

Statement of Environmental Effects

Application for Development Consent

Proposed Telecommunications Facility at
804 Castlereagh Highway, Menah NSW 2850
Lot 12, DP 251719

Prepared by Waveconn

September 2023



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1 EXECUTIVE SUMMARY

1.1 Site and Proposal Details

Address of Site	804 Castlereagh Highway, Menah NSW 2850
Legal Property Description	Lot 12, DP 251719
Local Authority	Mid-Western Regional Council
Local Environmental Plan	Mid-Western Regional Local Environmental Plan 2012
Zone and Overlay	Land Zoning <ul style="list-style-type: none"> • R5 – Large Lot Residential
Use	Telecommunications Facility

1.2 Applicant Details

Applicant	Waveconn City West Office Park Suite 3.02, Level 3, Building B 33-35 Saunders Street, Pyrmont, NSW 2009
Contact Person	Chris Hayes Phone No: (02) 8405 7914 Email: chris.hayes@waveconn.com
Our Reference	Menah AN2850-002

2 INTRODUCTION

This report has been prepared by Waveconn for a proposed mobile telecommunications facility. Waveconn holds the Carrier Licence of Stilmark Holdings for the purposes of the *Telecommunications Act 1997 (Cth)* and operates as an infrastructure provider or 'neutral host', whereby new facilities are sited, designed, acquired, built and maintained by Waveconn, but utilised by carriers - such as the mobile carriers - as part of their respective networks. Waveconn structures are purposely designed and constructed to allow for collocation of at least two or three carriers to occur.

Waveconn has identified an area of poor network coverage in the Menah area, including the large lot residential properties and home-based businesses, the Castlereagh Highway heading north-west out of Mudgee, and the nearby areas such as Wilbertree Flat and Cullenbone. As such, the mobile Carriers will require the installation of a new telecommunications facility in the local area. A new telecommunications facility located off Castlereagh Highway would address the identified mobile coverage deficiencies in the area, whilst also providing the capacity needed for future use and expansion.

Waveconn submits the following report as supporting information to a Development Application for the installation of a 30 metre high telecommunications facility at 804 Castlereagh Highway, Menah, more formally known as Lot 12 on DP 251719.

This report addresses the merits of the development with regard to the provisions of the Mid-Western Regional Local Environmental Plan 2012, along with the relevant State and Federal planning policies applicable to the site location. The planning principles for telecommunications facilities set out in the NSW Telecommunications Facilities Guideline Including Broadband 2010 have also been taken into account. This SEE also provides a background to mobile networks, electromagnetic energy (EME), the purpose of this particular proposal, the site selection and the site characteristics.

3 THE PROPOSED DEVELOPMENT

The proposed telecommunications facility at 804 Castlereagh Highway is comprised of the following:

- The construction of a new 30 metre high slimline monopole;
- A 12m x 12m compound area, to house future electrical equipment units; and
- The installation of power to the proposed site compound.

The proposed monopole will be constructed of steel, and be grey in appearance to blend with the surrounding environment. Equipment will be of non-reflective finishes. The future equipment units are proposed to be coloured 'eucalypt green' to blend with the surrounding vegetation.

Refer to Site Plans attached at Appendix 1.

4 PURPOSE OF THE PROPOSAL

Waveconn is proposing the facility to cater for the existing, and projected future, need by the carriers in this area, and forms part of a larger strategic program across the state. As such, the proposal represents strategic and practical forward planning based on projected future need - an approach which, for this type of infrastructure, has generally not occurred in the past.

However, it is critical to note that as Waveconn is an infrastructure owner and provider, it will not build the structure until a carrier elects to locate on it - that is, the structure will not be speculatively built in the hope it will be collocated on. As such, there will be no impact - visual or otherwise - from the

structure until there is a need for it to be constructed. To that end, Council and the community do not need to be concerned that unnecessary structures will be constructed, regardless of whether there is an approval in place. Notwithstanding, Waveconn is confident that there will be a demand in time for the proposed structure and seeks an approval on that basis.

Once the structure is in place, it will also be suitable and available for collocation by a second (or potentially third) carrier. This preference and preparation for collocation will also help to minimise the number of such structures in the council area and give Council an improved basis on which to drive collocation when new facilities (by others) are proposed.

In terms of existing and future requirements, the coverage in the area is generally poor. There are no mobile phone base stations within approximately 6.5 kilometres of the proposed site location. It is not possible to adequately and efficiently service the area around the proposed location from existing facilities. Data services, in particular, are unreliable and throughput speeds slow. It is imperative that a new telecommunications facility be installed to service the exponential demand in mobile telecommunications services into the future, and provide efficient services to the current users in the vicinity and motorists along major roadways.

Image 1, below, shows an extract from www.rfnsa.com.au, which is an online database of all existing and proposed facilities in Australia. As indicated on the extract, the proposed facility (marked with a blue circle) is approximately 6.5 kilometres from all existing telecommunications facilities, with the closest being a facility housing Optus, Telstra and Vodafone equipment, located at Perry Street in Mudgee. The surrounding facilities are shown with a red outline, while a historic proposed site which did not progress is shown as a yellow circle. This shows there is a substantial coverage 'hole' within these existing surrounding sites, including the areas surrounding the proposed site location.

The lack of telecommunications infrastructure in the local area is putting a major strain on the existing Carrier networks in the surrounding area. This lack of infrastructure becomes even more crucial with the introduction of 5G technology, whereby facilities need to be located closer to each other than for previous 3G and 4G Networks.

Mobile telecommunications connectivity has significantly grown in importance since the introduction of smart phones and tablets. These devices, with increased mobile broadband speeds, capacity and capability, are changing the way we live and operate our day to day lives and businesses. The availability of high-speed, reliable, mobile telecommunications services is becoming an expectation of Australia's population, both in CBD and rural locations.

This facility is part of ongoing Network improvements in the area, to provide significant enhancements to the mobile telecommunications services of the local area. The improvements to the local Network also include the addition of and ability to provide 5G Network services now and in the future. Additional infrastructure is being investigated to the west of Mudgee, and around the Caerleon area.

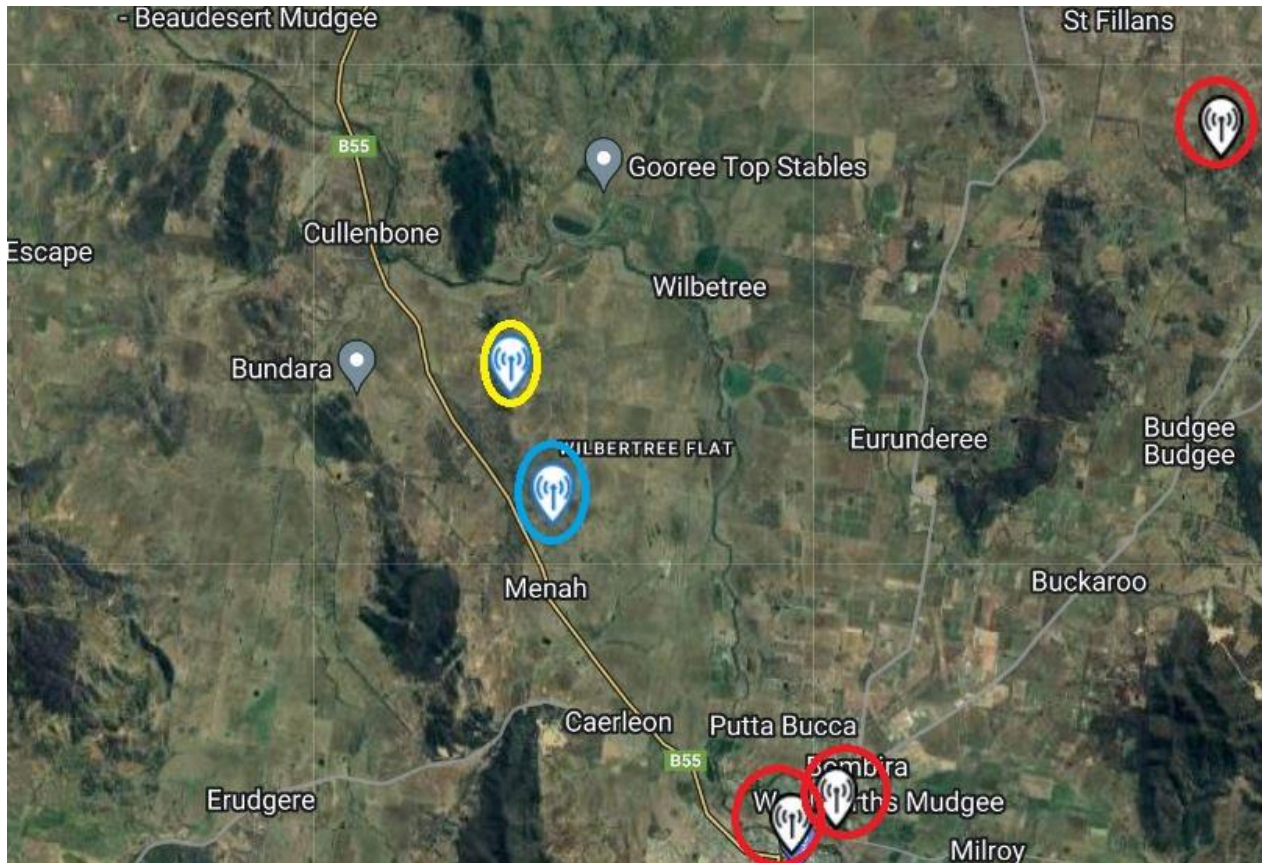


Image 1: Proposed location (blue circle) and surrounding facilities (red circles)

The new facility is well placed to allow for new and improved coverage and services to the area.

Given the total lack of existing telecommunications infrastructure, collocation is also not an option for addressing future requirements and a new structure will be required.

Waveconn's proposed facility will also help to ensure the continued growth of, and competition within the telecommunication industry; resulting in accountable practice and affordable prices for mobile users.

5 MOBILE TELECOMMUNICATIONS NETWORKS

Mobile telecommunications networks are made up of a number of base station facilities (sites) covering a specific geographic area. The sites work by sending and receiving low power radio signals from their antennas to mobile phones and other mobile usage devices, including tablets, wireless internet devices etc. Essentially, base stations are designed to provide service to the area immediately surrounding the site – this can be up to several kilometres. The characteristics of each base station will vary, including their height, the number of antennas, the type of the facility, etc, depending on the specific technical objectives of the site.

It is generally understood that the higher the antennas at a base station, the greater it's range of coverage to the surrounding area. It is also a misconception that one or two sites can cover an entire surrounding area. Specific site location within the surrounding Network is an integral part of the burgeoning 5G Network. The further a facility is located away from its technically optimum position, the greater the compromise of

service. This may result in coverage gaps and require additional or taller base stations to provide adequate service. The 5G Network expansion explicitly has resulted in the need for base stations that are specifically located to provide the improved services to the surrounding users, in this instance specifically the residential, local businesses, and areas surrounding the location, as well as the local roadways and public recreation areas.

Base station facilities transmit and receive signals from mobile devices in the vicinity of the site. Mobile devices communicate with the nearest base station facility to them at all times, and if they cannot pick up a signal, the user may not be able to make or receive a call, may notice a significant slowing of data download speeds, or may experience call “drop outs”.

There are several reasons for the above service issues:

- The user may be too far away from a facility to receive a signal. To ensure the best level of service to the end user, radio signals ideally need to be unobstructed, and maintain a direct “line-of-sight” to the device.
- Call drop-outs and slow data download rates can occur when too many users are connected to a facility at once. This proposal will ensure the maximum number of users as possible will be able to connect to and utilise an efficient network.
- The ‘depth’ of coverage may be insufficient in some local areas. This impacts on the ability for use of some mobile devices in buildings or other areas that are influenced by local impediments (trees, walls etc)

The current proposal will form an integral part of Carriers existing and future 5G networks, as well as being able to provide enhanced coverage and services to current and future customers.

6 SITE SELECTION PROCESS

The selection of a new site is dictated by a number of specific factors.

Initially, a subject ‘search area’ is put forward: this is a specific area whereby a new facility would be anticipated to provide the necessary network services/improvements/future capability to the surrounding locality. Due to the technical operations and requirements of Carriers mobile telecommunications networks, this search area can be as small as 100-200m in radius around a specific location.

Waveconn then begins the formal site selection process. This involves a search of possible site locations that will meet the network technical requirements, including the ability to integrate into the existing and proposed network, and to provide for network expansion into 5G. There are a number of criteria that are evaluated as part of this site selection process, including the ability to enter into a tenure agreement with landowners, and the necessary town planning requirements of a new facility.

Technical computer modelling is undertaken to review whether the proposed subject site would adequately meet the network objectives of a new site in the area. This involves the expected coverage propagation from the site location, and essentially dictates the equipment necessary, and the type and height of the proposed facility. As some Networks can be ‘linked’ together via microwave transmission dishes, the ability to connect to a nearby site location (whether this be existing or proposed) is also of paramount importance to the location of any new facility.

Due to the very specific requirements of a new site location, specifically the need to integrate effectively into the existing and future network arrangements, new site options are often limited.

7 JUSTIFICATION FOR SITE SELECTION

Waveconn have investigated the possible deployment options in the nominated area, and concluded that a new telecommunications facility at 804 Castlereagh Highway, would be an appropriate solution to provide for the necessary Carrier improvements in the area.

This section of the report will outline the following:

- Colocation opportunities and existing telecommunications infrastructure within proximity to the proposed installation; and
- An analysis of the proposed location and why it has been selected to site the new Waveconn facility.

Colocation opportunities

The Communications Alliance Ltd. (formerly Australian Communications Industry Forum Ltd. - ACIF) *Industry Code C564:2020 – Mobile Phone Base Station Deployment* promotes the use of existing sites where possible.

In this instance, there are no existing and/or proposed telecommunications facilities in the greater surrounding area, shown in Image 1 above. The closest existing telecommunications facility is almost 6.5km from the proposed site location, and is too far distanced from the areas requiring coverage improvements to adequately better the services in this location. The existing telecommunications facilities in the distant areas have been in place for a number of years, and have been able to provide telecommunications services for Carrier's original networks throughout the local area (these original networks have included 2G and 3G networks). Importantly, these original network facilities were not intended to provide for the updated technological services that are provided through 4G and 5G Networks.

As is visually apparent, there is currently a significant 'hole' within the existing mobile telecommunications facilities in the greater area. This proposed facility at 804 Castlereagh Highway provides for a centrally located facility. A site in this location will be able to effectively and efficiently deliver the mobile telecommunications services necessary to the surrounding area, both now and into the future.

The existing telecommunications facilities in the area are unable to provide the depth of coverage and capacity into the areas surrounding the proposed site location, and a new facility is critical to enhancing the availability of Carrier's Networks, as well as integrating into the surrounding Network of sites. Due to the nature of telecommunications facilities and improvements in mobile telecommunications equipment, it is necessary for facilities to be located in proximity to the areas they are providing services to. Existing sites in the area are too far distanced to provide the services required by this new facility.

Further, Carrier telecommunications facilities are often linked via microwave radiocommunications dishes. These require direct line of site to existing and/or proposed sites in the network. As new sites are added to the network, specifically for the 5G rollout, the ability to link into the adjoining network sites is integral to the operation of the entire local network. The proposed site location at Castlereagh Highway ensures that the Carriers can connect to their extended local network of existing and future telecommunications facilities.

The main requirement for a new telecommunications facility in the area is to accommodate the combination of;

- improved coverage and services to the surrounding area, including residents and motorists;
- facilitating the requirements necessary to upgrade to the latest mobile technologies, along with preparing for 5G network rollouts; and
- helping the surrounding facilities integrate effectively into the greater Network of sites by helping capacity and connectivity issues in areas with limited service.

To accommodate the above-mentioned service improvements, and future technology equipment, a new structure is necessary.

There were no suitable colocation opportunities to provide for the required radio frequency coverage objectives in this instance.

Proposed site location

Following investigations into a location that would provide a site to adequately service the needs of the Carrier's existing and future networks, the proposed site location was chosen as 804 Castlereagh Highway. The proposed site location offers the necessary height, whilst importantly being central to the area where Carriers require coverage improvements.



Image 2: Proposed site location, 804 Castlereagh Highway, Menah – Source: Google Maps

The property at 804 Castlereagh Highway is a relatively regular shaped lot in this area, shown at Image 3, below. The proposed site location is towards the south-eastern property boundary, within a cleared area of land. This location provides easy access and power transmission, and ensures separation of at least 230m from any residential dwelling.



Image 3: 804 Castlereagh Highway, Menah – Source: NSW Planning Portal

It is proposed to access the site via the existing property access directly off Castlereagh Highway. There is adequate space on site for service vehicle parking, and due to the minor occurrence of service visits, approximately 4 visits per year, there will be no impact on surrounding roadways.

The proposed site location is setback approximately 600m from Castlereagh Highway, and whilst being near the property boundary, has distance separation of over 200m from all existing and adjoining dwellings, with the majority being well over 300m from the site location

When viewed from surrounding roadways and properties it is understood that the proposed facility will be visible to varying degrees. It is the inherent nature of a telecommunications facility that it is above the areas that are requiring coverage improvements, and it is not always possible to hide or screen a facility. The site location is not considered to be out-of-place for a facility such as what is proposed, and the location provides for distance separation to nearby dwellings. Vegetation along the surrounding roadways and on nearby properties will assist in minimising visual impact of the facility to some degree.

Waveconn have concluded that a new facility at 804 Castlereagh Highway is appropriate to pursue following significant technical investigations into Carriers requirements of a new site in this area. The ability to secure adequate tenure arrangements with the land owner, ease of site access and construction, and environmental planning issues have all been considered in the selection of this site. It is submitted that the site is accessible, will result in minimal impact on the amenity of the area, and is technically viable – including the necessary requirements to be able to provide for the mobile Carriers existing and future network growth, integration into the 5G network, and connection with nearby network facilities. The proposed site location is centrally located to the areas that will benefit from improved coverage and mobile telecommunications services, and will provide an overall benefit to the surrounding community.

8 SURROUNDING AREA AND VISUAL IMPACT

The proposed site location is approximately 600m east off Castlereagh Highway, and is accessed via the existing driveway to the property, and then through the open paddock. The subject property has a number of outbuildings and sheds on it, along with the primary residential dwelling. The property retains a rural-residential feel, with its large open spaces, and has stands of vegetation on the western property frontage, as well as scattered around the residence and the north-eastern corner of the property.

The subject property is typical of other properties in the greater surrounding area, being large-lot residential, most of these comprise a residential dwelling, outbuildings, sheds etc, often with a rural agricultural use or production use.

The density of residential dwellings in the immediate vicinity is low, with approximately 14 residences within the surrounding 700m radius of the proposed site location. It is accepted that some of these properties on higher elevations will have vision of the proposed facility, however it is expected that the facility will be seen with a backdrop of distant vegetation. The undulating terrain in the near and distant environment plays an important role in both the requirement for a new facility in this area, and also in helping to mitigate visual impact to some degree. The proposed facility is sited in an area that provides some distance separation from dwellings, and is considered to be an appropriate location for a utility use such as this.

It is acknowledged that due to the nature of a telecommunications facility, it may be seen to varying degrees in the surrounding area. However, due to the terrain in the surrounding area, views of the proposed facility by motorists travelling along Castlereagh Highway, and by a number of dwellings in the immediate vicinity, will be minimised as much as is possible.

Viewed from the North:

When viewed from the immediate north, it is expected that the proposed facility will be visible to varying degrees due to the elevation of the land, as well as some nearby vegetation. It is understood that the upper portions of the facility will be visible above this vegetation, however the facility will have the distant background of vegetation from the hills beyond.

To the north-west, particularly along Castlereagh Highway, it is expected that the significant mature vegetation that lines the roadway will mitigate and reduce visual impact to a high degree when travelling in a southerly direction. See images 4 and 5 below.



Image 4: View towards the proposed site location from Castlereagh Highway, approximately 800m north-east – Source: Google Maps



Image 5: View towards the proposed site location from Castlereagh Highway, approximately 1km north-east – Source: Google Maps

Viewed from the South:

Similar to views from the immediate North, in close proximity to the facility in a southerly direction, it is expected that a large portion of the upper monopole will be visible from some properties. The proposed site location is, however, afforded a significant degree of distance separation, with the nearest dwelling to the south being almost 400m away. This, combined with a lower elevation, will assist in mitigating the visual impact from those in closest proximity. Properties further to the south-east will benefit from the hills and vegetation as a backdrop to the proposed facility.

As can be seen from image 6, below, the distance separation of the proposed facility from nearby dwellings will play a significant role in reducing visual impact of the proposed facility. At approximately 700m south on Tuckermans Road, it is not expected that the proposed facility will provide a high degree of visual impact due to distance separation and the background of vegetation to the north.



Proposed
site location
(beyond)

Image 6: View towards the proposed site location from Tuckermans Road, approximately 700m south – Source: Google Maps

The impact of the distance separation and undulating terrain in the surrounding environment is highlighted in image 7, below. At a distance of approximately 1km south, the proposed facility will not be seen due to the changes in elevation. While rising over the crest it is understood the facility will be visible to a degree, it will not be a constant view, and will be seen with distance separation from Castlereagh Highway by motorists. This image also shows the vegetation that commonly borders the Castlereagh Highway when travelling through the nearby area.



Image 7: View towards the proposed site location from Lower Piambong Road, approximately 1km south – Source: Google Maps

The undulating terrain does also, on occasion, provide for properties that are at an elevation that will look down and across the proposed facility. As can be seen at image 8, below, the elevation of some properties to the south-east will mean they have vision towards the proposed facility. These views will be down and across, and will also have backdrops of hills and vegetation in the distance.

The ongoing impact of the undulating terrain is highlighted at image 9, which is taken only 250m further south-east than image 8. When viewed from this vantage point on Tuckermans Road, the proposed facility is not expected to be visible due to the lay of the land. Any vision of the proposed facility from this area would be the upper most portion only, protruding above the undulating terrain.



**Image 8: View towards the proposed site location from Crossings Road, approximately 530m south-east –
Source: *Google Maps***



Image 9: View towards the proposed site location from Tuckermans Road, approximately 800m south-east
– Source: *Google Maps*

When viewed from the south-west, the proposed facility is expected to be visible, however in an assuming environment, and with distance separation and the surrounding natural environment as a backdrop.

As can be seen in images 10 and 11 below, when viewed from Castlereagh Highway to the south-west, the facility will be afforded a number of additional vertical elements in the surrounding environment that will assist it to blend with its surrounds, as well as being seen with the backdrop of hills and vegetation.

It is accepted that there will be some vision of the facility, however due to the terrain it will be for a limited number of properties, and for a limited duration when travelling along Castlereagh Highway. It is considered an appropriate site location for such a facility, within a predominately rural environment with distance separation from nearby dwellings.



Image 10: View towards the proposed site location from Castlereagh Highway, approximately 500m south-west – Source: *Google Maps*



Image 11: View towards the proposed site location from Castlereagh Highway, approximately 700m south-west – Source: *Google Maps*

Viewed from the East:

Due to the terrain to the immediate east of the proposed site location, views from the properties in closest proximity will be the most prominent. The terrain to the east of the site location rises to a crest where a handful of dwellings can be found. These dwellings will have vision down and across the proposed facility, however will view it with the backdrop of hillsides and vegetation, as can be seen in image 12 below. The proposed facility is also distanced by at least 350m from the nearest residential dwelling to the east.

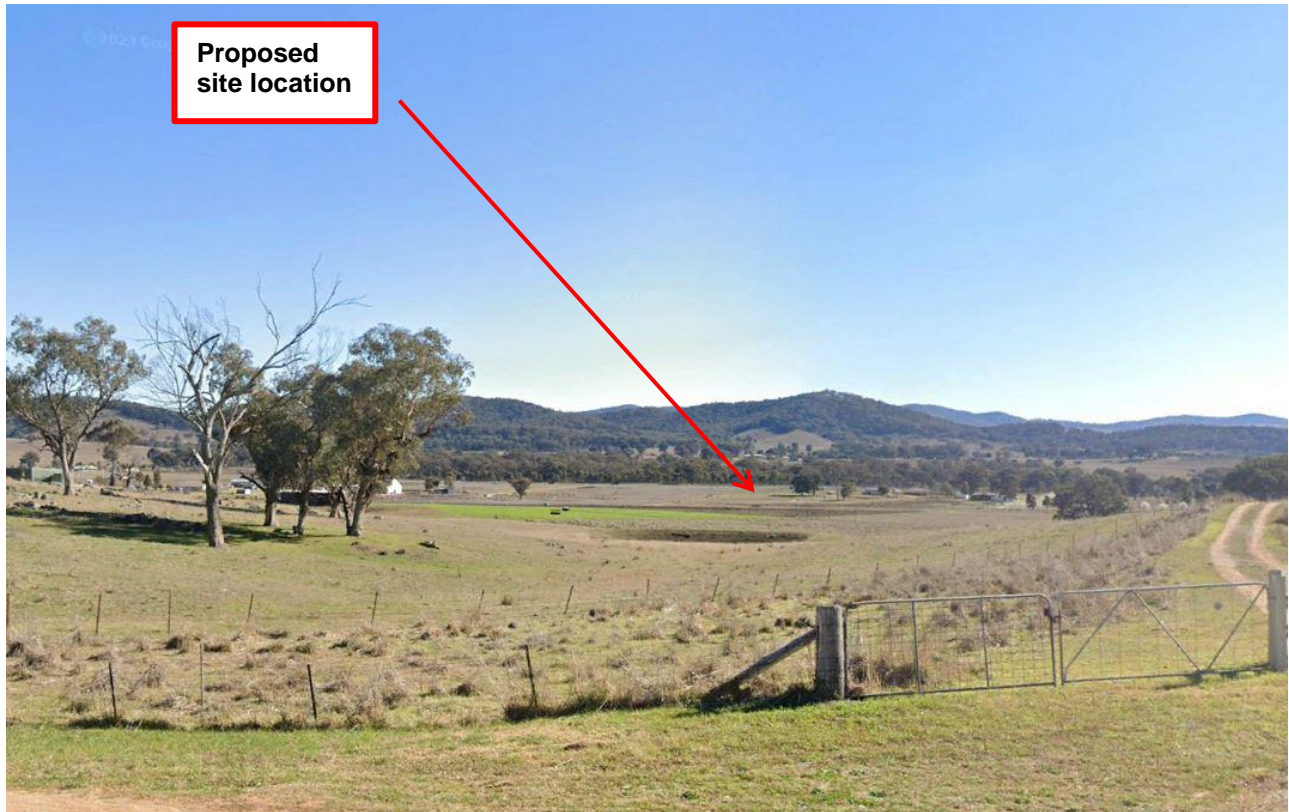


Image 12: View towards the proposed site location from Crossings Road, approximately 470m east – Source: Google Maps

From locations further east of the crest on Crossings Road, it is expected that there will be no vision of the proposed facility due to the undulating terrain. As can be seen from in images 13 and 14 below, at distances over 800m from the proposed site location on Tuckermans Road, the reduced terrain further east will screen the facility from view.

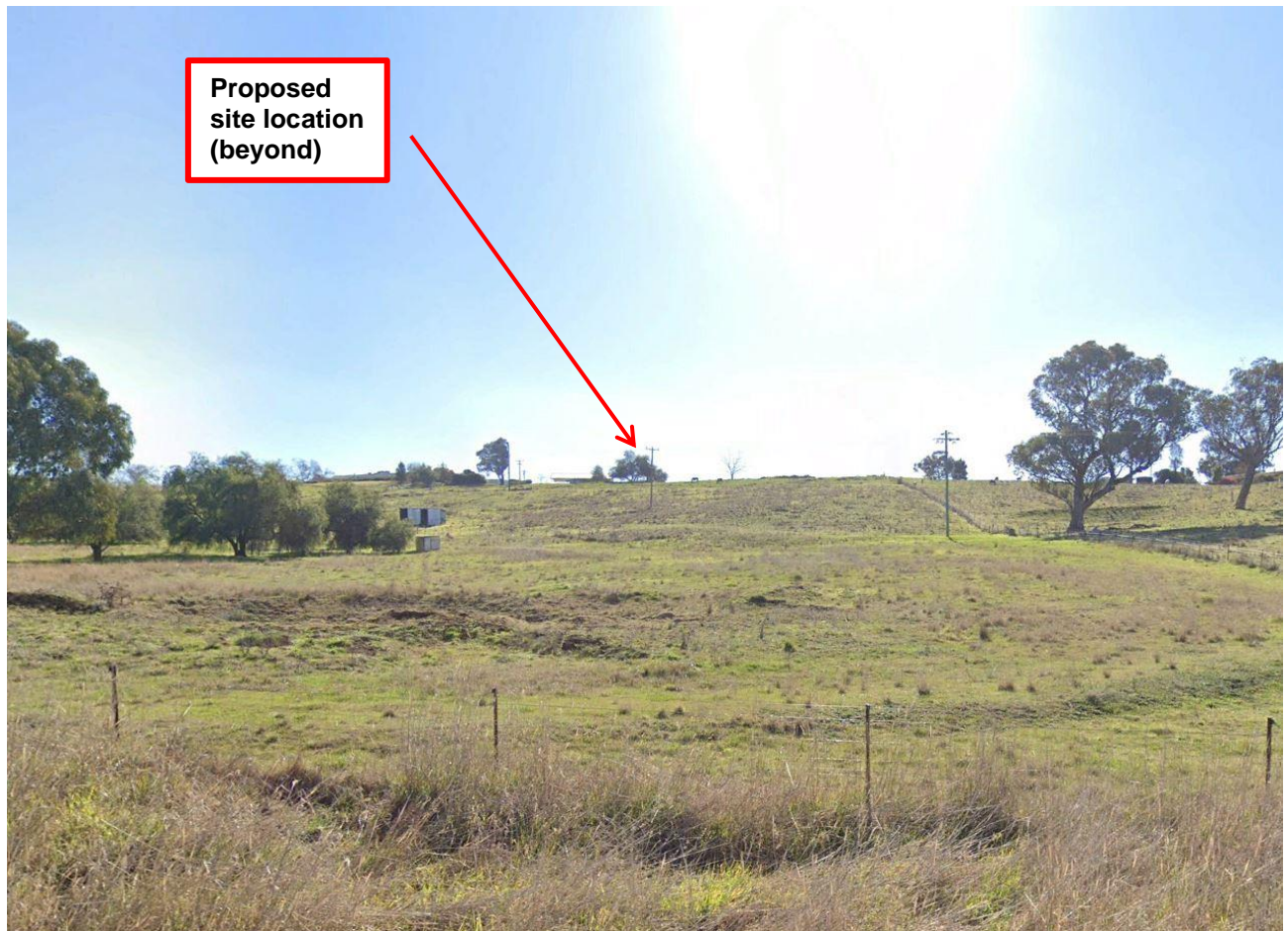


Image 13: View towards the proposed site location from Tuckermans Road, approximately 830m east – Source: Google Maps

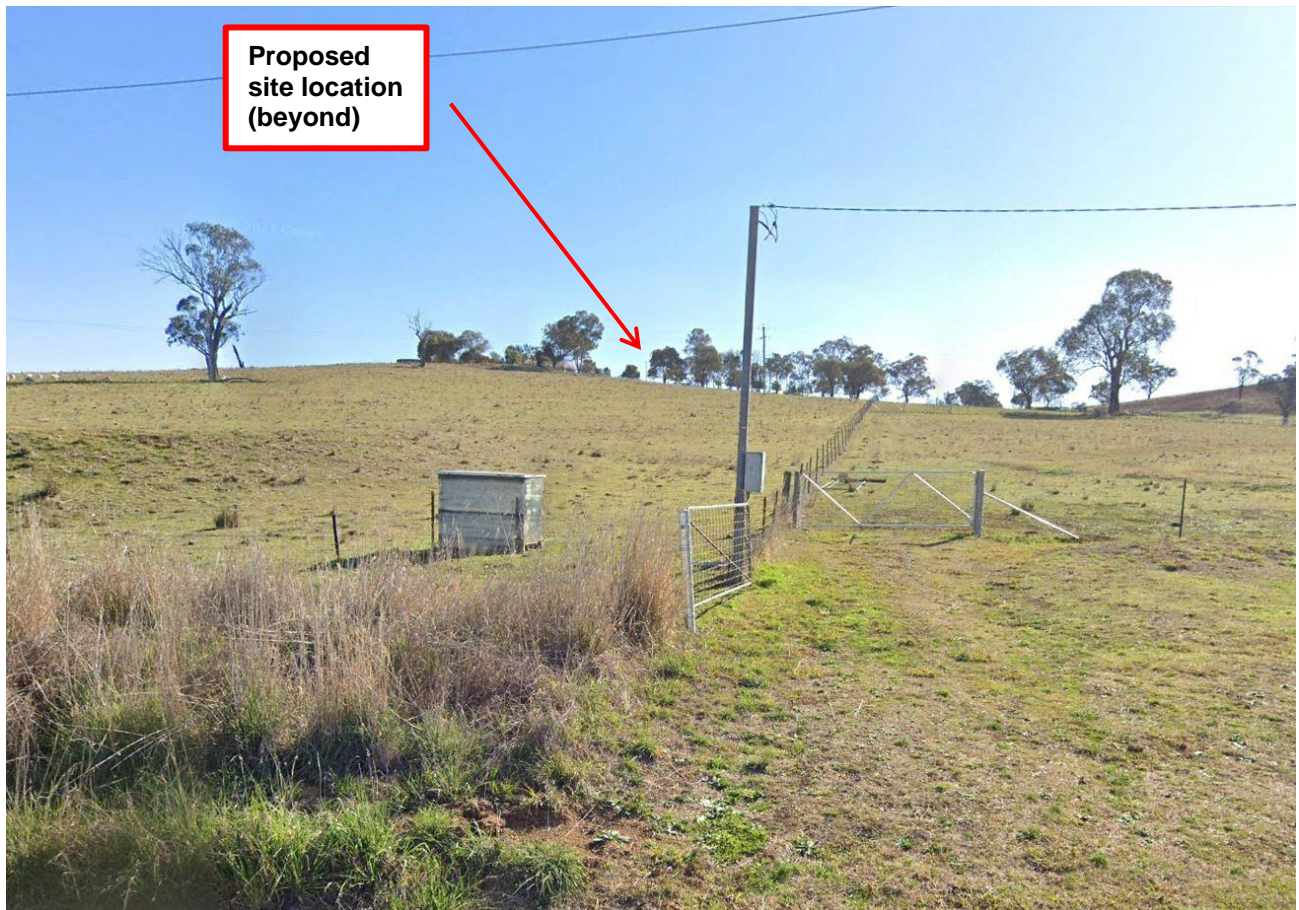


Image 14: View towards the proposed site location from Tuckermans Road, approximately 930m east – Source: Google Maps

Viewed from the West:

Due to the specific siting of the proposal and the undulating terrain, the facility will not be visible to many vantage points in a westerly direction.

It is accepted that there are some properties to the west of the proposed site location, however the closest will be provided substantial distance separation from the facility (over 400m), and the facility is sited on a higher portion of land, that will also have a backdrop of the more distanced hills.

Views towards the proposed facility from the western side of Castlereagh Highway will be limited, and will be interrupted by the undulating terrain and abundance of vegetation on the western side of the road.

Images 15 to 17 are taken from the subject property, at distances of between 250m and over 300m from the proposed site location. The images show that while the proposed facility will be visible from a number of vantage points, it will be well distanced from dwellings, and this distance separation, along with the backdrop of hillside and vegetation, will assist in reducing the overall visual impact of the facility.



Image 15: View towards the proposed site location from the subject property, approximately 255m west –
Source: *Waveconn*

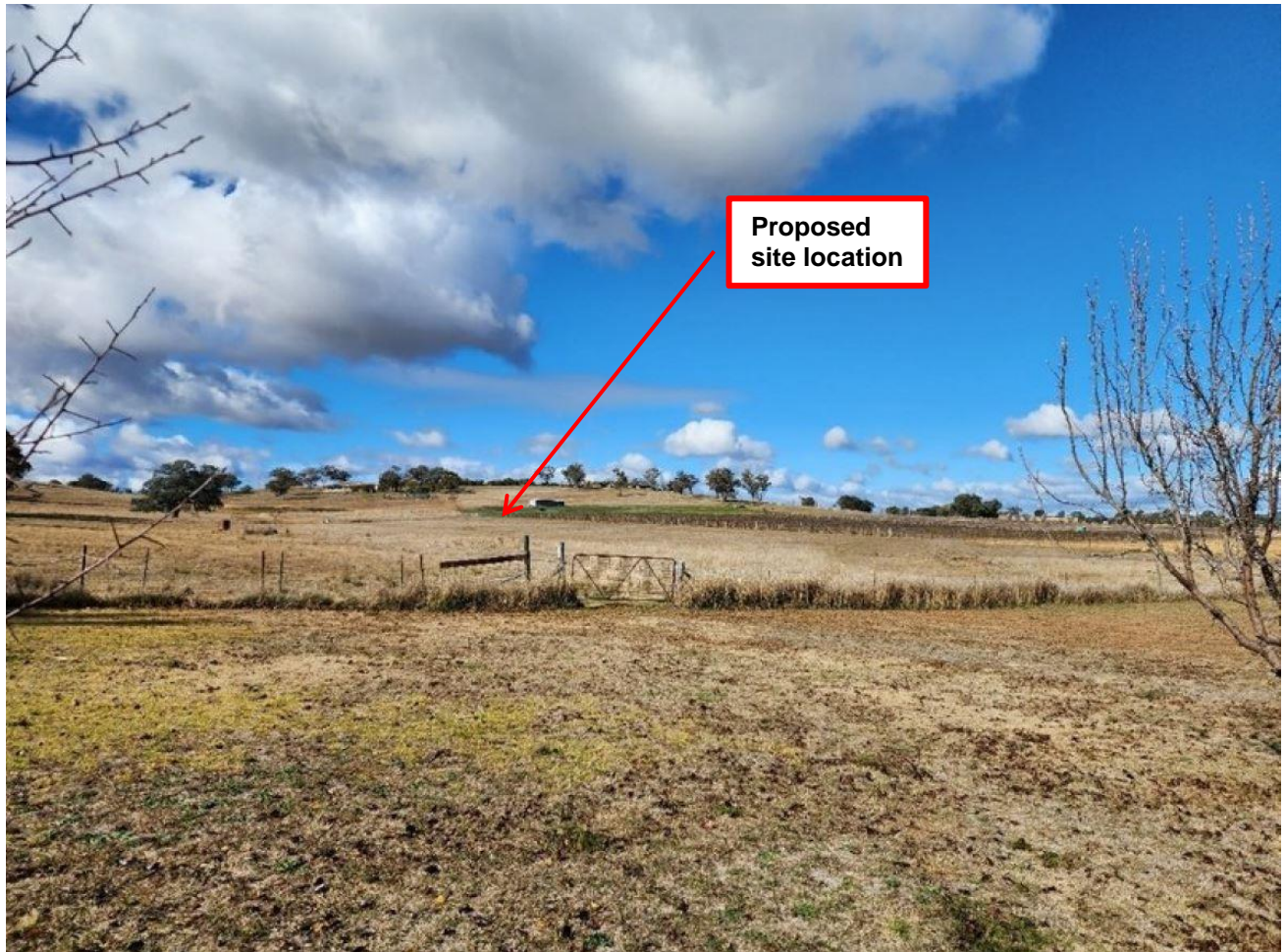


Image 16: View towards the proposed site location from the subject property, approximately 265m west – Source: Waveconn



Image 17: View towards the proposed site location from subject property, approximately 310m west – Source: Waveconn

The above images show that while the proposed telecommunications facility will be visible at some vantage points, the use of a slimline monopole structure, along with the specific siting and design, will enable it to be minimised as much as is possible. The proposed structure is considered a visually acceptable outcome taking into account the inherent nature of telecommunications facilities needing to be sited in the centre of the area which they are required to service, and requiring line of sight to the areas which they are proposed to cover. Further, the siting within a large lot rural residential property is considered appropriate for such a facility.

From more distant vantage points, the proposed facility will have the backdrop of vegetation. The significantly undulating terrain in the area, and the use of the shortest structure capable of providing coverage improvements to the area, also ensures that the structure is able to blend into the environment as much as is possible.

9 FEDERAL REGULATORY FRAMEWORK

The following information provides a summary of the Federal legislation relevant to telecommunications development proposals.

9.1 Commonwealth Telecommunications Act, 1997

The *Telecommunications Act 1997* (the Act) came into operation on 1st July 1997. The Act provides a system for regulating telecommunications and the activities of carriers and service providers.

The Act ensured that telecommunications carriers are no longer exempt from State and Territory planning laws except in three limited instances:

1. There are exemptions for inspection of land, maintenance of facilities, installation of “low impact facilities”, subscriber connections and temporary defence facilities. These exemptions are detailed in the *Telecommunications (Low-impact Facilities) Determination 1997* and the *Amendment No. 1 of 2012* and these exceptions are subject to the *Telecommunications Code of Practice 1997*;
2. A limited case-by-case appeals process exists to cover installation of facilities in situations of national significance; and
3. There are some specific powers and immunities from the previous *Telecommunications Act 1991*.

9.1.2 Telecommunications (Low-impact Facilities) Determination, 2018

The Telecommunications (Low-impact Facilities) Determination came into effect on 20th February 2018.

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 applied for here within does not fall under the Determination and, therefore, requires approval under State planning legislation.

9.2 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act* commenced on 16th July 2000. It introduced a new role for the Commonwealth Government in the assessment and approval of development proposals where those proposals involve actions that have a significant impact on matters of National Environmental Significance, the environment of Commonwealth owned land and actions carried out by the Commonwealth Government.

The proposal is not of National Environmental Significance, as it will not impact on:

- World Heritage Areas;
- Wetlands protected by International Treaty (The RAMSAR Convention);
- Nationally listed threatened species and communities;
- Nationally listed migratory species;

- All nuclear actions; or
- The environment of Commonwealth Marine area.

9.3 Communications Alliance Ltd. Code C564:2020 Industry Code – Mobile Phone Base Station Deployment

The new Communications Alliance Ltd. C564:2020 *Industry Code – Mobile Phone Base Station Deployment* (referred to as the Deployment Code) replaced the Australian Communications Industry Forum (ACIF) ‘*Industry Code - Deployment of Mobile Phone Network Infrastructure*’ (more commonly referred to as the ACIF Code) in July 2012. The purpose of the revisions incorporated in the new Deployment Code are to provide certainty and clarity for all parties in the implementation of the Code, for example, with regard to the consultation process with Council’s and communities and with regard to providing and updating RF EMR Health and Safety information, reports and signage in keeping with relevant standards.

Like the ACIF Code, the new Deployment Code cannot change the existing regulatory regime for telecommunications at local, State or Federal level. However, it supplements the existing obligations on carriers, particularly in relation to community consultation and the consideration of exposure to radio signals, sometimes known as electromagnetic energy (EME or EMR).

The Code imposes mandatory levels of notification and community consultation for sites complying with the *Telecommunications (Low-impact Facilities) Determination 1997*. It identifies varying levels of notification and/or consultation depending on the type and location of the infrastructure proposed.

The subject proposal, not being designated a ‘Low-impact’ facility, is not subject to the notification or consultation requirements associated with the Deployment Code. These processes are handled within the relevant State and Local consent procedures.

9.4 EME and Health

Mobile Carriers acknowledge that some people are genuinely concerned about the possible health effects of electromagnetic energy (EME) from mobile phone base stations and is committed to addressing these concerns responsibly.

All mobile phone carriers, must strictly adhere to Commonwealth Legislation and regulations regarding mobile phone facilities and equipment administered by the Australian Communications and Media Authority (ACMA).

In 2020 the ACMA adopted a technical standard for exposure of the general public to RF EME from mobile base stations. The standard, known as the ‘Standard for Limiting Exposure to Radiofrequency Fields – 100kHz to 300GHz (2021) RPS S-1 (Rev 1)’, was prepared by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and is the same as that recommended by ICNIRP (International Commission for Non-Ionising Radiation Protection), an agency associated with the World Health Organisation (WHO). Mobile carriers must comply with the Australian Standard on exposure to EME set by the ACMA.

The Standard operates by placing a limit on the strength of the signal (or RF EME) that Carriers can transmit to and from any network base station. The general public health standard is not based on distance limitations, or the creation of “buffer zones”. The environmental standard restricts the signal strength to a level low enough to protect everyone, always, including children. It has a significant safety margin, or precautionary approach, built into it.

All Carriers rely on the expert advice of national and international health authorities such as the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the World Health Organisation (WHO) for overall assessments of health and safety impacts.

The WHO advises that all expert reviews on the health effects of exposure to radiofrequency fields have concluded that no adverse health effects have been established from exposure to radiofrequency fields at levels below the international safety guidelines that have been adopted in Australia.

Carriers have strict procedures in place to ensure their mobile phone base stations comply with these guidelines.

10 STATE PLANNING ASSESSMENT

The following State legislation/ guidelines are relevant to telecommunications development proposals in New South Wales:

10.1 SEPP (Transport and Infrastructure) 2021

The State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021 provides a consistent planning regime for transport and infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process. Division 21 of the SEPP applies to telecommunications and other communication facilities, establishing the approval regimes for telecommunications in NSW. Division 21 classifies certain telecommunications development that is permitted without consent, with consent and exempt from local environmental approvals. Reference is made to clause 2.143 (1), which states:

“Development for the purposes of telecommunications facilities, other than development in section 2.141 or development that is exempt development under section 2.20 or 2.144, may be carried out by any person with consent on any land.”

Telecommunications facility is defined to mean:

*“(a) any part of the infrastructure of a telecommunications network, or
(b) any line, cable, optical fibre, equipment, apparatus, tower, mast, antenna, dish, tunnel, duct, hole, pit, pole or other structure in connection with a telecommunications network, or
(c) any other thing used in or in conjunction with a telecommunications network.”*

Clause 2.144 and 2.145 allow for greater flexibility in installing new towers and facilities. Under this amendment, new telecommunications towers required to deliver broadband or mobile phone access in certain rural or industrial zones would be allowed as complying development subject to amenity and safety issues like height limits and separation from residential areas.

This proposal does **not** meet the requirements of exempt or complying development under this SEPP.

The *SEPP (Transport and Infrastructure) 2021* is of specific relevance to the proposal as the provisions of clause 2.143 (as noted above) is being relied upon for permissibility of the proposed development at the subject location and are the basis for lodging and seeking Council consent for this development.

Telecommunications facilities are therefore permissible in all zones within the Mid-Western Regional Council LGA with the consent of the Council.

Clause 2.143 (2) of the SEPP provides that:

Before determining a development application for development to which this section applies, the consent authority must take into consideration any guidelines concerning site selection, design, construction or operating principles for telecommunications facilities that are issued by the Secretary for the purposes of this section and published in the Gazette.

In this respect, the *NSW Telecommunications Facilities Guideline including Broadband (July 2010)* has been issued by the Secretary.

10.2 NSW Telecommunications Facilities Guideline including Broadband (2010)

The proposal's consistency with the Guideline principles is addressed in Table 1 below.

Table 1 Compliance with the Principles of NSW Telecommunications Facilities Guideline including Broadband (2010)

Principle 1: A Telecommunications Facility should be sited to minimise visual impact	
Specific Principles	Comment
<p><i>(a) As far as practical, a telecommunications facility that is to be mounted on an existing building or structure should be integrated with the design and appearance of the building or structure.</i></p> <p><i>(b) The visual impact of telecommunications facilities should be minimised, visual clutter is to be reduced particularly on tops of buildings, and their physical dimensions (including support mounts) should be sympathetic to the scale and height of the building to which it is to be attached, and sympathetic to adjacent buildings.</i></p> <p><i>(c) Where telecommunications facilities protrude from a building or structure and are predominantly backgrounded against the sky, the facility and their support mounts should be either the same as the prevailing colour of the host building or structure, or a neutral colour such as grey should be used.</i></p> <p><i>(d) Ancillary facilities associated with the telecommunications facility should be screened or housed, using the same colour as the prevailing background to reduce its visibility, including the use of existing vegetation where available, or new landscaping where possible and practical</i></p> <p><i>(e) A telecommunications facility should be located and designed to respond appropriately to its rural landscape setting.</i></p>	<p>(a) to (c) These principles relate to facilities that are located on an existing building or structure and are not directly applicable to new freestanding structure elements such as those proposed in this instance. As such, these elements are not applicable.</p> <p>(d) The associated equipment will be housed in an equipment shelter near the base of the pole. This equipment is proposed to be painted green to blend with the surrounding environment.</p> <p>(e) The use of a slimline, low-height pole, is considered appropriate to service the surrounding areas. The location is considered an acceptable position for such a facility.</p>

<p><i>(f) A telecommunications facility located on, or adjacent to, a State or local heritage item or within a heritage conservation area, should be sited and designed with external colours, finishes and scale sympathetic to those of the heritage item or conservation area.</i></p> <p><i>(g) A telecommunications facility should be located so as to minimise or avoid the obstruction of 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><i>(h) The relevant local government authority must be consulted where the pruning, lopping, or removal of any tree or other vegetation would contravene a Tree Preservation Order applying to the land or where a permit or development consent is required.</i></p> <p><i>(i) A telecommunications facility that is no longer required is to be removed and the site restored, to a condition that is similar to its condition before the facility was constructed.</i></p> <p><i>(j) The siting and design of telecommunications facilities should be in accordance with any relevant Industry Design Guides.</i></p>	<p>(f) The proposed site location is not located on or nearby a heritage item or heritage conservation area.</p> <p>(g) While the proposed facility is located on a local high point, it is not considered an uncommon location for such a facility to be house, in a rural area. The use of a slim-line monopole will ensure visual impact is mitigated as much as possible.</p> <p>(h) The proposed facility will utilise an existing unused space on the property, and no vegetation removal is proposed.</p> <p>(i) This aspect could be implemented by a condition of consent if the Council considers it appropriate.</p> <p>(j) The design and siting approach is discussed in detail in Section 7. It is considered an appropriate design proposal for the proposed site location.</p>
Principle 2: Telecommunications Facilities should be co-located wherever possible	
Specific Principles	Comment
<p><i>(a) Telecommunications lines are to be located, as far as practical, underground or within an existing underground conduit or duct.</i></p> <p><i>(b) Overhead lines, antennas and ancillary telecommunications facilities should, where practical, be co-located or attached to existing structures such as buildings, public utility structures, poles, towers or other radio</i></p>	<p>(a) N/A – The proposal does not involve the installation of new telecommunications lines.</p> <p>(b)(c)(d)(e) There are currently no existing carrier telecommunications facilities located in the vicinity, with the required position and/or height and/or</p>

<p><i>communications equipment to minimise the proliferation of telecommunication facilities and unnecessary clutter</i></p> <p><i>(c) Towers may be extended for the purposes of colocation.</i></p> <p><i>(d) The extension of an existing tower must be considered as a practical co-location solution prior to building new towers.</i></p> <p><i>(e) If a facility is proposed not to be co-located the proponent must demonstrate that colocation is not practicable.</i></p> <p><i>(f) If the development is for a co-location purpose, then any new telecommunications facility must be designed, installed and operated so that the resultant cumulative levels of radio frequency emissions of the co-located telecommunications facilities are within the maximum human exposure levels set out in the Radiation Protection Standard.</i></p>	<p>structural suitability that are potentially capable of providing the wireless radio services to the locality on which the proposed equipment can be co-located. Colocation was not a viable option in this area. (Refer to Section 7).</p> <p>(f) N/A – The proposal is not for co-location.</p>
Principle 3: Health Standards for exposure to radio emissions will be met	
Specific Principles	Comment
<p><i>(a) A telecommunications facility must be designed, installed and operated so that the maximum human exposure levels to radiofrequency emissions comply with Radiation Protection Standard.</i></p> <p><i>(b) An EME Environmental Report shall be produced by the proponent of development to which the Mobile Phone Network Code applies in terms of design, siting of facilities and notifications. The Report is to be in the format required by the Australian Radiation Protection Nuclear Safety Agency. It is to show the predicted levels of electromagnetic energy surrounding the development comply with the safety limits imposed by the Australian Communications and Media Authority and the Electromagnetic Radiation Standard, and demonstrate compliance with the Mobile Phone Networks Code.</i></p>	<p>(a) The proposed installation will comply with Australian Communications and Media Authority (ACMA) regulatory arrangements with respect to electromagnetic radiation exposure levels.</p> <p>(b) While no radiating equipment will be installed initially on this proposed facility, once operational, an Environmental EME Report, as required by the ARPANSA, will be produced and provided to Council. Please also refer to <i>Section 9.4</i></p>
Principle 4: Minimise disturbance and risk, and maximise compliance	
Specific Principles	Comment

(a) The siting and height of any telecommunications facility must comply with any relevant site and height requirements specified by the Civil Aviation Regulations 1988 and the Airports (Protection of Airspace) Regulations 1996 of the Commonwealth. It must not penetrate any obstacle limitation surface shown on any relevant Obstacle Limitation Surface Plan that has been prepared by the operator of an aerodrome or airport operating within 30 kilometres of the proposed development and reported to the Civil Aviation Safety Authority Australia.

(b) The telecommunications facility is not to cause adverse radio frequency interference with any airport, port or Commonwealth Defence navigational or communications equipment, including the Morundah Communication Facility, Riverina.

(c) The telecommunications facility and ancillary facilities are to be carried out in accordance with the applicable specifications (if any) of the manufacturers for the installation of such equipment.

(d) The telecommunications facility is not to affect the structural integrity of any building on which it is erected.

(e) The telecommunications facility is to be erected wholly within the boundaries of a property where the landowner has agreed to the facility being located on the land.

(f) The carrying out of construction of the telecommunications facilities must be in accordance with all relevant regulations of the Blue Book – ‘Managing Urban Stormwater: Soils and Construction’ (Landcom 2004), or its replacement.

(g) Obstruction or risks to pedestrians or vehicles caused by the location of the facility, construction activity or materials used in construction are to be mitigated.

(h) Where practical, work is to be carried out during times that cause minimum disruption to

(a) The proposed facility is not located within the boundaries of any Obstacle Limitation Surface from an aerodrome within the area.

(b) The base station is designed to create no electrical interference problems with other radio based systems and complies with the requirements of relevant Australian standards in this regard. It is, indeed, the intent of this facility to distance itself from the existing communications tower in the area.

(c) The base station facilities are designed and will be installed in accordance with any relevant manufacturer specifications. The proposal will comply with the requirements of all relevant Australian Standards.

(d) The facility (monopole) is not being erected on any existing building or structure.

(e) The location and layout of the facilities reflect discussions with the private landowner of 804 Castlereagh Highway, Menah.

(f) (h) (i) (j) These matters can be appropriately addressed through the imposition of conditions of development consent where relevant.

(g) The proposed facility is to be sited on a private lot and is secured by a fenced gate area to avoid access to the public. The proposal is therefore unlikely to put pedestrians or vehicles at risk.

adjoining properties and public access. Hours of work are to be restricted to between 7.00am and 5.00pm, Mondays to Saturdays, with no work on Sundays and public holidays.

(i) Traffic control measures are to be taken during construction in accordance with Australian Standard S1742.3-2002 Manual of uniform traffic control devices – Traffic control devices on roads.

(j) Open trenching should be guarded in accordance with Australian Standard Section 93.080 – Road Engineering AS1165 – 1982 – Traffic hazard warning lamps.

(k) Disturbance to flora and fauna should be minimised and the land is to be restored to a condition that is similar to its condition before the work was carried out.

(l) The likelihood of impacting on threatened species and communities should be identified in consultation with relevant state or local government authorities and disturbance to identified species and communities avoided wherever possible.

(m) The likelihood of harming an Aboriginal Place and / or Aboriginal object should be identified. Approvals from the Department of Environment, Climate Change and Water (DECCW) must be obtained where impact is likely, or Aboriginal objects are found.

(n) Street furniture, paving or other existing facilities removed or damaged during construction should be reinstated (at the telecommunications carrier's expense) to at least the same condition as that which existed prior to the telecommunications facility being installed.

(h) Work will be carried out in accordance with the standard hours of work as recommended by council.

(k)(l) No disturbance to flora and fauna has been achieved by siting the proposed facility on an area of land that is clear of vegetation.

(m) As the proposed site location has been previously disturbed, it is expected the likelihood of harming an Aboriginal place or object is low. Should any item of Aboriginal significance be discovered during the excavation or construction works, all works on site would cease and appropriate measures taken.

(n) This is unlikely to occur given the nature of the works.

11 Local Planning Framework

As the Local Government Authority, Mid-Western Regional Council have their own Local provisions relevant to telecommunications development proposals. A broad summary can be found below.

11.1 Local Environmental Plan – Mid-Western Regional Local Environmental Plan 2012

The relevant local environmental plan applicable to the subject site is the *Mid-Western Regional Local Environmental Plan 2012*. This Plan aims to make local environmental planning provisions for land in the Mid-Western Regional LGA.

The particular aims of the Plan are as follows:

- (1) This Plan aims to make local environmental planning provisions for land in Mid-Western Regional in accordance with the relevant standard environmental planning instrument under section 3.20 of the Act.
- (2) The particular aims of this Plan are as follows:
 - (aa) to protect and promote the use and development of land for arts and cultural activity, including music and other performance arts,
 - (a) to promote growth and provide for a range of living opportunities throughout Mid-Western Regional,
 - (b) to encourage the proper management, development and conservation of resources within Mid-Western Regional by protecting, enhancing and conserving —
 - (i) land of significance to agricultural production, and
 - (ii) soil, water, minerals and other natural resources, and
 - (iii) native plants and animals, and
 - (iv) places and buildings of heritage significance, and
 - (v) scenic values,
 - (c) to provide a secure future for agriculture through the protection of agricultural land capability and by maximising opportunities for sustainable rural and primary production pursuits,
 - (d) to foster a sustainable and vibrant economy that supports and celebrates the Mid-Western Regional's rural, natural and heritage attributes,
 - (e) to protect the settings of Mudgee, Gulgong, Kandos and Rylstone by —
 - (i) managing the urban and rural interface, and
 - (ii) preserving land that has been identified for future long-term urban development, and
 - (iii) promoting urban and rural uses that minimise land use conflict and adverse impacts on amenity, and
 - (iv) conserving the significant visual elements that contribute to the character of the towns, such as elevated land and the rural character of the main entry corridors into the towns,
 - (f) to match residential development opportunities with the availability of, and equity of access to, urban and community services and infrastructure,
 - (g) to promote development that minimises the impact of salinity on infrastructure, buildings and the landscape.

The proposal is considered to be consistent with the broad intent of the Mid-Western LEP. The proposed facility provides necessary infrastructure that will assist to meet the demands arising from local residents and businesses, and employment growth, and will assist in meeting the needs of motorists and tourists in the surrounding area. The proposal is sited in a manner that is sympathetic to its surrounds, and ensures protection of the area it is located in. Specific objectives of the locality, land use zone, and issues impacting on the site itself are discussed in further detail below.

11.2 Zoning

Lot 12 on DP 251719, described as 804 Castlereagh Highway, is classified as R5 – Large Lot Residential, under the Mid-Western Regional Local Environmental Plan 2012. Zoning imagery is shown below.



Image 18: Mid-Western Regional Local Environmental Plan 2012 Zoning R5 – Source: *Mid-Western Regional LEP*

As the proposed facility at 804 Castlereagh Highway is not classified as a ‘low impact facility’ under the *Telecommunications (Low Impact) Facilities Determination 1997*, consent is required for the use of the proposed facility.

R5 Large Lot Residential

The objectives of the R5 Large Lot Residential zone are:

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

Due to their very specific use, a mobile telecommunications facility is rarely detailed in a zones objectives, nor is their permissibility clearly defined. In this instance, the specific area requiring mobile telecommunications service improvements is predominately the surrounding roadways, large lot residential properties, and adjoining areas.

In response to the R5 Large Lote Residential zone objectives, the proposed mobile telecommunications facility will provide essential services (being mobile telecommunications and internet services) to the residents, businesses, and home based occupations within the surrounding area, as well as motorists and tourists using nearby roadways. Fast, reliable and consistent mobile telecommunications have quickly become an everyday expectation of both business and rural-residential areas. The surrounding suburbs will benefit greatly by the proximity to these improved mobile telecommunications services, including that of 5G Network technology. The proposed facility will also increase the availability of a robust telecommunications network, which is of increasing importance during emergencies.

The proposed facility will not adversely effect the surrounding land uses. It also will not have an adverse impact on the aesthetic values of the area by ensuring as limited visual impact as is possible, utilising a slim structure with minimal vertical intrusion, in area that is considered common-place for such a facility.

11.4 Miscellaneous / Local Provisions

11.4.1 Heritage

In order to determine any possible natural or cultural values of state or national significance associated with the site, a search was conducted through the relevant Heritage Registers. There are no known items of cultural, historical or environmental heritage significance located in the immediate vicinity of the proposed site.

Should any item of Aboriginal or archeological heritage/significance be discovered throughout the excavation and installation process, all works on site will cease, and appropriate measures undertaken to fully investigate the item. A search of the Aboriginal Heritage Information Management System (AHIMS) has shown there are no items of Aboriginal significance in the vicinity of the subject site or the subject property.

11.4.2 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will be detailed in final construction plans and will comply with the Building Code of Australia and local Council standards. On completion of the installation, the site will be restored and reinstated to an appropriate standard. No waste which requires collection or disposal will be generated by the operation of the facility. While some spoil will be excavated for the construction of the facility, much of this will be reused, or recycled.

A formal geotechnical investigation and associated report will be completed prior to the issue of a Construction Certificate should the proposal receive Council approval. Initial geotechnical advice indicates that an appropriate footing-design will be possible in this site location.

11.4.3 Traffic Generation

After the construction period, the only traffic generated by the base station will be that associated with maintenance vehicles. In this respect, it is estimated that maintenance of the facility will generate between 4 and 6 visits per year and it will remain unattended at all other times. The traffic generation will therefore be minimal and not sufficient to create any adverse impacts in this regard or by creating a demand for parking facilities.

11.4.4 Noise

Noise and vibration emissions associated with the proposed facility will be limited to the initial construction phase. There will be some low-level noise from the ongoing operation of air conditioning equipment associated with the equipment shelter, 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.

11.4.5 Flora and Fauna

The site has been chosen as it takes advantage of an area that has been previously disturbed and is not covered by vegetation or trees. No vegetation is required to be removed as part of this proposal.

11.4.6 Airport Environs

The proposed site location is not considered to be within the boundaries of any nearby airport environs, and does not penetrate any Obstacle Limitation Surfaces. Should there be a concern in regards to proximity to an OLS, it is accepted that adherence to relevant CASA regulations would be necessary.

11.4.7 Bushfire Prone Land

The subject property is not noted as being Bushfire Prone Land. None the less, the proposed facility will not increase the possibility of a bushfire on the subject property, nor will it exacerbate any possible bushfire activity. In contrast, mobile telecommunications facilities are able to be utilised to provide early warning of any approaching natural disaster or problematic event.

12 Conclusion

The proposed telecommunications facility at 804 Castlereagh Highway, Menah, will form an integral part of the Carriers mobile telecommunications networks in the greater Mid-Western Regional Local Government Area. As part of all Carrier's network improvements, reconfiguration, and expansion into the 5G Network, the new facility is required to ensure the community surrounding the site locality receive high quality and reliable mobile telecommunications services. This includes the rural-residential areas, local businesses and nearby roadways. With the recent COVID-19 situation world-wide, the importance of reliable mobile telecommunications services to local business and home-based enterprises has been shown to be paramount, and this facility will further enhance these services in this area.

There is strong State policy support for telecommunications facilities if, when balancing improved telecommunications services with environmental impact, a particular proposal provides a net community benefit. It is strongly considered that there are significant benefits to the locality surrounding the proposed facility.

The site has a number of important characteristics that make it suitable for the construction of a new telecommunications facility in the manner proposed. Significantly, the site provides the appropriate location (centrally located) in an area that is deficient of existing telecommunications facility. The proposed facility will adequately service the objectives of Carriers existing and future networks, including 5G. The location also ensures the facility can effectively integrate into the existing network of sites.

Waveconn have undertaken an assessment of the relevant matters as required by Commonwealth, State, and Local planning policies, including the Telecommunications Act 1997, and the Mid-Western Regional Local Environmental Plan 2012. The proposal is considered appropriate in light of the relevant legislative, environmental, technical, radio coverage and public safety requirements.

The proposed facility is considered appropriate for the subject site for the following reasons:

- The facility is located specifically to provide reliable mobile phone service to the area surrounding the site, including the rural-residential, businesses and roadways, as well as the public recreation spaces in the surrounds;
- The use of a slimline monopole with minimal bulk ensures that visual impact is significantly mitigated;
- The proposal is consistent with the relevant provisions of the Mid-Western Regional Local Environmental Plan;
- The facility will ensure the provision of improved mobile phone coverage and competition in the area;

- Emissions from the proposed facility will always be significantly below the Australian Radiation Protection and Nuclear Safety Agency standards adopted by the Australian Communications and Media Authority.

The assessment of the proposal demonstrates that the proposal represents sound and proper town planning and it is respectfully requested that consent is granted for this development application.

Appendix 1 – Site Plans