH OF LOT 26 SPRING STREET, DOODLAKINE
 AS JOINT TENANTS

(T L838520) REGISTERED 20/1/2012

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
 (SECOND SCHEDULE)

1. THE LAND THE SUBJECT OF THIS CERTIFICATE OF TITLE EXCLUDES ALL PORTIONS OF THE LOT DESCRIBED ABOVE EXCEPT THAT PORTION SHOWN IN THE SKETCH OF THE SUPERSEDED PAPER VERSION OF THIS TITLE.
2. D965399 EASEMENT BURDEN SEE INSTRUMENT D965399. REGISTERED 14/12/1988.
3. G074841 EASEMENT TO WATER AUTHORITY OF WESTERN AUSTRALIA. SEE INSTRUMENT G74841. REGISTERED 11/1/1996.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
 * Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
 Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 2063-655 (20032/DP229771)
 PREVIOUS TITLE: 1818-598
 PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
 LOCAL GOVERNMENT AUTHORITY: SHIRE OF TRAYNING

END OF PAGE 1 - CONTINUED OVER

REGISTER NUMBER: 20032/DP229771

VOLUME/FOLIO: 2063-655

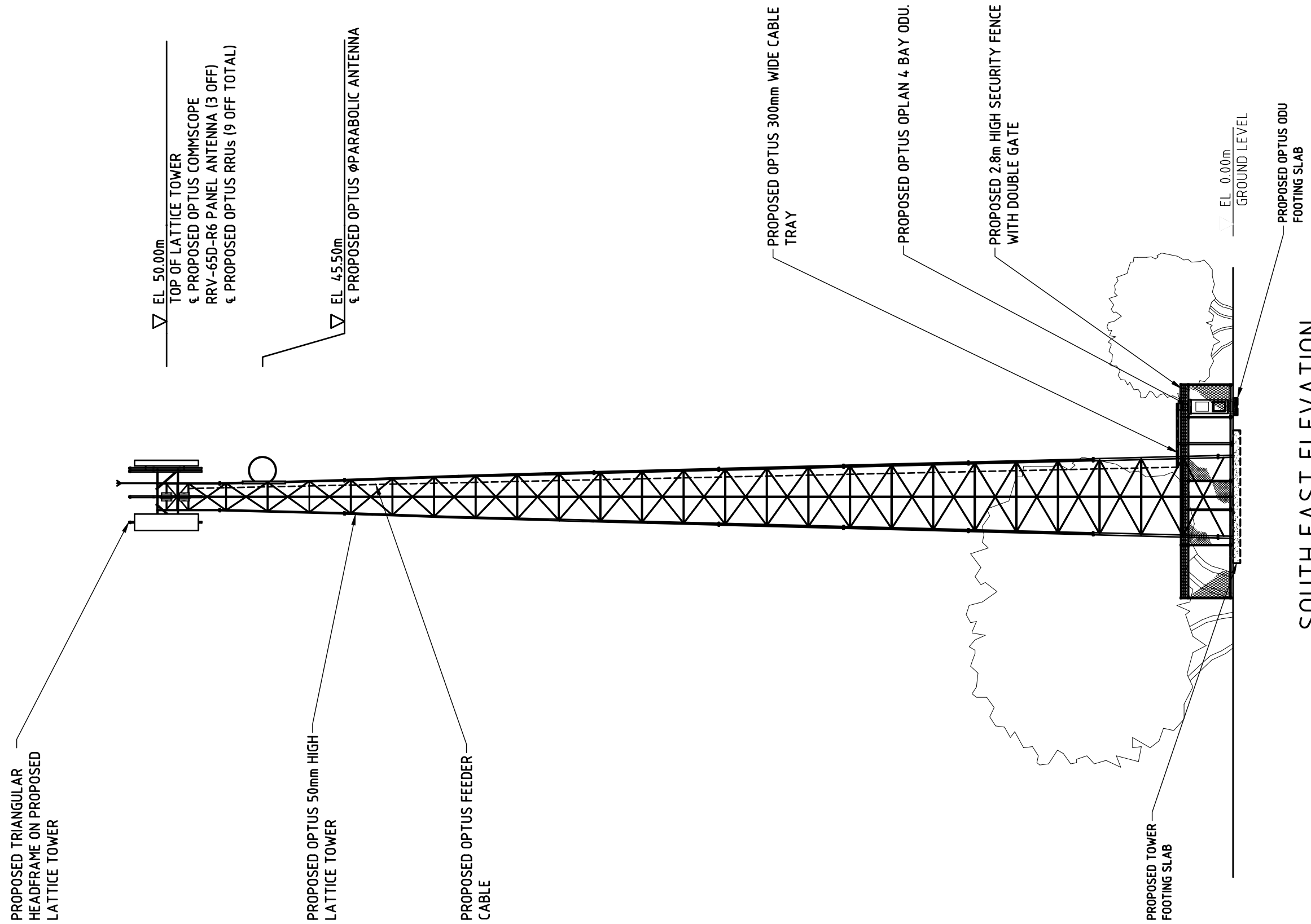
PAGE 2

NOTE 1: A000001A LAND PARCEL IDENTIFIER OF AVON LOCATION 20032 (OR THE PART THEREOF) ON SUPERSEDED PAPER CERTIFICATE OF TITLE CHANGED TO LOT 20032 ON DEPOSITED PLAN 229771 ON 24-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.

NOTE 2: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.

Appendix B – Plans of the Proposal

NOTE:
THIS DRAWING IS DIAGRAMMATIC ONLY
AND SHOULD NOT BE SCALED.



SOUTH EAST ELEVATION

SCALE 1:200

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	22.12.20	ISSUED FOR APPROVAL	CPS	YJ	RR	CT	JD



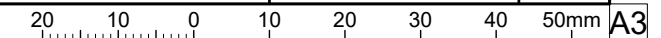
Client:
MOBILE NETWORK AUSTRALIA
SITE No:- P1115
NORTH KELLERBERRIN
TRAVERS RD, NORTH KELLERBERRIN, WA 6410

Drawing Title:
DRAFT SITE LAYOUT

Drawing Status:
FOR APPROVAL

Drawing No.
P1115-P2

Revision
A



Appendix C – Environmental EME report

Environmental EME Report

Location	Lot 20032 P229771, Bencubbin-Kellerberrin Road, SOUTH TRAYNING WA 6488		
Date	03/06/2021	RFNSA No.	6488004

How does this report work?

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Lot 20032 P229771, Bencubbin-Kellerberrin Road, SOUTH TRAYNING WA 6488. These levels have been calculated by Radhaz Consulting using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

A document describing how to interpret this report is available at ARPANSA's website:

[A Guide to the Environmental Report.](#)


A snapshot of calculated EME levels at this site

There are currently no existing radio systems for this site.

The maximum EME level calculated for the **proposed** changes at this site is

0.30%

out of 100% of the public exposure limit, 345 m from the location.



EME levels with the proposed changes	
Distance from the site	Percentage of the public exposure limit
0-50 m	0.16%
50-100 m	0.16%
100-200 m	0.07%
200-300 m	0.28%
300-400 m	0.30%
400-500 m	0.26%

For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at <http://www.rfnsa.com.au/6488004>.

Radio systems at the site

This base station currently has equipment for transmitting the services listed under the existing configuration. The proposal would modify the base station to include all the services listed under the proposed configuration.

Carrier	Existing		Proposed	
	Systems	Configuration	Systems	Configuration
Optus			3G, 4G	LTE700 (proposed), LTE900 (proposed), WCDMA900 (proposed), LTE2100 (proposed)

An in-depth look at calculated EME levels at this site

This table provides calculations of RF EME at different distances from the base station for emissions from existing equipment alone and for emissions from existing equipment and proposed equipment combined. All EME levels are relative to 1.5 m above ground and all distances from the site are in 360° circular bands.

Distance from the site	Existing configuration			Proposed configuration		
	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit
0-50m				1.82	8.83	0.16%
50-100m				1.85	9.10	0.16%
100-200m				1.26	4.20	0.07%
200-300m				2.29	13.86	0.28%
300-400m				2.39	15.18	0.30%
400-500m				2.26	13.55	0.26%

Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest, identified through consultation requirements of the [Communications Alliance Ltd Deployment Code C564:2020](#) or other means. Calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Maximum cumulative EME level for the proposed configuration

Location	Height range	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit
No locations identified				

Appendix D – Fact Sheet



COMMUNICATIONS TOWERS, RADIO TRANSMITTERS AND SAFETY

Information for communities and their parliamentary representatives

Radio transmitters—Are they safe?

Some people may have concerns about possible health effects from exposure to electromagnetic energy (EME) coming from radiocommunications transmitters on towers and elsewhere. This factsheet outlines the steps the Australian Government takes to keep Australians safe.

Exposure to radiofrequency (RF) EME has been the subject of detailed research by experts. Exposure limits are set well below the level at which adverse health effects are known to occur and include a wide safety margin to protect the public.

What is EME?

RF EME is the energy in radio waves, and is used for wireless communication. It has been in use for over 100 years. It is used to send and receive signals between communications equipment such as broadcast towers, radios and televisions, mobile phone towers and phones, radar facilities, and electrical and electronic equipment. It is also part of our natural environment.

How is EME regulated?

Two Australian Government agencies, the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the Australian Communications and Media Authority (ACMA), are responsible for regulating RF EME exposure.

ARPANSA is an independent Australian Government agency charged with protecting Australians from exposure to EME. ARPANSA is responsible for advising what safe levels of EME exposure are. ARPANSA has developed a public health standard which sets limits for human exposure to RF EME. The limits are set well below the level at which adverse health effects are known to occur and include a wide safety margin to protect the public. The exposure standards take into account the many sources of RF EME present in the modern environment.

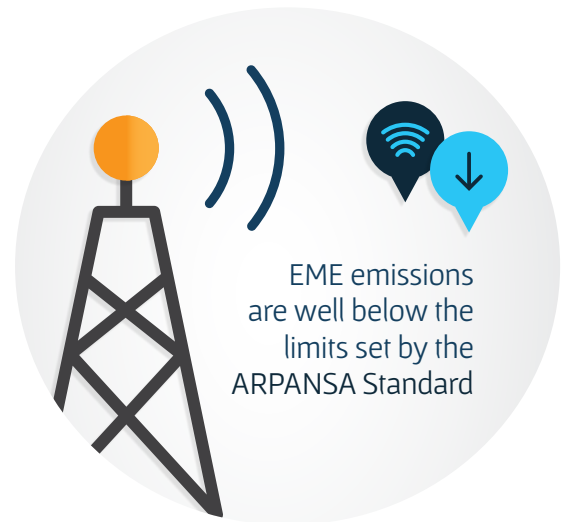
The ACMA licenses the operation of radiocommunications transmitters. Licences require transmitters to comply with the exposure limits set out in the ARPANSA standard.

How much EME comes from radio transmitters?

All transmitters must operate below ARPANSA's public exposure standard. Typically transmitters operate at a tiny percentage of the ARPANSA standard.

Is the scientific information on EME up to date?

ARPANSA maintains continual oversight of emerging research into the potential health effects of EME exposure in order to provide accurate and up-to-date advice to the Government. ARPANSA works with the World Health Organisation in researching the health effects of human exposure to EME. Should scientific evidence indicate that the current ARPANSA standard does not adequately protect the health of Australians, the Government would take immediate action to rectify the situation.



NBN wireless towers

Currently, as part of the rollout of the National Broadband Network (NBN), a number of new fixed wireless towers are being built across Australia. These are subject to the same strict EME safety limits set by ARPANSA. As such, exposure to EME should not be a concern.

People can, however, also be concerned about the appearance of towers and their visual impact in their communities. This can also be the case with other facilities, for example mobile phone base stations. Approvals for the installation of free standing telecommunications towers are subject to state, territory and local government planning laws. NBN Co is required to follow the processes for community and local government consultations set out in these laws. People with concerns about proposed NBN towers should raise their concerns during the consultation process for each tower.

Where can I find out more information?

Further information is available from the following expert bodies:

Australian Radiation Protection and Nuclear Safety Agency

www.arpansa.gov.au

Australian Communications and Media Authority

www.acma.gov.au/Citizen/Consumer-info/Rights-and-safeguards/EME-hub

World Health Organisation

www.who.int/topics/electromagnetic_fields

International Commission on Non-Ionising Radiation Protection (ICNIRP)

www.icnirp.org

You can also find out more about transmitters in your community, including EME reports and community consultation information, from the Radio Frequency National Site Archive

www.rfnsa.com.au

Appendix E – EPBC Act Protected Matters Search



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 09/07/21 23:02:02

[Summary](#)

[Details](#)

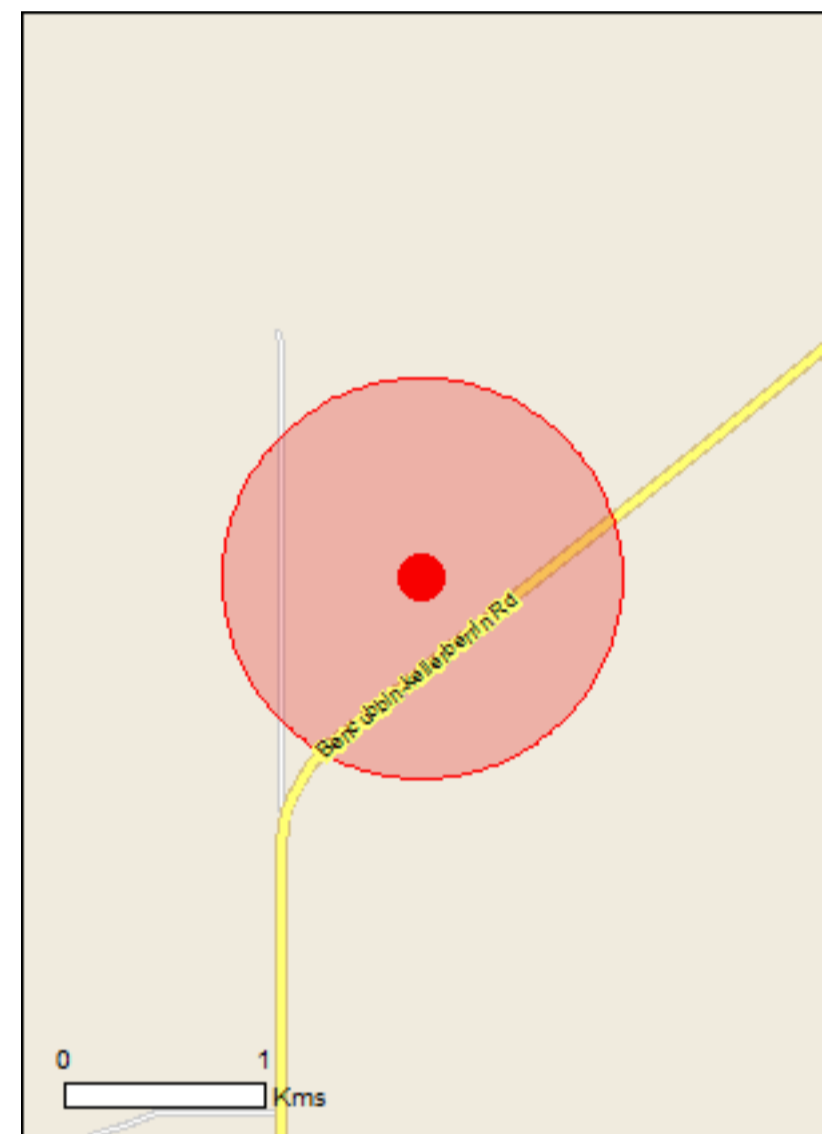
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

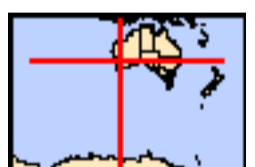
[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
(Geoscience Australia), ©PSMA 2015

[Coordinates](#)

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	14
Listed Migratory Species:	6

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	10
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	14
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [\[Resource Information \]](#)

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Eucalypt Woodlands of the Western Australian Wheatbelt	Critically Endangered	Community likely to occur within area

Listed Threatened Species [\[Resource Information \]](#)

Name	Status	Type of Presence
------	--------	------------------

Birds

Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
---	-----------------------	--

Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Breeding likely to occur within area
--	------------	--------------------------------------

Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
---	------------	--

Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
--	------------	--

Mammals

Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area
---	------------	--

Phascogale calura Red-tailed Phascogale, Red-tailed Wambenger, Kenngoor [316]	Vulnerable	Species or species habitat likely to occur within area
--	------------	--

Other

Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat likely to occur within area
--	------------	--

Plants

Boronia adamsiana Barbalin Boronia [16935]	Vulnerable	Species or species habitat may occur within area
---	------------	--

Dasymalla axillaris Native Foxglove [38829]	Critically Endangered	Species or species habitat may occur within area
--	-----------------------	--

Eremophila viscida Varnish Bush [2394]	Endangered	Species or species habitat may occur within area
---	------------	--

Name	Status	Type of Presence
Grevillea dryandroides subsp. hirsuta Hairy Phalanx Grevillea [64577]	Endangered	Species or species habitat likely to occur within area
Guichenotia seorsiflora [82693]	Critically Endangered	Species or species habitat may occur within area
Melaleuca sciotostyla Wongan Melaleuca [24324]	Endangered	Species or species habitat may occur within area
Roycea pycnophylloides Saltmat [21161]	Endangered	Species or species habitat may occur within area

Listed Migratory Species [[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur

Name	Status	Type of Presence Agenda Attachment 9.1.1b within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-31.37002 117.7597

Acknowledgements

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- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

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Please feel free to provide feedback via the [Contact Us](#) page.

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