

Planning Report

(Statement of Environmental Effects)

Development Application for a Fixed Wireless
Telecommunications Facility



30-40 James Street, WILCANNIA NSW 2836

NBN Site Reference: Wilcannia

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EXECUTIVE SUMMARY

<p>Proposal</p>	<p>nbn™ propose to install a new fixed wireless facility at 30-40 James Street, WILCANNIA comprised of the following:</p> <ul style="list-style-type: none"> • 40m-tall monopole with circular headframe • Installation of four (4) nbn panel antennas • Installation of one (1) nbn lens antenna • The installation of a 2.4m high chain-link security compound fence (compound area approximately 8m x 10m) with 3m wide access gate • The installation of one (1) outdoor equipment cabinet at ground level (1.9m H x 0.8m W x 0.7m D), adjacent to the proposed tower; • The installation of two (2) outdoor equipment cabinets at ground level (each 2.0m H x 0.7m W x 0.85m D), adjacent to the proposed tower; • The installation of associated feeder cables that will run overhead from the equipment cabinets, and then via a vertical cable tray to the top of the monopole • The installation of underground nbn power mains • Ancillary equipment associated with operation of the proposed facility 	
<p>Purposes</p>	<p>The proposed facility is necessary to provide nbn™ fixed wireless coverage to Wilcannia and surrounds.</p>	
<p>Property Details</p>	<p>Property description: Lot 1 in Deposited Plan 812602 Street Address: 30-40 James Street, WILCANNIA</p>	
<p>Town Planning Scheme</p>	<p>Council: Central Darling Shire Council Zone: E4 – General Industrial</p>	
<p>Applicable LEP/DCP</p>	<p>Central Darling Local Environmental Plan 2012</p>	
	<p>No applicable Development Control Plan</p>	
<p>Application</p>	<p>Use and development of the land for the purposes of construction & operation of a Telecommunications Facility (Fixed Wireless facility)</p>	

1 INTRODUCTION

The **nbn**[™] rollout is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet.

nbn[™] plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

nbn[™] has engaged Ventia and SAQ Consulting to act on its behalf to design and deliver new fixed wireless equipment and infrastructure within the broader network which is already in operation.

To support the fixed wireless component of this network, **nbn**[™] requires a fixed wireless site to provide internet coverage to the township of Wilcannia. The proposed facility will be located at the Council Depot at 30-40 James Street, Wilcannia. The project is co-funded with the New South Wales State Government as part of its 'Gigstate' project.

Prior to confirming this site as the preferred location for a fixed wireless facility, an in-depth site selection process was undertaken. This process matched potential candidates against five key factors, namely:

- The ability of the site to provide acceptable coverage levels to the area;
- The ability of the site to provide line of sight (LoS) to other facilities;
- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact);
- Construction feasibility and cost; and
- The ability of **nbn**[™] to secure a lease agreement with the landowner

This Statement of Environmental Effects (SEE) will provide assessment in respect of the relevant planning legislation and guidelines, and demonstrates site selection on the basis of the following:

- The site is designed to achieve the required coverage objectives for the area;
- The site is designed to be appropriately located & sited to minimise visual impact on the immediate & surrounding area;
- The proposal is designed to operate within the regulatory framework of Commonwealth, State and Local Government;
- The proposal has been designed to ensure that no adverse environmental impact will result from the proposal
- The facility is designed to operate within all current and relevant standards and is regulated by the Australian Communications and Media Authority.

1.1 Owner's Consent

The subject land is owned by Central Darling Shire. Council's General Manager has granted written consent for this application to be lodged.

2 BACKGROUND

2.1 nbn™ and the National Broadband Network

nbn is the organisation responsible for overseeing the upgrade of Australia's existing telecommunications network and for providing wholesale services to retail service providers. The **nbn** is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

nbn plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

The **nbn**'s fixed wireless network uses cellular technology to transmit signals to and from a small antenna fixed on the outside of a home or business, which are able to achieve Line of Sight (LoS) towards the fixed wireless facility.

nbn's fixed wireless network is designed to offer service providers with wholesale access speeds of up to 50Mbps for downloads and 20Mbps for uploads¹.

2.2 What is Fixed Wireless and how is it different to Mobile Broadband?

The **nbn**'s fixed wireless network, which uses advanced technology commonly referred to as LTE or 4G, is engineered to deliver services to a fixed number of premises within each coverage area.

This means that the bandwidth per household is designed to be more consistent than mobile wireless, even in peak times of use.

Unlike a mobile wireless service where speeds can be affected by the number of people moving into and out of the area, the speed available in a fixed wireless network is designed to remain relatively steady.

2.3 The Fixed Wireless Network – Interdependencies

Although fixed wireless facilities are submitted to Council as standalone developments, for planning purposes, they are highly interdependent. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the 'transmission network'.

The transmission network requires LoS from facility to facility until it reaches the fibre network via a hub site. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.

A typical fixed wireless facility will include a number of antennas mounted above a structure on a headframe. Each antenna is designed to cover a set area to maximise signal strength. In turn, these network antennas communicate to a small antenna installed on the roof of each customer's home or business.

The nature of the Fixed Wireless network is visually demonstrated through **Figure 1** below.

¹ **nbn**™ is designing the **nbn** to provide these speeds to our wholesale customers, telephone and internet service providers. End user experience including the speeds actually achieved over the **nbn** depends on some factors outside **nbn**™'s control like equipment quality, software, broadband plans and how the end user's service provider designs its network.

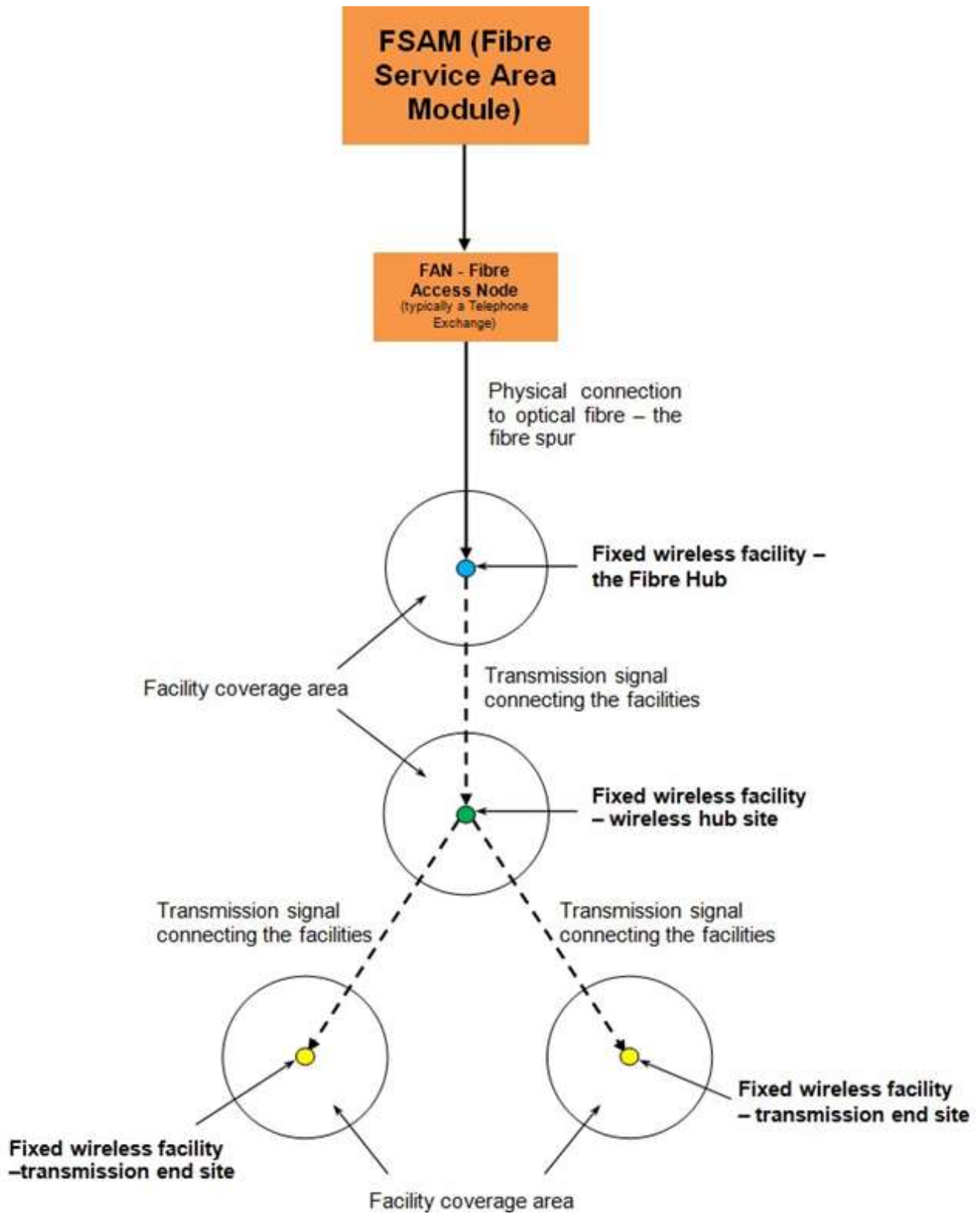


Figure 1 The Fixed Wireless Network

3 SITE SELECTION

Planning for a new fixed wireless broadband facility is a complex process. **nbn**[™] conducts a rigorous multi-stage scoping process, as outlined in this section of the SEE.

3.1 Identification of areas requiring Fixed Wireless coverage

nbn's Fixed Wireless locations are determined by many factors including the availability of both the **nbn** Fibre transit network and the availability of Point of Interconnect (POI) facilities to allow for the installation of **nbn** fibre equipment.

nbn uses a number of methods to identify those parts of Australia that require fixed wireless coverage. When an area is identified as requiring fixed wireless coverage, investigations are undertaken to determine the measures required to provide this coverage.

nbn has identified a requirement to provide a Fixed Wireless facility at Wilcannia. The facility is designed to provide fixed wireless internet services to the township of Wilcannia and surrounding areas.

3.2 Site Selection Parameters

nbn[™] generally identifies an area where the requirement for a Fixed Wireless facility would be highest known as a 'search area.' A preliminary investigation of the area is then undertaken, in conjunction with radio frequency engineers, planning and property consultants and designers to identify possible locations to establish a facility.

Generally speaking, new sites must be located within, or immediately adjacent to, the identified search area. Search areas are produced by radio frequency engineers who work on the network and are areas where a facility is technically feasible and can meet **nbn** coverage objectives.

While the operational and geographical aspects of deploying new facilities are primary factors, there are also many other issues that influence network design, which should be considered.

Some of the issues that are considered throughout selection include:

- the availability and suitability of land;
- the ability to find a willing landowner to host the proposal;
- topographical constraints affecting network LoS and NTP count;
- construction constraints;
- occupational health and safety; and
- cost constraints

These compounding factors often severely restrict the available search area within which a facility can be established to provide fixed wireless broadband services to a local community.

3.3 Candidate Sites

3.3.1 Opportunities to Co-locate

The only potential collocation in Wilcannia is on the Broadcast Australia guyed mast located off Cleaton Street. This mast is considered too far from Wilcannia to provide consistent coverage across all parts of the town.

The Telstra facilities within the township are limited to 'small cells' and are not structures or towers on which **nbn** could collocate.

3.3.2 Existing Structures

There are no other existing structures in or around Wilcannia were identified that could be utilised for **nbn**'s requirements. None of the existing communications structures within the town, all of which are very lightweight, are suitable for collocation.

3.3.3 New Site Candidates

Following desktop and field investigations of a total of 3 candidates were short-listed and are summarised in the table below.

Candidate	Address and Lot Number	Facility Type	Description
A	30-40 James Street (Council depot) **preferred location**	New structure	Industrial zone, space available without impacting on Council operations.
B	76-92 Hood Street	New structure	Crown land, likely lengthy acquisition process so much less preferred from a timing perspective
C	37 Bourke Street (Golf Club)	New structure	Potential locations but committee would prefer it go at the council depot

4 SUBJECT SITE & SURROUNDS

The telecommunications facility is proposed to be located at 30-40 James Street, Wilcannia as indicated by the red dot on the aerial image below.



Figure 2 Locality Map

Key features of the locality are:

- Main part of Wilcannia township to the north-east, east and south (RU5 zoning)
- Barrier Highway as the main thoroughfare in the town (passing subject land)
- Rural outskirts of the township immediately west (RU1 zoning)
- Industrial zoning (E4) and uses on the western side of James Street
- Residential uses on eastern side of James Street (in RU5 zone)
- Recreation (oval) uses to the south

The nearest dwellings to the proposed facility are located diagonally opposite on James Street, at a distance of approximately 50 metres. The lot directly opposite the proposal is vacant.

The subject land (shown in Figure 3 below) is an irregularly shaped parcel on the northern side of the Barrier Highway at the western edge of the township of Wilcannia. The land is zoned *E4 General Industrial* and is approximately 1.1 hectares in size.

The land is owned by Central Darling Shire Council and is used as a works depot and the part of the land selected for the facility is currently used for informal storage of equipment and materials.



Figure 3 Site Map

The proposed facility will be located on the James Street frontage in the eastern corner of the land, about 130 metres back from the Barrier Highway junction.

Access will be via a new crossover and gates directly into the **nbn** compound, thereby avoiding the need to enter the depot. There is no vegetation affected on the subject land the proposed crossover will avoid the small amount of vegetation located on the James Street road verge.

5 THE DEVELOPMENT APPLICATION

5.1 The nbn™ Fixed Wireless Facility and Equipment Details

The Development Application seeks approval for the use and development of a telecommunications facility, comprising a 40-metre tall monopole, antennas and ground equipment within a secure compound which measures approximately 80 m².

The specific components of the proposed installation are described below:

- The installation of a 40m monopole with a circular headframe
- The installation of four (4) **nbn** panel antennas onto the proposed headframe
- The installation of one (1) lens antenna onto the proposed headframe
- The installation of **nbn** Remote Radio units
- The installation of one (1) outdoor equipment cabinet at ground level (1.9m H x 0.8m W x 0.7m D), adjacent to the proposed tower;
- The installation of two (2) outdoor equipment cabinets at ground level (each 2.0m H x 0.7m W x 0.85m D), adjacent to the proposed tower;
- The installation of associated feeder cables via an overhead cable tray from the equipment cabinet, and then inside the monopole to reach the headframe
- The installation of a 2.4m high chain-link security compound fence (compound area approximately 8m x 10m), with 3m wide access gate
- Ancillary equipment associated with operation of the proposed facility

This **nbn**™ Fixed Wireless facility is a wireless fibre site within the network, providing **nbn**™ broadband coverage to Wilcannia. The project is co-funded with the New South Wales State Government as part of its 'Gigstate' project.

5.2 Construction Schedule

During the construction phase, trucks will be used to deliver the equipment to the site and a crane will be utilised to lift most of the equipment into place. Any traffic impacts associated with construction will be of a short-term duration and are not anticipated to adversely impact on the surrounding road network. In the unlikely event that road closure will be required, **nbn** will apply to the relevant authorities for permission.

A total construction period of approximately ten weeks (including civil works and network integration and equipment commissioning) is anticipated.

Construction activities will involve four basic stages:

- Stage 1 (Week 1) – Site preparation works, including field testing, excavation and construction of foundations;
- Stage 2 (Weeks 2, 3 and 4) – Construction of the monopole;
- Stage 3 (Weeks 5 and 6) – Construction of the equipment shelter and fences;
- Stage 4 (Weeks 7 – 10) – Installation of antennas and radio equipment, as well as equipment testing.

Once operational, the facility will function on a continuously unstaffed basis and will typically only require maintenance works three times a year.

5.3 Construction and Noise

Noise and vibration emissions associated with the proposed facility are expected to be limited to the construction phase outlined above. Noise generated during the construction phase is anticipated to be of short duration and accord with the standards outlined in the relevant EPA guidelines. Construction works are planned only to occur between the hours of 7.00am and 6.00pm or as stipulated by council through consent conditions.

There is expected to be some low-level noise from the ongoing operation of air conditioning equipment associated with the equipment shelter and cabinets, once installed. Noise emanating from the air conditioning equipment is expected to be at a comparable level to a domestic air conditioning installation, and should generally accord with the background noise levels prescribed by relevant guidelines.

6 RELEVANT PLANNING LEGISLATION AND CONTROLS

6.1 Commonwealth Legislation

As a licensed telecommunications carrier, **nbn** must operate under the provisions of the *Telecommunications Act 1997* and the following supporting legislation:

- The Telecommunications Code of Practice 1997;
- The *Telecommunications (Low-impact Facilities) Determination 2018* (as amended); and
- The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*.

6.1.1 The Telecommunications Act

This legislation establishes the criteria for ‘low impact’ telecommunication facilities. If a proposed facility satisfies the requirements of a ‘low impact’ facility, the development is exempt from the planning approval process.

Further clarification of the term ‘low impact’ is provided in the Telecommunications Act 1997 and the *Telecommunications (Low Impact Facilities) Determination 2018*, which was gazetted subsequent to the Act. The *Telecommunications (Low Impact Facilities) Determination 2018* establishes certain facilities, which cannot be considered ‘low impact’ facilities.

The proposed facility is not considered to be low impact under the definitions contained in the Commonwealth legislation as it involves the construction of a new monopole.

6.1.2 Telecommunications Code of Practice 1997

Under the *Telecommunications Act 1997*, the Government established the Telecommunications Code of Practice 1997, which sets out the conditions under which a carrier must operate.

Section 2.11 of the Telecommunications Code of Practice 1997 sets out the design, planning and installation requirements for the carriers to ensure the installation of facilities is in accordance with industry ‘best practice’. This is required to:

“... minimise the potential degradation of the environment and the visual amenity associated with the facilities.”
[Section 2.11(3)]

The siting and design of the proposal has taken place in accordance with Section 3 (Planning and Siting) of the Australian Standard – Siting of Radio Communications Facilities (AS 3516.2).

Furthermore, following an assessment of the available options, it became evident that there were no suitable existing telecommunications facilities or other structures (including buildings or power poles) located within the search area that could provide the required site objective/co-location opportunities.

6.1.3 The Telecommunications (Low-impact Facilities) Determination 2018

The *Telecommunications (Low-impact Facilities) Determination 2018* identifies both the type of facilities that can be “Low-impact”, and the areas in which these facilities can be installed. Importantly, this current facility is not defined as a “low impact facility” and is therefore subject to State and Territory Planning Laws and Regulation.

6.1.4 The Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* obliges telecommunications carriers to consider ‘matters of national environmental significance’. Under this legislation, an action will require approval

from the Minister of Environment if the action has or is likely to have an impact on a matter of 'national environmental significance'. According to the *EPBC Act 1999*, there are seven matters of national significance which must be considered.

All relevant EPBC matters have been considered. It is not anticipated that the proposal will have a significant impact on any matters of national environmental significance. Accordingly, approval from the Minister of Environment is not required in this instance.

6.2 Environmental Planning & Assessment Act 1979

The principal legislation regulating land use and development in NSW is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The *EP&A Act* provides a framework for the making of Environmental Planning Instruments (EPIs) such as State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs) and Development Control Plans (DCPs). Part 4 of the *EP&A Act* also provides a framework for the assessment of certain development types.

The telecommunications facility proposed is classified under the *EP&A Act* as development that needs consent. Therefore, the environmental assessment provided in this SEE has been undertaken pursuant to Section 4.15 of the *EP&A Act*.

6.3 State Environmental Planning Policy, Legislation and Guidelines

6.3.1 SEPP (Transport and Infrastructure) (2021)

The *SEPP (Transport and Infrastructure) 2021* provides for a consistent planning framework for infrastructure and the provision of services across NSW, along with providing consultation with relevant public authorities during the assessment process. The relevant sections establish a framework for the deployment of telecommunications facilities within NSW aimed at improving efficiency and providing consistent planning regime for telecommunications infrastructure and the provision of services such as mobile phone coverage and broadband.

Certain telecommunications development that are permitted without consent, with consent and exempt from local environmental approvals, as set out in Schedule 4 of the SEPP. The proposed development is deemed to be development as it does not meet the minimum separation distance to the adjacent R5 zone to be classified as complying development as set out in the relevant Schedule. As such, it is necessary to obtain planning approval.

While telecommunications facilities are permissible with consent in any zone in accordance with the SEPP, consideration has also been given to Clause 2.142(2) which states:

Before determining a development application for development to which this clause 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.

The proposed **nbn**[™] facility has been sited and designed with consideration given to the principles of *NSW Telecommunications Facilities Guideline including Broadband 2010*.

6.4 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) provides a framework to avoid, minimise and offset impacts on biodiversity. In conjunction with the *Local Land Services Amendment Act 2016*, the *BC Act* repeals the *Native Vegetation Act 2003*, the *Threatened Species Conservation Act 1995* (TSC Act), and parts of the *National Parks and Wildlife Act 1974*.

The *BC Act* introduces the Biodiversity Assessment Method (BAM), a consistent method for the assessment of biodiversity on a proposed development. The BAM must be applied by an accredited assessor and a Biodiversity Development Assessment Report (BDAR) prepared for all proposals assessed under Part 4 of the *EP&A Act* which:

- Exceed the relevant clearing threshold as set out in Section 7.2 of the *Biodiversity Conservation Regulation 2017* (The Regulation)
- Are located within an area identified on the ‘Biodiversity Value Map’, which identifies land of high biodiversity value as defined by the *Biodiversity Conservation Regulation 2017*.
- Are located in a declared Area of Outstanding Biodiversity Values (AOBVs). Note listed areas of declared critical habitat under the now repealed TSC Act have become AOBVs under the new legislation.
- Are considered “likely to significantly affect threatened species” using the test of significance in Section 7.3 of the Act.

An ecological assessment has been undertaken in accordance with the *BC Act 2016* and assessed that the BAM will not be triggered by the proposal for an **nbn** facility at Wilcannia.

6.5 Central Darling Shire Council Local Environmental Plan 2013

The relevant Local Environmental Plan (LEP) applicable to the subject site is the Central Darling Shire LEP 2012. This Plan aims to make local environmental planning provisions for land in accordance with the relevant standard environmental planning instrument under section 33A of the Act.

6.5.1 LEP Zoning

The subject lot is zoned *E4– General Industrial* under the Central Darling LEP.

The E4 zone objectives state:

- *To provide a range of industrial, warehouse, logistics and related land uses.*
- *To ensure the efficient and viable use of land for industrial uses.*
- *To minimise any adverse effect of industry on other land uses.*
- *To encourage employment opportunities.*
- *To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.*
- *To enable the development of land for certain non-industrial purposes where the present or future industrial development of land will not be compromised.*

The proposed facility is a type of land use commonly found and preferred within industrial zones. The siting of the structure is approximately 130 metres from the Barrier Highway, near the rural edge of the township and opposite a vacant allotment. The nearest dwellings are diagonally opposite and approximately 50 metres away, but it is relevant they are in the RU5 rural zone, not a residential zone, as shown in Figure 4 below.

Given its location on the subject land, which has the advantage of being away from the core council operations on the site and does not rely on access to the depot itself, the structure has minimised its impact on the subject land and surrounding land to the extent it can, with very little impact at all on the town more widely.

The proposed facility is a non-industrial land use providing a facility and service to meet the needs of businesses and workers, as well as the wider community, including education and health services.

As such, the proposal is generally consistent with the zone objectives.



Figure 4 Zoning Map and Location of the Site

With respect to the LEP's Principal development standards set out at Part 4:

- No subdivision is required
- No height limits are contained in the LEP

There are no relevant provisions contained with Part 5 of the LEP.

6.5.2 Other Matters

Council does not currently have a Development Control Plan.

It is noted the subject land is outside the mapped flood areas for the township of Wilcannia.

The Wilcannia aerodrome (south-western end of runway 03/21) is located approximately 3.2 kilometres north of the proposed location. It is not anticipated the proposed 40-tall structure will pose any hazard to aircraft.

7 LIKELY IMPACTS OF THE DEVELOPMENT

7.1 Visual Impact

The proposed facility is for a 40-metre tall monopole within an industrial zone/area at the edge of the Wilcannia township and approximately 130 metres from the Barrier Highway. The monopole has a circular headframe with antennas attached and a small amount of ancillary equipment.

The opposite side of the street is the RU5 zone, which functions as the township/residential zone. The lot directly opposite is vacant and there are two existing dwellings diagonally opposite approximately 50 metres away. outside the township proper, with no existing dwellings within 150 metres.

Although it will be a new element in the urban landscape, the monopole is a slim-line structure with few attachments and set in an appropriate zone and with a suitable existing use. Whilst there will be some visual impact on the properties directly opposite (which face into an industrial zone and therefore can expect a lower level of amenity to result), the overall impacts on the surrounding land, locality and the township in general are not unusual or of particular concern.

As such, the balance between visual impact and the provision of an important service to the township has been struck in this instance.

7.2 Flora and Fauna

The selected location is already cleared and used as part of the industrial property. There is no impact on vegetation or habitat.

7.3 Aboriginal and Non-Aboriginal Heritage

The selected location is already cleared and have been previously disturbed. A search of the Aboriginal Heritage Information Management System reports there are no Aboriginal sites or places recorded near this location.

7.4 Bushfire Risk

The location selected for the proposed facility is outside the mapped bushfire overlay. **nbn** relies on the Rural Fire Service document and has considered bushfire risk in the design and siting of the facility.

7.5 Electrical Interference

The **nbn**[™] fixed wireless network is licensed by the Australian Communications and Media Authority (ACMA) for the exclusive use of the OFDMA9800 frequency band. As **nbn** is the exclusive licensee of this sub-band, emissions from **nbn**[™] equipment within the frequency band should not cause interference.

Filters will also help to ensure that each facility meets the ACMA specifications for emission of spurious signals outside the **nbn**[™] frequency allocations. **nbn**[™] intends to promptly investigate any interference issues that are reported.

7.6 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will comply with the Building Code of Australia, The Blue Book, and local Council standards where applicable. In addition, contractors must comply with the '**nbn**[™]

Construction Specification' that requires contractors to undertake the necessary erosion and sediment control measures to protect the surrounding environment.

It is expected that a condition pertaining to erosion and sediment control will be implemented as a condition of development consent if granted by Council.

7.7 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 only three to four visits per year and will remain unattended at all other times. The traffic generation will therefore be minimal and not sufficient to create any adverse impacts.

7.8 Utility Services

All services required for the ongoing operation of the base station are capable of being provided to the facility without impacting on the supply or reliability of these services to any existing consumers in the locality.

7.9 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.

7.10 Social and Economic Impacts

Access to fast internet is an essential service in modern society. Initially, small to medium business customers accounted for a significant part of the demand for broadband technology, but internet services have now been embraced by the general public. Usage of internet services continues to widen as new technologies become progressively more affordable and accessible to the wider community.

The new **nbn**[™] network is designed to provide the community with access to fast and reliable internet services. A reliable internet service is important to help promote the economic growth of communities, and the facility is anticipated to have significant social and economic benefits for the local community.

7.11 Public Safety – Radiofrequency Emissions

In relation to public safety and specifically Electromagnetic Emissions (EME) and public health, **nbn**[™] network 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 Health and Ageing portfolio 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).

All **nbn**[™] network installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the **nbn**[™] facility does not result in any increase in the level of risk to the public.

The proposed facility will comply with Australian Government regulations in relation to emission of electromagnetic energy (EME) - specifically being *Australian Standard Radiation Protection Series S-1 Standard for*

Limiting Exposure to Radiofrequency Fields – 100 kHz to 300 GHz published by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) in 2021.

Moreover, all **nbn**[™] network equipment has the following features, all of which help to minimise the amounts of energy used and emitted:

- Dynamic/Adaptive Power Control is a 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.

7.12 The Public Interest

The public benefits of access to high quality broadband have been widely acknowledged for many years. Broadband access is now more than ever considered an integral component of daily life, so much so that its absence is considered a social and economic disadvantage.

Across the Central Darling Shire LGA, the Fixed Wireless network is designed to service rural and rural residential communities that have traditionally been significantly disadvantaged both in terms of basic access to broadband and in terms of the quality and reliability of broadband that these communities receive.

The Government's National Map illustrates the substantial disparity and inequity in service between larger townships and smaller communities, and often even within individual rural communities.

The proposed **nbn**[™] facility is expected to have significant benefit for residents, businesses and educational establishments in Wilcannia. It will assist by providing improved internet services within the area. Furthermore, the proposal has been designed to minimise environmental impact.

8 Conclusion

The **nbn**[™] facility proposed at Wilcannia has been sited in a manner which allows **nbn**[™] to provide broadband services effectively and efficiently as part of the New South Wales State Government's 'Gigstate' project. The facility has been strategically sited and designed to ensure that the target coverage area is able to be provided with **nbn**[™] broadband services.

The selected location is set away from the Barrier Highway and is close to the edge of the township, which adjoins a large rural area. Whilst there are a couple of existing dwellings approximately 50 metres from the facility (which are in the RU5 zone and sited opposite a general industrial zone) and will obliquely face the selected location, the impact on those properties is still relatively modest. The impact on the balance of the locality and township more generally is considered acceptable. The selected location is also consistent with the objectives of the E4 General Industrial zone.

The proposed **nbn**[™] facility is expected to have significant benefit for residents, businesses, educational and health establishments in Wilcannia. It will assist by providing improved internet services and contribute socially and economically within the area.

For all of those reasons, the proposed facility should be granted approval.