Development Application for Planning Consent

Proposed New Telecommunications Facility

Unnamed Public Reserve
Corner of Bugden Avenue and Nicklin Crescent
Fadden ACT 2904

(Division of Fadden: Block 14, Section 401)

Development Outcomes Report

Project Reference: S4605 Fadden Hills South
RFNSA Reference: 2904010

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1.Document Control

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Document Prepared by
Indara Corporation Pty Ltd **C/o Downer EDI Limited** Alex – Town Planner Level 10, 567 Collins Street Melbourne VIC 3000 (03) 9278 5100 community.consult@downergroup.com

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Contents

Executive Summary

Site Information	**Lot description:** Division of Fadden: Block 14, Section 401 **Physical address:** Unnamed Public Reserve, Corner of Bugden Avenue and Nicklin Crescent, Fadden ACT 2904 **Coordinates:** (-35.39886°, 149.11647°)
Proposal	Indara are seeking development consent for a new Telecommunications Facility at a Unnamed Public Reserve, at the Corner of Bugden Avenue and Nicklin Crescent, Fadden ACT 2904 (Division of Fadden: Block 14, Section 401). The proposed facility will be owned by the Indara Group and will host Optus telecommunications equipment. The facility will provide Optus 4G services to Fadden. The proposal involves: • One (1) 20m Indara monopole. • One (1) 5m high slimline turret headframe supporting the following equipment: • Three (3) new Optus panel antennas. • The installation of a two (2) bay equipment cabinet on a new concrete pad foundation, within the proposed Indara compound. • The removal of four (4) existing trees within the land parcel is required to establish the proposed facility. • A new crossover and gravel access track, approximately 6.3m in length, is proposed to access the Indara compound. • The installation of ancillary equipment associated with the safety and proper function of the facility, including remote radio units (RRUs), a group meter panel, submains, elevated cable tray, cabling, antenna mounts, GPS antenna, security fencing, weed matting and gravel etc. The facility will be located within a fenced 9.6m x 7.6m compound, enclosed by a 2.4m high chain-link security fence. The monopole, antennas, RRUs and equipment shelter will be finished in a 'Pale Eucalypt' colour, however, Indara will consider an alternative colour scheme at the Directorate's request.
Purpose	Indara Corporation Pty Ltd (part of the Indara group), with Optus, are proposing a new telecommunications facility, to provide Optus services to Fadden. The facility has been designed as a neutral host facility, capable of supporting co-location by other carriers, government entities and wireless service providers.
Planning Considerations	**Consent Authority:** Environment, Planning & Sustainable Development Directorate **Territory Plan – Land Use Zone:** PRZ1 - Urban Open Space **Overlays:** Pe: Urban Open Space
Applicant	Downer EDI Limited on behalf of Indara Corporation Pty Ltd Level 10, 567 Collins Street Melbourne VIC 3000 Contact Person: Alex Email: community.consult@downergroup.com Our Reference: S4605 | Fadden Hills South

1. Introduction

Downer EDI Limited, on behalf of Indara Corporation Pty Ltd (part of the Indara Group), are seeking development consent for a new telecommunications facility at an Unnamed Public Reserve, at the Corner of Bugden Avenue and Nicklin Crescent, Fadden ACT 2904 (Division of Fadden: Block 14, Section 401) (the subject site).

The new facility will be comprised of a 20m monopole supporting Optus telecommunications antennas and equipment upon a 5m high slimline turret headframe (the proposed facility). The purpose of the project is to significantly improve mobile telecommunications services, including coverage and network capacity, in the Fadden area.

This Development Outcomes Report provides an assessment of the project against relevant planning controls.

2. Background

2.0 Indara and Optus

This development application has been prepared and submitted by Downer EDI Limited on behalf of the Indara Group.

Indara are Australia's leading independent owner and operator of digital infrastructure. We provide critical communications and data solutions that help support the digital transformation of our society. We're passionate about investing long term in our nation, building and designing digital infrastructure that creates long term value for our customers and the broader Australian community.

Indara owns and manages over 4300 mobile telecommunications facilities across Australia. Indara operate as a neutral host – our facilities are specifically designed to accommodate co-location by Australia's mobile carriers, government agencies and other wireless services providers.

Indara has partnered with Optus Mobile Pty Ltd (Optus) to expand the Optus mobile network across Australia. This facility is being proposed to improve Optus mobile services in the Fadden area.

The proposed facility is comprised of a new 20m monopole and associated passive infrastructure, which will be owned and managed by Indara, and active infrastructure (antennas and telecommunications equipment) which will be owned and managed by Optus.

2.1 Demand for Network Services

Access to high quality telecommunications services is vitally important to the community. Mobile usage continues to trend upward.

- 97% of Australians use a mobile phone; 82% of Australians do not have a landline phone and rely exclusively on a mobile phone[1].

- Mobile phones are the most common way that Australians go online; 95% of Australians used a mobile phone to access the internet in 2023[2].

- Data traffic continues to increase every year. The total volume of data downloaded by mobile services in Australia increased by 31% between June 2022 and June 2023[3]. Globally, between Q3 2022 and Q3 2023, mobile data traffic grew by 33%[4].

  Streaming and video calling are major drivers of this increased demand. Following the Covid-19 pandemic, many Australians have continued to work from home, or maintain flexible or hybrid working arrangements, placing further pressure on the mobile network.

- Public safety is a significant driver behind improvements to mobile coverage. In 2021, around 78% of emergency calls were made from a mobile handset[5].

By extension, mobile base stations are essential infrastructure – it is important that mobile infrastructure keeps pace with this increasing demand.

The proposed telecommunications facility is required in response to these general trends, as well as specific issues within its local area.

[1] https://www.acma.gov.au/publications/2023-12/report/communications-and-media-australia-how-we-communicate

[2] https://www.acma.gov.au/publications/2023-12/report/communications-and-media-australia-trends-and-developments-telecommunications-2022-23

[3] https://www.acma.gov.au/publications/2023-12/report/communications-and-media-australia-how-we-use-internet;

[4] https://www.ericsson.com/en/reports-and-papers/mobility-report/dataforecasts/mobile-traffic-update

[5] https://www.triplezero.gov.au/triple-zero/How-to-Call-000/advanced-mobile-location

2.2 Coverage Objectives

Mobile telecommunications systems work on a cellular principle, whereby a network of base stations provides coverage to an area. Each base station also has a restricted capacity in terms of the number of calls it can receive and transmit and capacity for users to upload and download data or browse the web. Therefore, high demand and usage in the mobile and internet network is directly proportional to the need and requirement for an increased number of base stations to accommodate the high traffic demand.

Optus have undertaken an analysis of their networks in Fadden and have identified that coverage and network capacity need to be improved. There are currently no existing telecommunications facilities in Fadden and the surrounding outlying facilities cannot provide sufficient coverage to the Fadden area. This is due to Fadden's positioning within a valley, below the 'U' shaped Wanniassa Hill Nature Reserve, which encircles it to the west, north and east. These surrounding ridgelines limit coverage to Fadden, from the existing base stations in the surrounding areas, as illustrated in ***Figure 1***.

In some areas surrounding the proposed site, users may currently see they have coverage via the "bars" on their phone. However, this relates solely to the ability to make/receive a call. Mobile devices are data hungry as users are now demanding more services, from more locations for indoor and outdoor coverage along with indoor video data streaming, telehealth appointments and emergency calls, study, working from home and social connection. Users also demand the ability to travel across the country without interruption to mobile connection. There is such a high demand for these services that the provision of telecommunications infrastructure can struggle to meet these demands. If this issue remains unresolved – the community of Fadden will continue to experience slower download and upload speeds for internet browsing and mobile calls will be even less reliable (particularly indoors).

There are no existing base stations in Fadden and the existing base stations in the wider surrounding area are generally too far away, poorly positioned or otherwise limited from a technical perspective (the nearest existing facility is 1.01km southeast of the proposed facility). They are unable to provide the required network quality and capacity needed to alleviate the service issues.

In 2021, 42% of jobs by industry were within 'knowledge intensive' industries, which include information media and telecommunications; financial and insurance services; rental, hiring and real estate services; professional, scientific and technical services; administrative and supporting services and public administration and safety, within the Tuggeranong Employment District area. It is noted that potential future employment within the area could see this percentage increase to 83% within knowledge intensive industries[6]. It is imperative for the success of these industries that users

[6] ACT Government, 2023. District Strategies 2023 | Volume 2 – District Strategies | Part Seven – Tuggeranong District Strategy. (p. 9)

have access to reliable, high-quality telecommunications services, which will contribute to Tuggeranong District's competitive advantage in knowledge-based industries.

Additionally, following the Covid-19 pandemic, there has been strong demand for hybrid working arrangements. The influx of people working from home (WFH) has put additional strain on the existing network, due to the increased demand for downloading data (specifically from entertainment streaming services), as well as the notable increase in data uploads, due to the adoption of online learning and productivity platforms such as Zoom, Google Classroom, Microsoft Teams and Skype etc.

As described above, there is a significant social, economic and safety impetus to improve mobile coverage and network capacity in this location.

The proposal is considered to satisfy the relevant planning criteria with regard to preserving the amenity of the surrounding area, as far as practical. At the same time, and of equal importance, it meets the Optus coverage objectives, providing an effective and efficient solution to respond to the existing and identified population and economic growth of the Tuggeranong Employment District area.

Figure 1: Fadden Area Topographical Map. Elevated areas surrounding Fadden are indicatively indicated by a dashed yellow line. (Source. Google Earth 2024, Imagery Sep 2024. Image downloaded 2024).

Candidate Selection

2.3 Site Selection

Before proposing a new base station, mobile carriers will attempt to resolve service issues by reconfiguring or upgrading existing base stations. If upgrades do not resolve service issues, the carrier will consider any opportunities to co-locate on an existing mobile facility, building or other structure.

Where there are no feasible co-location opportunities, the carrier will proceed to deploy a new 'greenfield' base station.

This submission provides assessment in respect of the relevant planning guidelines and demonstrates site selection on the basis of the following:

- The site is effectively located to minimise visual impact on the locality, as far as practical.
    - The subject site is on lower land elevation than the surrounding residences to the north, while there will be localised views of the proposed facility from the nearby residences surrounding the site. It is anticipated that these views will be mitigated by the topography and mature vegetation as distance increases further up the ridgeline.
    - Dwellings to the south of Bugden Avenue are orientated south toward the valley and generally have well established vegetation within the street scape and property boundaries, which will assist in minimising views to the proposed telecommunications facility.
    - The existing vegetation within the surrounding area and further up the ridgelines forming the Wanniassa Hill Nature Reserve will provide a backdrop to the proposed facility, reducing visual impact.
    - Design measures have been implemented to minimise the visual profile and bulk of the telecommunications facility, as far as practical.
- The site will achieve the required coverage objectives for the area.
- The proposal operates within the regulatory framework.
- The facility operates within all relevant standards and is regulated by the ACMA.

Planning for a greenfield telecommunications facility is a complex process and site selection is based on a number of key issues including:

- Radiofrequency coverage;
- Low-impact and co-location opportunities;
- Availability of suitable sites;
- Planning, environmental and heritage considerations;
- Engineering considerations and
- Build feasibility.

2.4 Upgrade and Co-Location Opportunities

Where possible, Carriers endeavour to co-locate on existing telecommunications facilities. Where existing telecommunications facilities are not present, Carriers explore other potential co-location options such as radio towers, power stanchions, tall buildings or grain silos.

This approach is encouraged by the *Communications Alliance Industry Code – Mobile Phone Base Station Deployment 2020*, which promotes the use of existing facilities or tall structures for reduced visual impact.

Co-location options are not available in all circumstances and in these cases, a new greenfield facility is required. The nearest existing mobile facilities in the area are identified in ***Figure 2*** and ***Table 1*** overleaf (for further information on these sites, see www.rfnsa.com.au).

None of the existing sites in the surrounding area are suitable for co-location as they are too far from the target coverage area.

Figure 2: Existing Communications Facilities in Fadden and surrounding areas (Google Earth, 2023. Image downloaded Dec 2023).

Table 1: **Existing and Proposed Communications Facilities**		
RFNSA Details	**Site Address**	**Comments**
2904004 Telstra	Block 2, Section 364 Off Bugden Avenue Fadden ACT 2904  *(Source: RFNSA. Image downloaded 28/5/24)*	Existing Telstra site located approximately 1.01km southeast of the proposed site location. This option was not pursued any further as it is located too far southeast of the intended coverage area and of insufficient height to deliver the required coverage and capacity improvements to the intended coverage area. As discussed below in **Section 3.3**, options for a new greenfield facility at this site were also explored.

Table 1: **Existing and Proposed Communications Facilities Cont.**		
RFNSA Details	**Site Address**	**Comments**
2903001 Optus Vodafone Telstra	Active Leisure Centre Tennis Courts McBryde Crescent Wanniassa ACT 2903  *(Source: RFNSA. Image downloaded 28/5/24)*	Existing Indara site located approximately 2.15km southwest of the proposed facility location. The Optus equipment at this facility was upgraded in September 2024 as part of planned network enhancements for the surrounding area. However, due to its distance from the Fadden coverage area, it cannot provide sufficient service or capacity improvements, so this option was not pursued.
2607001 Vodafone Telstra	Erindale Drive Isaacs ACT 2607  *(Source: RFNSA. Image downloaded 28/5/24)*	This existing site is located approximately 2.18km northeast of the proposed facility location, within the Isaacs Pines Nature Reserve. Due to the topography of the area (with the Wanniassa Hills lying in between this facility and the required coverage area in Fadden to the south), together with the separation from the intended coverage area, this facility was discounted.

2.5 Alternate Candidates

A robust investigation of potential candidates has been undertaken.

In identifying a suitable candidate, a siting has been sought to maximise separation from residences and sensitive uses where possible, whilst also endeavouring to minimise impacts on the environment and scenic amenity as far as practicable.

In this instance, the proposed facility is intended to service a well-established area, with limited opportunities to site a facility away from sensitive land uses and residences. Indara has sought to minimise visual impact as far as practical, by locating a facility on non-residential land.

A precautionary approach has been taken to site selection in accordance with sections 4.1 and 4.2 of the *Industry Code C564:2020 Mobile Base Station Deployment*.

A number of alternate sites were examined to determine their suitability. ***Figure 3*** and ***Table 2*** highlights alternate sites considered. The main reason that these alternate sites were not chosen

was based on environmental and amenity constraints and the inability to satisfy the coverage objectives for the area.

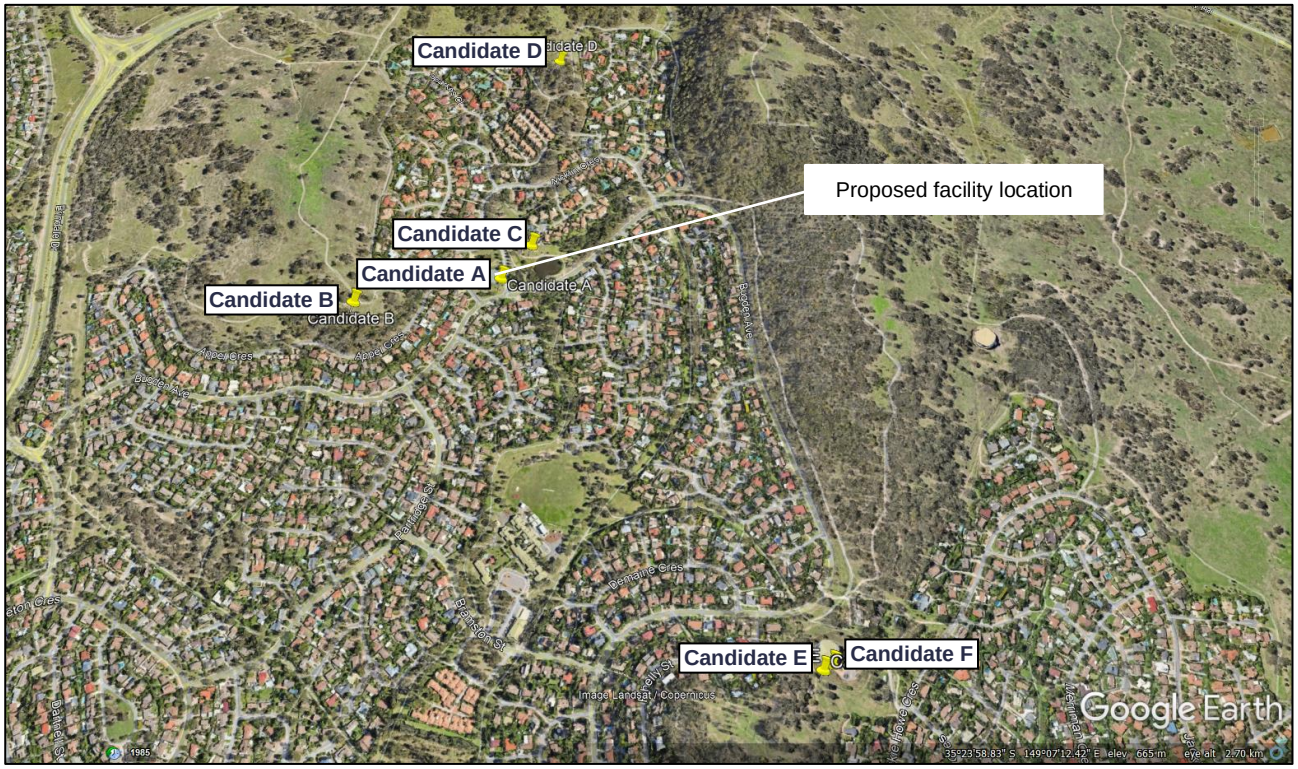


Figure 3: Potential candidates (Google Earth, 2024. Image downloaded Apr 2024).

Table 2: Prospective Candidates		
Candidate	**Site Address**	**Comments**
A	Unnamed Public Reserve Corner of Bugden Avenue and Nicklin Crescent Fadden ACT 2904 Fadden: Block 14, Section 401	This 'U' shaped land parcel surrounds a smaller land parcel encompassing community tennis courts. Both parcels form a larger area of public reserve located opposite Fadden Pond. The subject land parcel (and the adjoining parcel) are public land managed by Transport Canberra and City Services (TCCS). This proposed location is the preferred candidate for a new facility based on the following considerations: • Land tenure is available. • This location achieves the coverage objectives for Optus. • The land parcel is one of the very few non-residential or nature reserve zoned lots in the coverage area, being zoned PRZ1 Urban Open Space. • The proposed location is situated below the surrounding ridgelines of the Wanniassa Hills Nature Reserve, minimising impacts to views of these protected areas, as far as practical. It is noted that views from within Fadden towards the ridgelines will afford some visual screening of the proposal from the existing vegetation within the streetscape and property boundaries. • The proposed monopole height is the minimum necessary to meet coverage objectives, with a monopole and turret headframe selected to reduce the visual profile and bulk of the facility. • The monopole, antennas and ground equipment are proposed to be coloured 'Pale Eucalypt' to increase visual integration with the surrounding landscape. • Whilst it is anticipated that the facility will be highly visible from close proximity, it is considered that this candidate will result in a lower amenity impact, compared to Candidates B and C. Given the above factors, this candidate was considered to be the most appropriate location for a new facility and is the subject of this development application.

Table 2: Prospective Candidates Cont.		
Candidate	**Site Address**	**Comments**
B	Wanniassa Hills Nature Reserve North of Appel Crescent and east of Erindale Drive Fadden ACT 2904 Fadden: Block 4, Section 349	This candidate consisted of a new monopole, upon public land, under the control of the Environment, Planning and Sustainable Development Directorate (EPSDD), managed by the Parks and Conservation Agency. This large land parcel forms the Wanniassa Hills Nature Reserve, being a DES: Designated Area having special characteristic of the National Capital. The land is zoned NUZ3: Hills, Ridges and Buffer Areas, Overlay Pc – Nature Reserve. Whilst the elevated nature of this candidate achieved the coverage objectives, an agreement could not be reached with the land custodian. Additionally, a facility in this location was considered to have a higher environmental and visual amenity impact, noting the scenic nature and outlook of this protected area. As such, this option was not pursued further.
C	Fadden Hills Pond Public Reserve Fadden ACT 2904 Fadden: Block 20, Section 400	This candidate consisted of a new monopole, upon public land being, managed by TCCS. This land parcel forms the 'Fadden Hills Pond' Public Reserve and is zoned PRZ1 – Urban Open Space, on the opposite side of the road to Candidate A. Whilst investigations sought to identify a suitable location within this 'L' shaped land parcel, the scenic nature of the reserve, including its landscaped grounds, pond, and playground, a location which did not have a higher environmental and visual amenity impact than alternate options could not be identified. As such, this option was not pursued further.

Table 2: Prospective Candidates Cont.		
Candidate	**Site Address**	**Comments**
D	Wanniassa Hills Nature Reserve 35-39 Nicklin Crescent Fadden ACT 2904 Fadden: Block 1, Section 412	This candidate consisted of a new monopole upon public land under the control of the EPSDD, managed by the Parks and Conservation Agency. The larger land parcel forms the Wanniassa Hills Nature Reserve, being a DES: Designated Area possessing having special characteristic of the National Capital. The land is zoned NUZ3: Hills, ridges and buffer areas, Overlay Pc – Nature Reserve. Located below the ridgeline of the Wanniassa Hill Nature Reserve, approximately 275m south of the Wanniassa Hills Trigonometrical Station and 30m lower in elevation than the ridgeline. Whilst the elevated nature of this land achieved the coverage objectives, an agreement could not be reached with the land custodian. Additionally, a facility in this location was considered to have a higher environmental and visual amenity impact, noting the scenic nature and outlook of this protected area. As such, this option was not pursued further.
E	Jackie Howe Crescent MacArthur ACT 2904 (accessed via a private access track opposite 40 Jackie Howe Crescent) Macarthur: Block 27, Section 375	This candidate involved a new monopole upon public land managed by Icon Water. The land parcel is zoned NUZ3 – Hills, ridges and buffer areas with Overlay Pc - Nature Reserve. A siting of a proposed facility within this land parcel was immediately southeast of the existing water tank, adjacent to the existing laydown and storage areas. This land parcel afforded a level of elevation, compared to the surrounding terrain, with co-occupation of land currently utilised for public infrastructure. Additionally, the subject was well separated from sensitive land uses and the surrounding residential development. However, this option was not pursued further, as the proposal was not compatible with the landowner's future infrastructure development plans for the site, which included the expansion and alteration of the water tanks and facilities. Additionally, the proposed location did not deliver the required Optus coverage improvements.

Table 2: Prospective Candidates Cont.		
Candidate	**Site Address**	**Comments**
F	Jackie Howe Crescent, MacArthur ACT 2904 (access via private track opposite 40 Jackie Howe Crescent) Macarthur: Block 27, Section 375	This candidate is a secondary alternative location upon the same parcel of land as candidate E, being public land managed by Icon Water. The siting of this proposal is to the west of Candidate E. This candidate also incorporated a new monopole upon land zoned NUZ3 – Hills, ridges and buffer areas with Overlay Pc: Nature Reserve. As with Candidate E, this site is well setback from sensitive land uses and residential areas and would be provided an aspect of visual screening by low level vegetation within the surrounding area, however, it was discounted due to extensive development footprint required to construct both the facility and provide appropriate access. Furthermore, this candidate did not deliver the required Optus coverage improvements.

3. Small Cell Technology

Small cells are not a feasible option in this location because they cannot provide a suitable level of service. Whilst small cell facilities would likely be Low Impact (in accordance with the *Telecommunications (Low-impact Facilities) Determination 2018*, small cells will not provide an acceptable network outcome over this large, undulating and heavily vegetated area. Small cells only have a coverage footprint of 100-400 metres and terrain, vegetation and buildings can reduce the coverage footprint and capacity of the site. They only work effectively where there is already core mobile service from a macro site (such as a monopole or lattice tower). They work to supplement the coverage produced by a macro site in specific locations where there is high demand or a very specific blackspot. They are not a replacement for full sized base stations.

4. Site Context

The proposal involves establishment of a new telecommunications facility at an Unnamed Public Reserve, located on the western Corner of Bugden Avenue and Nicklin Crescent, Fadden ACT 2904 (Division of Fadden: Block 14, Section 401). The land is zoned Urban Open Space – PRZ1 under the Territory Plan 2023.

The property is a large 0.52 ha ‘U’ shaped block which wraps around a smaller adjoining land parcel, which provides community tennis courts and associated car parking facilities. The land parcel has

street frontages to Bugden Avenue, Nicklin Crescent, Appel Crescent and Stopford Crescent but currently has no dedicated crossover or access point.

The locality is dual use in nature derived of predominantly residential and recreational open space land uses, with the occasional community facility and local centre interspersed throughout the area. The residential land uses surround the site in all directions and are largely in the form of single or double storey detached dwellings at low density. The residences are generally nestled into the hillside in a staggered arrangement and orientated south toward the valley to maximise views.

The residential blocks are broken up by an established network of vegetated open space corridors, which provide a scenic backdrop to the Wanniassa Hill Nature Reserve in the distance. Additionally, the topography and vegetation provides a level of visual buffering of the proposed facility from the surrounding residential development.

The proposed site location itself is located close to southeast corner of the land parcel (setback 6.3m from the Nicklin Crescent boundary and 9m from Bugden Avenue boundary of the property). The closest residential dwelling is located approximately 45m south along Bugden Avenue. The proposed facility is well separated from specific sensitive land uses, such as schools, childcare centres and aged care facilities - Genisis Family Day Car Centre is located approximately 410m to the northeast, with Lachlan Playground 145m to the southeast and Fadden Primary School located 505m to the south.

The Fadden Hills Pond is located to the immediate east, across Nicklin Crescent. The reserve is well-established with mature vegetation, walking track, pond and seating/viewing areas. The Fadden Pond Playground (also called the Hilton Playground) is located northeast of the pond area.

The land parcel features established vegetation to the west, north and east of the proposed site location, as well as the established vegetation along the southern corner of the adjoining land of Fadden Hills Pond will provide some screening of the ground equipment and lower section of the monopole from surrounding vantage points.

Figures 4 to ***8*** show the proposed site location within the context of the surrounding area.

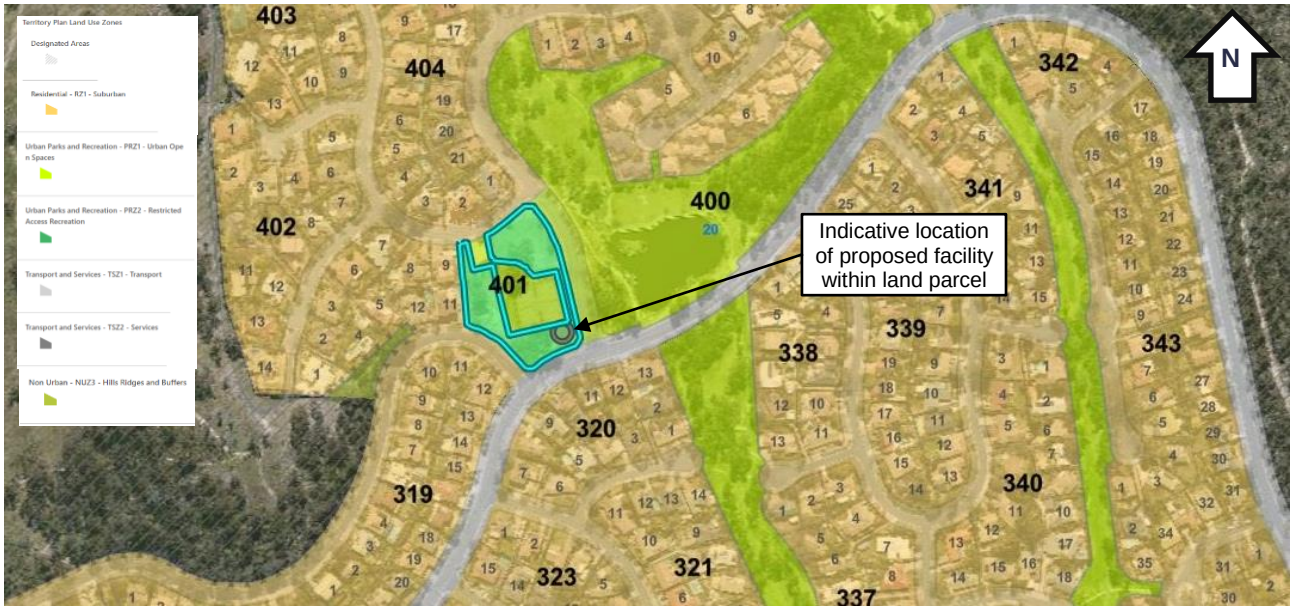


Figure 4: Territory Planning Zone Map. The facility is located wholly within the PRZ1: Urban Open Space land zoning (Source: ACTmapi, 2024. Image downloaded 28/11/2024)

Figure 5: Site context. The new facility is located in the southwest corner of the subject lot (shown in blue), abutting the road reserve forming the corner of Bugden Avenue and Nicklin Crescent. (Source: ACTmapi, 2024. Image downloaded 28/11/24).

Figure 6: Site context. It is proposed a new crossover and access will be construction to access the facilty from Nicklin Crescent. (Source: ACTmapi, 2024. Image obtained May 2024).

Figure 7: Site Context. View toward the proposed facility location from the corner of Appel Crescent and Bugden Avenue looking east. The compound is located toward the southeastern corner of the larger subject land parcel, from this perspective the compound is located behind the existing vegetation. (Source: ServiceStream, Jul 2023).

Figure 8: Site Context. View of the proposed facility from Bugden Avenue, adjacent Fadden Pond, looking west. (Source: Downer, Aug 2024).

5. Proposed Works

5.0 Equipment to be Installed

The proposed works involve installation of:

- One (1) 20m Indara monopole.
- One (1) new 5m high slimline turret headframe supporting the following equipment:
  - Three (3) new Optus panel antennas.
- The installation of a two (2) bay equipment cabinet on a new concrete pad foundation, within the proposed Indara compound.

- The installation of ancillary equipment associated with the safety and proper function of the facility, including remote radio units (RRUs), a group meter panel, submains, elevated cable tray, cabling, antenna mounts, GPS antenna, security fencing, weed matting and gravel etc.

- The monopole, antennas, RRUs and equipment shelter will be finished in a 'Pale Eucalypt' colour, however, Indara will consider an alternative colour scheme at the Directorate's request.
- Four (4) existing small trees within the land parcel will be removed to establish the proposed facility.
- This land parcel does not currently have direct road access for vehicles or crossover from the road reserve. It is proposed that a new crossover and access track be constructed off Nicklin Crescent.
- A temporary construction staging area is proposed within the boundaries of the land parcel, as per the preliminary plans.

The facility will be located within a fenced 9.6m x 7.6m compound, enclosed by a 2.4m high chain-link security fence.

The overall height of the proposed facility, including antennas and equipment, will not exceed 25m above ground level.

Refer ***Appendix 1*** for proposal plans.

5.1 Site Access and Parking

The land parcel currently has no access point for vehicles, or crossover from the road reserve. As such, it is proposed that a new crossover will be constructed in line with the Delegate's design guidelines, to access the subject land parcel from Nicklin Crescent, as shown in ***Figure 9***. A new gravel access track, of approximately 6.3m, is required from the crossover to the Indara compound.

Once constructed, the facility will operate on an unmanned basis aside from periodic routine maintenance visits (generally 2-4 times annually). The facility will not generate significant vehicle traffic through its ongoing operation and will therefore not require a Traffic Impact Assessment.

Access to the facility will be obtained from Nicklin Crescent for both construction and future maintenance visits, without disruption to road use and traffic flow.

During the construction phase, a truck will be used to deliver the equipment and a crane will be utilised to lift the equipment into place. Any traffic impacts associated with construction will be of a short-term duration. Accordingly, the proposed facility will not be a significant generator of vehicular

or pedestrian traffic and will not adversely impact local traffic flow. In the unlikely event that a road closure will be required, the Applicant will apply to the relevant departments for permission.

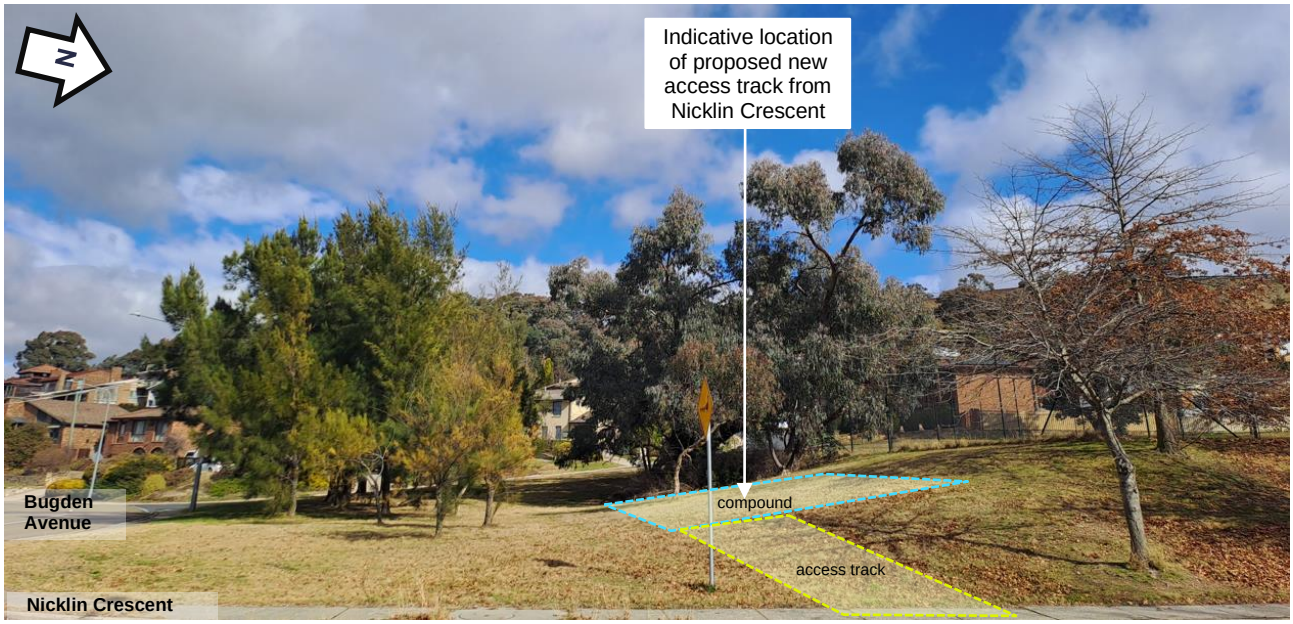


Figure 9: View from Nicklin Crescent towards the proposed facility. Proposed new crossover and site access from Nicklin Crescent is indicatively shown. (Source: Downer, Aug 2024).

5.2 Registered and Protected Trees

As shown overleaf in ***Figure 10***, the proposed development is not within proximity to a '*Registered Tree*' within the wider area. However, given that the site is within publicly owned land, all trees are protected under the *Urban Forest Act 2023*, including those within the adjacent road reserve. As is shown overleaf in ***Figure 11***, the proposal has been sited away from mapped '*Mature Trees'* within the area (indicated by green dots).

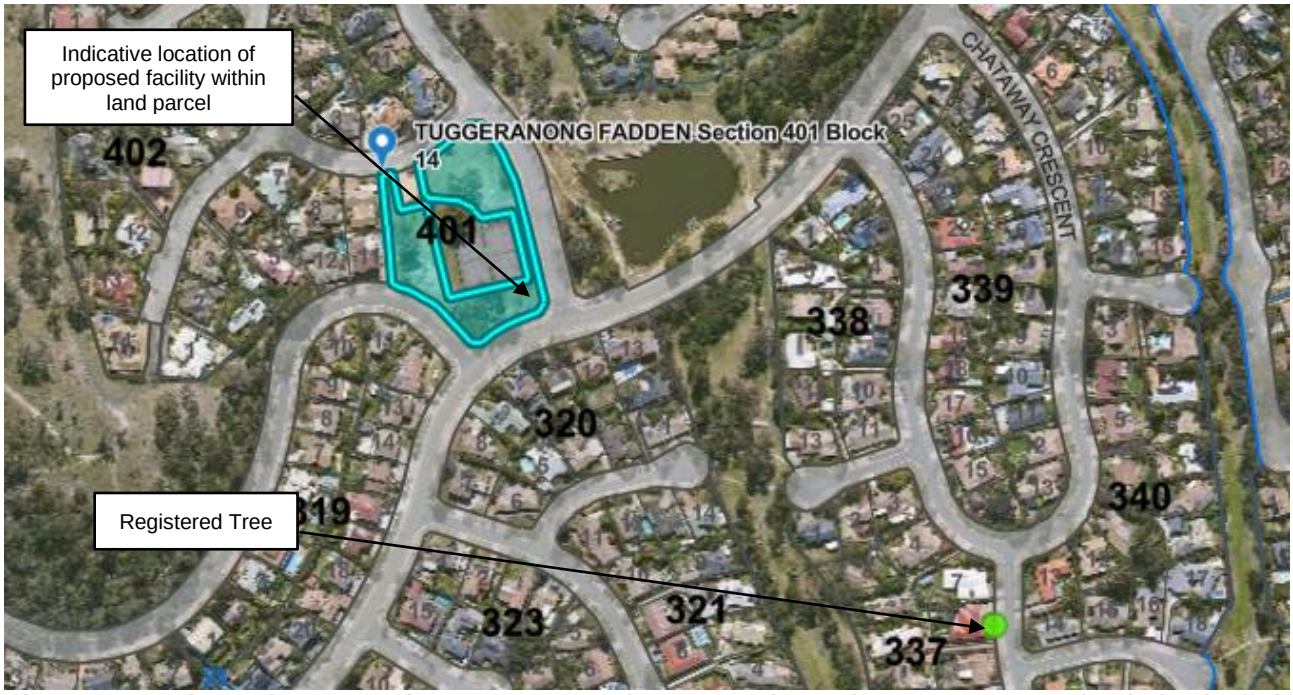


Figure 10: Registered Tree Map (Source: ACTmapi, 2024, Registered Trees Map. Downloaded 28/11/24).

Figure 11: Mature Trees Map (Source: ACTmapi, 2024, Mature Trees Map. Downloaded 28/11/24).

Tree removal is limited to the minimum extent necessary to establish the proposed facility and will consist of four (4) small semi-mature trees (approximate height to 3m) within the land parcel, as

show in ***Figures 12*** and ***13***. It is anticipated that all other existing vegetation upon the subject land parcel can be protected and retained.

A *Tree Management Plan* (TMP) has been prepared, refer ***Appendix 2***, in line with the *Urban Forest Act 2024*. A supporting *Landscape Management Protection Plan* (LMPP) has also been prepared, refer ***Appendix 3***. Indara are open to compensatory planting, to offset the vegetation removal, subject to the requirements of the Delegate and consent of TCCS.

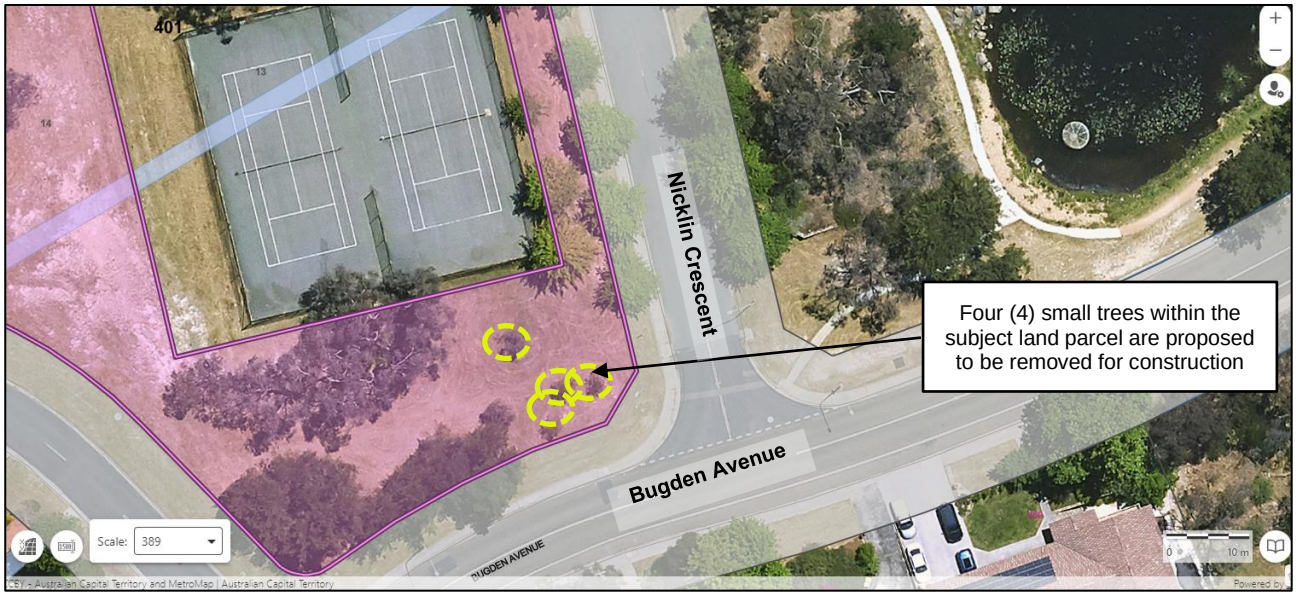


Figure 12: Aerial view of vegetation within subject land parcel and within adjacent road reserve. (Source: ACTmapi. Image downloaded May 2024).

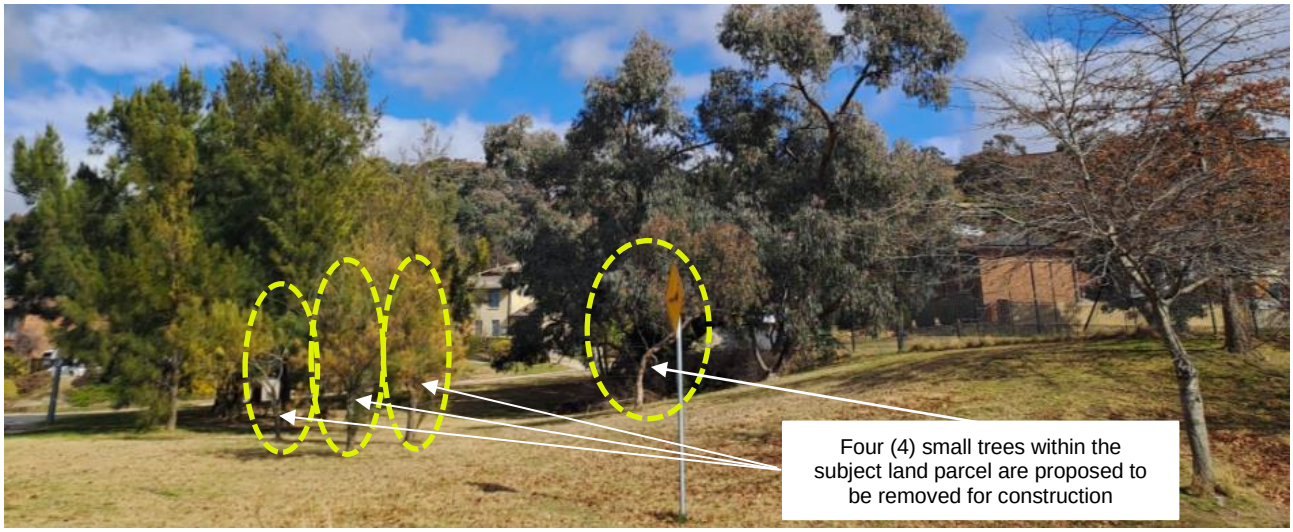


Figure 13: Existing vegetation within subject land parcel and road reserve. (Source: Downer, Aug 2024).

5.3 Erosion and Sediment Control

As the proposed facility occupies a site area less than 0.3HA, it does not require an Environmental Authorisation or License.

As the proposed site location is a relatively flat, cleared area of land, which is set back from sensitive areas such as waterways and given the small scale of the development footprint, it is not anticipated to result in any soil erosion or siltation.

5.4 Contamination

A search of the Contaminated Sites Register for the ACT completed on 28/11/2024 confirmed that the proposed facility is not located on land or within proximity to land listed as contaminated.

5.5 Noise

The facility will not be a significant generator of noise. The only part of the facility that generates noise is the cooling fans on the equipment cabinet.

Cooling equipment will only operate when required and will not operate continuously. Cooling equipment will operate at levels generally comparable to those of a domestic air conditioner. The project is not expected to represent a noise nuisance.

5.6 Power and Utilities

The proposal will include installation of underground power and fibre infrastructure, via trench. No works associated with stormwater drainage, or connections to reticulated water and sewerage, are proposed or required.

5.7 Emissions

Operation of the facility will not result in emission of dust, heat, smoke, gaseous plumes or particulates.

To provide mobile coverage, the facility will produce electromagnetic EME emissions. These will be within the levels prescribed by ARPANSA and regulated by ACMA. An ARPANSA EME Report, demonstrating compliance with Australian safety standards, is attached. Refer ***Section 8*** of this report.

5.8 Heritage

The proposed facility is not located within proximity to a listed nominated, provision or registered heritage site or cultural heritage site on the *ACT Heritage Register*, as show in ***Figure 14***.

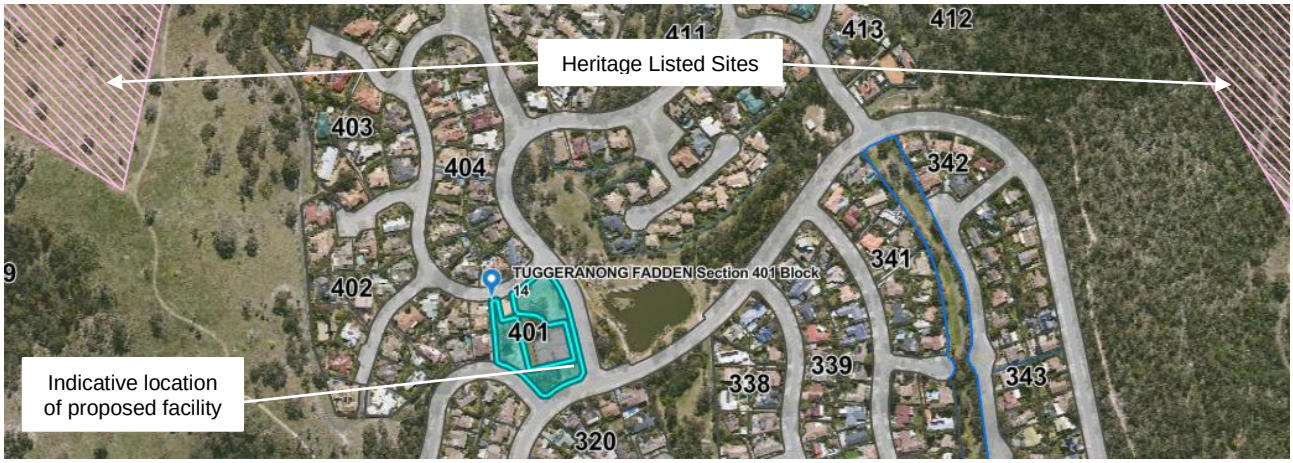


Figure 14: Heritage Map (pink hatching represents 'Heritage Registered' sites). (Source: ACTmapi, GDA 2020. Image downloaded Nov 2024).

5.9 Environmental Considerations

As noted in ***Figure 15***, based on the mapping available via ACTmapi, the proposed site location and construction staging area are not identified as being within proximity to any Threatened Ecological Communities, being areas of woodland indicated in dark green, or Threatened or Migratory Species, which includes pink-tailed worm-lizard habitat shown diagonally stripped, areas of Hoary Sunray habitat shown in light green and areas of other 'rare & important plants' shown in purple.

The land is not covered by any protection zones identified in the Department of Climate Change, Energy, the Environment and Water's (DCCEEW) Protected Matters Search Tool. A search of the EPBC protected Matters Report (conducted on 23/10/2024) indicated that the following may be present within a 1km radius of the proposed site location:

- 2 x Listed Threatened Ecological Communities;
- 41 x Listed Threatened Species and;
- 8 x Listed Migratory Species.

The location of the proposed site is within a public reserve, developed in part with tennis courts and a car park. It is not anticipated that the proposal will impact any potential threatened species or ecological communities that may occur within the broader area.

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

(a) World Heritage Areas;

(b) Wetlands protected by International Treaty (The RAMSAR Convention);

(c) Nationally listed threatened species and communities;

(d) Nationally listed migratory species;

(e) All nuclear actions, or

(f) The environment of Commonwealth Marine area.

Refer to EPBC Act Protected Matters Report at ***Appendix 4*****.**

The design of the proposed facility has sought to minimise vegetation disturbance as far as practical and limited it to the extent necessary to establish the proposed facility. As discussed above in ***Section 5.2***, a TMP and LMPP have been prepared and are attached at ***Appendix 2*** and ***3***.

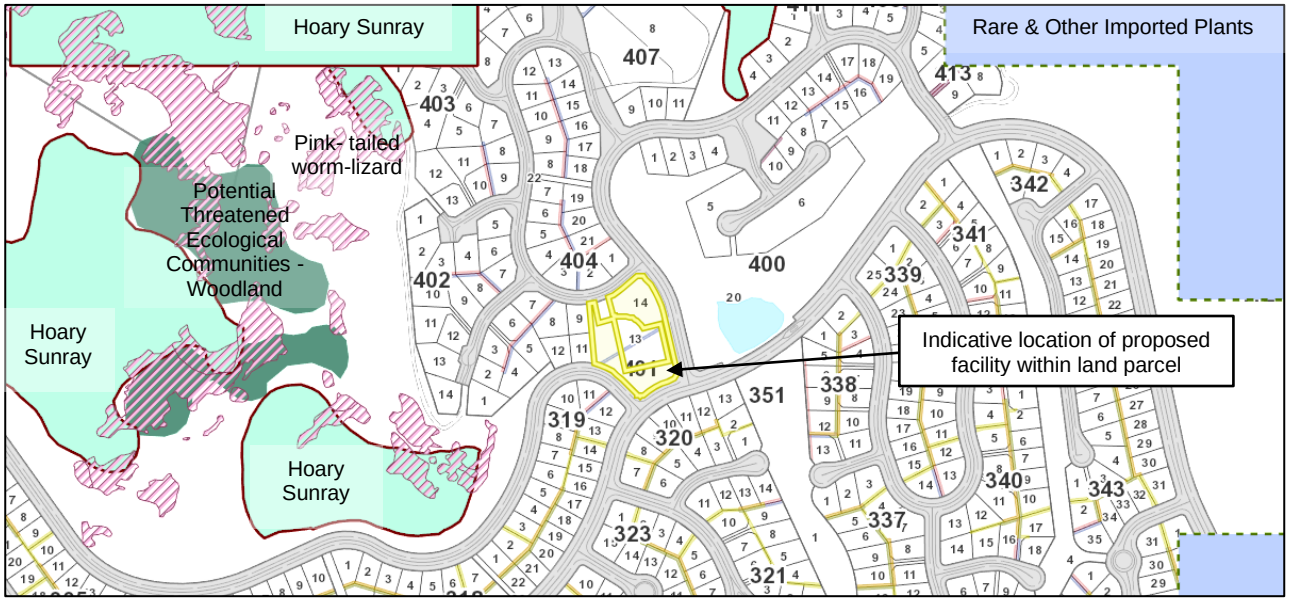


Figure 15: Biodiversity Map. (Source: ACTmapi\|GDA2020\| Significant Species, Vegetation Communities & Registered Trees, 2018. Downloaded 25/01/24).

5.10 Bushfire

As noted in ***Figure 14***, whilst the western portion of the land parcel is identified as being bushfire prone, the proposed facility is located outside of this area, on a largely cleared portion of the land parcel.

Given the nature of the facility (being steel with concrete foundations and gravel compound area), it is not considered to contribute to increased bushfire risk from the remnant bushland corridors and hilltops surrounding Fadden. The facility will provide vital access for the community to telecommunications services in the event of an emergency situations such as a bushfire.

Figure 14: Bushfire Prone Areas Map. Affected areas indicated in red shading (source: ACTmapi, GDA 2020. Image downloaded 28/11/24).

5.11 Aviation

The proposed site is situated approximately 11.5km south-west of Canberra Airport and is therefore within the Outer Horizontal Surface of the Canberra Airport Obstacle Limitation Surface (OLS).

Canberra Airport sits at a ground elevation of approximately 570m. The MOS 139 sets the Outer Horizontal Surface at a plane of 150m above the reference elevation datum. Hence, the maximum allowable height at this location, without breaching the Canberra Airport OLS, is 720m AHD* (subject to degree of variation).

The proposed facility has an overall height of 698m AHD, which is calculated based on a Google Earth ground level of 673m AHD and an additional facility height of 25m.

During construction, a crane will be used for approximately 24 hours, resulting in a temporary height increase to approximately 678m AHD to install the monopole, which does not exceed the limits of the Canberra Airport OLS.

It is noted that the Wanniassa Hills Nature Reserve sits at higher elevations than the proposed facility, between the proposed development and Canberra Airport to the northeast.

As such, no specific aviation safety measures, such as lighting or obstacle paintwork, are proposed. However, as a precautionary measure, Downer propose to refer this matter to AirServices for comment and response to the Directorate as part of this application.

6. Legislative Context

6.0 Commonwealth Legislation

6.0.1 Telecommunications Act 1997 and Telecommunications (Low-Impact Facilities) Determination 2018

The *Telecommunications Act 1997* allows mobile carriers to perform certain maintenance and installation works without needing development consent. The *Telecommunications (Low-Impact Facilities) Determination 2018* also allows for certain kinds of 'Low Impact' equipment to be installed without development consent.

New towers do not fall within these federal planning exemptions. Accordingly, this proposal will require Delegate approval.

6.0.2 Telecommunications Code of Practice 2021

The *Telecommunications Code of Practice 2021* emphasizes "best practice" for the installation of facilities, compliance with industry standards and minimisation of adverse impacts on the environment.

This proposal has been designed with consideration for the Code of Practice. All steps will be taken to do as little damage as practicable; the facility will be constructed and operated in accordance with industry standards and good engineering practice; and the design of the facility will be in accordance with industry best practice.

6.0.3 C564:2020 Mobile Phone Base Station Deployment Code

The Communications Alliance Limited *C564:2020 Mobile Phone Base Station Deployment Code* (the Deployment Code) is an industry code of practice registered by the Australian Communications and Media Authority.

The Code applies to all licenced telecommunications carriers, and sets guidelines for site selection, community consultation, design, installation and operation of telecommunications facilities.

Sections 4.1 and 4.2 of the Code are relevant to this proposal, and require a precautionary approach to site selection, infrastructure design and site operation. The proposed facility has been sited and designed in accordance with Sections 4.1 and 4.2.

The Code also requires an ARPANSA EME report be prepared for all new mobile base stations, to demonstrate compliance with relevant safety standards. The report is enclosed in ***Appendix 5***.

6.1 Territory Legislation

6.1.1 Planning Act 2023

The *Planning Act 2023* (**the Act**) guides and controls development across the Australian Capital Territory. The proposal is considered "development" in accordance with Part 2.3 of the Act.

Division 7.2.2 of the Act provide that certain works are Exempt Development and do not require approval; the types of Exempt Development are listed in the Planning (Exempt Development) Regulation 2023. Whilst certain kinds of telecommunications activity are Exempt, this proposal does not meet the criteria to be considered Exempt Development and will require development consent.

It is anticipated that the proposal will be subject to the *merit* assessment track.

6.1.2 Territory Plan 2023

The *Territory Plan 2023* (the Plan) guides and manages development and land use within the Act and is used to assess development applications. The proposal has been prepared with consideration for the requirements of the Plan, including its strategic direction, district policies, zone and precinct requirements, and specific development controls.

6.1.3 Use Definition

The proposed mobile telecommunications facility is defined as a 'Communications Facility' under Part G of the Plan, being:

> *Means the use of land for the provision of facilities for postal, telecommunications and other communication purposes including facilities used for receiving and transmitting radiated*

signals using radio masts, towers and antennae systems but does not include cabling or ducting used for the carrying of electromagnetic signals.

6.1.4 Planning Principles and Strategic Links

The proposed communications facility will provide improved mobile connectivity to the Fadden area. The proposal is consistent with the planning principles and strategic links in Part C of the *Territory Plan 2023*. The proposed facility has been designed and sited with consideration for the *C2 Statement of Principles of Good Planning:*

- 2.1 Activation and Liveability: The proposed facility, through provision of improved mobile telecommunications connectivity, will support diverse economic and social activities in the Fadden area.
- 2.2 Cultural Heritage Conservation: The facility has been designed and sited to minimise impacts on cultural heritage.
- 2.3 High Quality Design Principles: The proposed facility is utility infrastructure which, for technical reasons, is required to protrude above the surrounding environment. Where possible, Indara has sought to minimise the visual impact of the facility, as far as practical, through its siting and design.
- 2.4 Housing Affordability: Whilst not strictly relevant, this proposal will provide essential telecommunications services for all residents and businesses in the Fadden area, in accordance with 2.4(c).
- 2.5 Integrated Delivery: In accordance with 2.5(c), this proposal seeks to provide communications infrastructure to meet existing and future needs; the facility has been designed and sited to have the smallest possible impact on the community.
- 2.6 Investment Facilitation: By providing essential telecommunications services, this facility will contribute strongly toward the economic prosperity of the Territory.
- 2.7 Long-Term Focus: The proposed facility is not at odds with this principle.
- 2.8 Natural Environment Conservation: The proposal has been designed and sited to have a minimal impact on the natural environment. The vegetation removal will be limited to the minimum extent necessary to establish the Indara compound and access track.
- 2.9 Sustainability and Resilience: The proposed facility is not at odds with this principle.

- 3.0 Urban Regeneration: The proposed facility is not at odds with this principle; however, it responds to a genuine need for existing and future mobile connectivity.

6.1.5 Zone Policies and Development Outcomes Response

A *Development Outcomes Report* in relation to the proposed facility is attached, refer ***Appendix 6***.

7. Visual Impact

There are numerous technical requirements that need to be considered by mobile carriers with regards to site selection.

Telecommunications facilities, by their nature, must be tall enough to protrude above the surrounding environment to function. At this location, a 20m monopole with 5m high slim turret headframe is required to meet the targeted coverage objectives for Optus; it is the smallest structure capable of achieving a feasible level of service. We note this is a technical requirement that cannot be avoided.

Specific design elements have been implemented to ensure that visual impact is mitigated as far as practicable, these include:

- Use of a monopole is proposed. Monopoles are considered to be a sympathetic inclusion to the environment when compared to other bulkier structure types, such as a lattice tower, because of their slimmer profile.
- To further reduce the visual profile of the facility, a slimline turret headframe will be utilised to install the antennas, instead of a triangular or square headframe.
- A facility height (20m monopole with 5m high slim turret headframe), which can achieve the Radio Frequency (RF) objectives for Optus, has been adopted, whilst also being sympathetic to the landscape of the surrounding area.
- The monopole, antennas and ground equipment are proposed to be coloured ‘Pale Eucalypt’, to increase visual integration with the surrounding vegetated ridgelines. Ground based equipment is be contained to the equipment cabinets adjacent to the tower. This is to minimise the visual impact of the proposal in context of the surrounding environment.
- Where possible, the existing vegetation at the site will be preserved and retained. The existence of small to medium vegetation within the land parcel and along road verges surrounding the site affords an element of screening, when viewed from surrounding vantage points. Additionally, the naturally undulating topography of the surrounding area aids in reducing the overall visual impact of the facility, within the context of the broader landscape.

As noted previously, the identification of suitable site locations is challenging due to the existing built characteristics and zoning of the area. This is further complicated by Fadden's position within a natural valley, encircled by hills and steep vegetated landscapes. A telecommunications facility in the proposed location achieves a small level of separation from what is otherwise predominantly developed for residential land use. Furthermore, the proposed facility is located amongst other community infrastructure.

Indara acknowledge that the proposed facility will have a visual presence in the environment from the surrounding visual catchments. On balance, the amenity impact of the proposal is considered to be appropriate in context, given the mitigation measures and screening elements within the landscape.

Visual impact has been considered from various perspectives of the area, as follows overleaf, with several *Artist's Impressions* (photomontage illustrations) provided below in ***Section 7.1.*** Vantage points (indicated in blue) and photomontage locations (indicated in black) are shown below in ***Figure 15***.

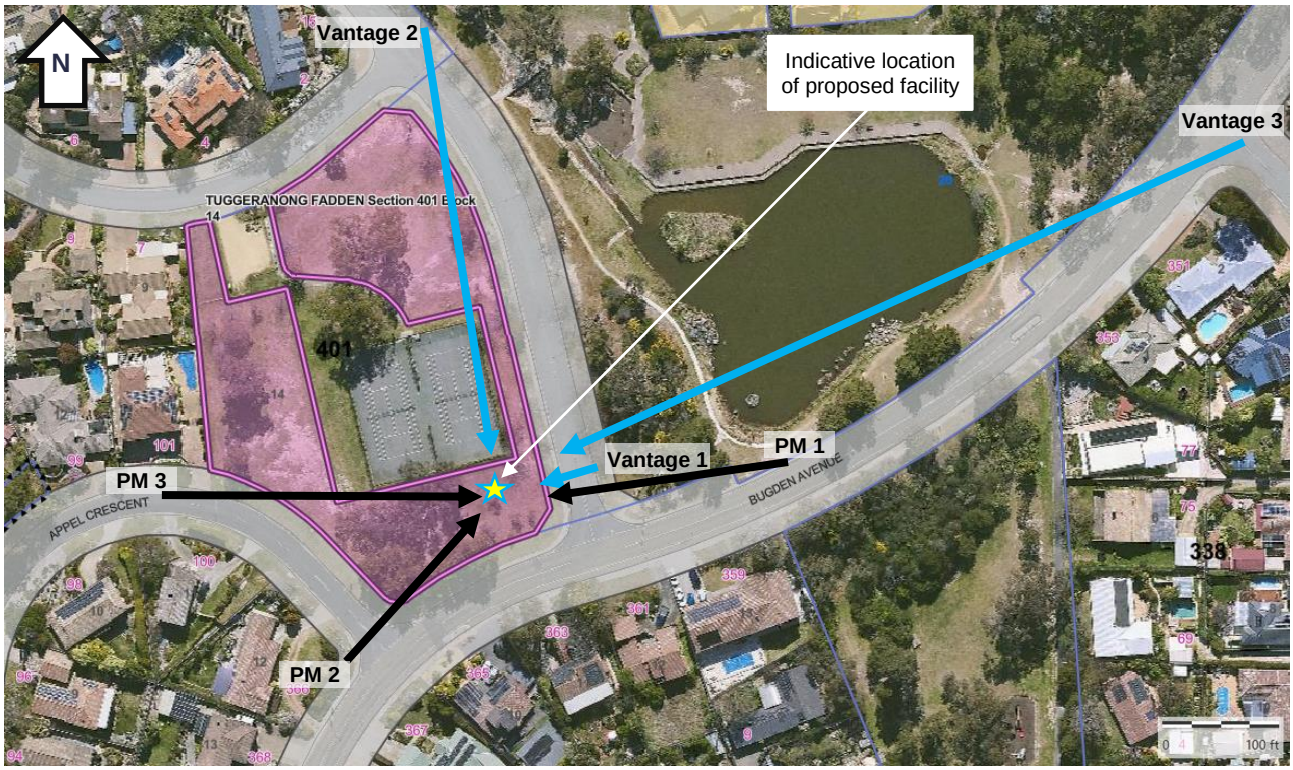


Figure 15: Aerial image of vantage points and photomontage (PM) locations. The subject land parcel is indicated by pink shaded area. (Image source: ACTmapi, 2024. Image downloaded 28/11/24)

Figure 16: Vantage 1 - view from Nicklin Crescent, near to the corner of Bugden Avenue and Nicklin Crescent, looking west towards the proposed facility location approximately 25m away. (Source: Downer, Aug 2024)

Figure 17: Vantage 2 - view from the Nicklin Crescent, at the corner of Nicklin and Stopford Crescents, looking south towards the proposed facility approximately 125m away. (Source: Downer, Aug 2024)

Figure 18: Vantage 3 - view from the corner of Bugden Avenue and Chataway Court, approximately 205m to the northeast of the proposed facility. It is anticipated that the lower portions of the facility will be screened from visibility from this perspective due to vegetation within the area, with the upper sections of the monopole protruding above the tree line from some aspects. (Source: Downer, Aug 2024)

7.1 Artist's impression of proposed facility

Three artists impressions (photomontages) have been prepared from different angles to provide visual illustration of the proposed facility. These photomontages are shown overleaf.

A3

NOTES

- **PHOTOGRAPH TAKEN APPROXIMATELY 80M EAST OF SITE, FROM THE PEDESTRIAN FOOTPATH ON THE NORTHERN VERGE OF BUGDEN AVENUE**
- **MONTAGE SHOWS FACILITY WITH TURRET HEADFRAME IN A PALE EUCALYPTUS COLOUR**
- **MONTAGES HAVE BEEN PREPARED AS ACCURATELY AS POSSIBLE, BUT ARE NOT TO SCALE AND ARE INDICATIVE ONLY**

PHOTOMONTAGE – VIEW OF FACILITY FROM BUGDEN AVENUE

FOR REFERENCE

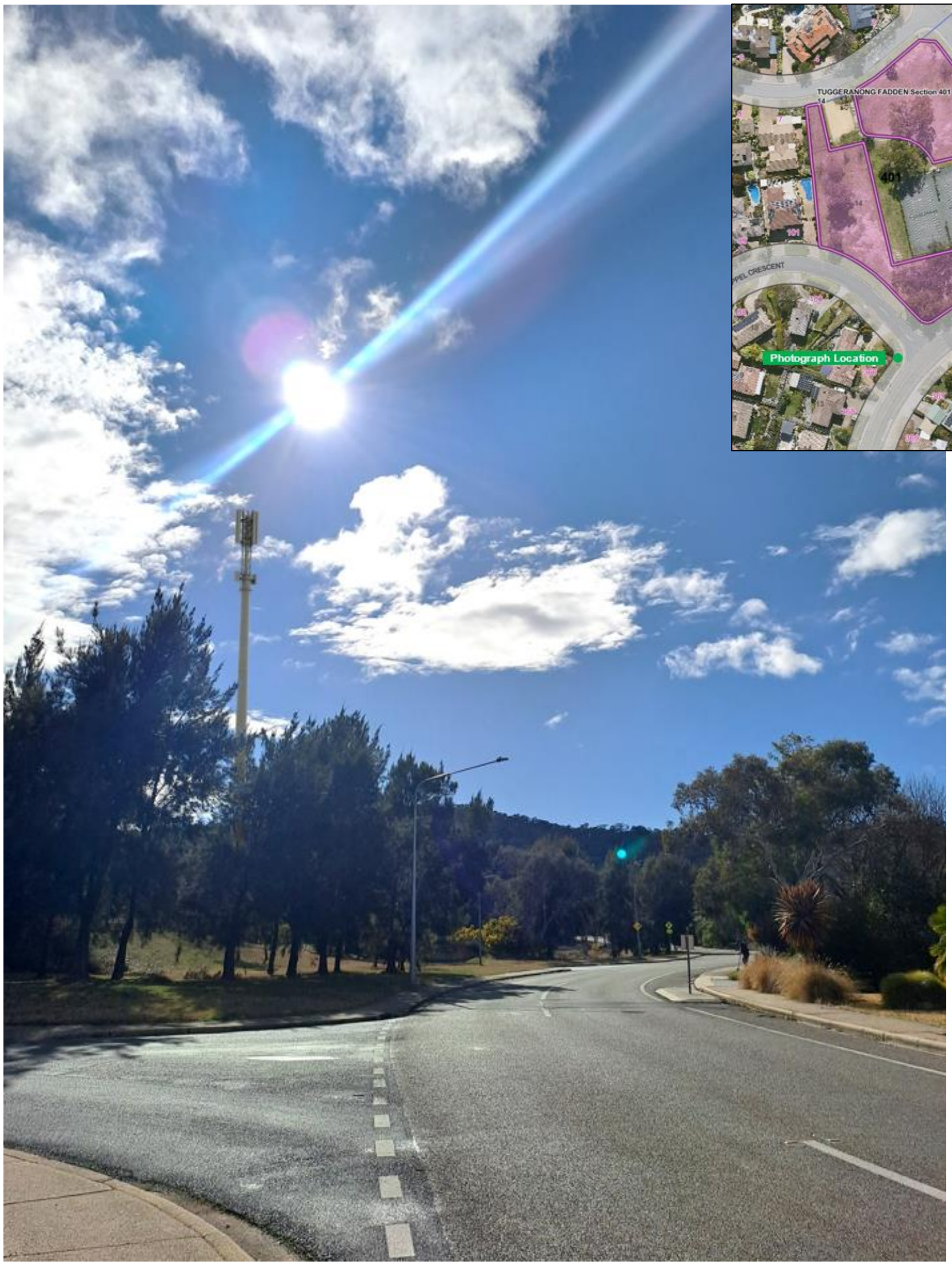
indara DIGITAL INFRASTRUCTURE
LEVEL 1, 110 PACIFIC HIGHWAY
ST LEONARDS NSW 2065
COMMUNITY@INDARA.COM
02 9495 9000

Project:
S4605 Fadden Hills South
Unnamed Public Reserve, Cnr Bugden Ave and Nicklin Cr, Fadden ACT 2904

Drawing Title:
MONTAGE 1

Drawn: ZJ
Date: 6/12/24
Scale: NTS

A3



PHOTOMONTAGE 2 – VIEW OF FACILITY FROM BUGDEN AVENUE, NEAR TO THE CORNER OF APPEL CRESCENT

NOTES

- **PHOTOGRAPH TAKEN APPROXIMATELY 60m SOUTH-WEST OF SITE, FROM THE CORNER OF BUGDEN AVENUE AND APPEL CRESCENT**
- **MONTAGE SHOWS FACILITY WITH TURRET HEADFRAME IN A PALE EUCALYPT COLOUR**
- **MONTAGES HAVE BEEN PREPARED AS ACCURATELY AS POSSIBLE, BUT ARE NOT TO SCALE AND ARE INDICATIVE ONLY**

FOR REFERENCE

indara DIGITAL INFRASTRUCTURE	LEVEL 1, 110 PACIFIC HIGHWAY ST LEONARDS NSW 2065 COMMUNITY@INDARA.COM 02 9495 9000	Project: **S4605 Fadden Hills South** Unnamed Public Reserve Cnr Bugden Ave and Nicklin Cr, Fadden ACT 2904	Drawing Title: **MONTAGE 2**	Drawn: ZJ Date: 6/12/2024 Scale: NTS

A3

PHOTOMONTAGE 3 – VIEW OF FACILITY FROM APPEL CRESCENT

NOTES

- **PHOTOGRAPH TAKEN APPROXIMATELY 95m WEST OF SITE, FROM APPEL CRESCENT**
- **MONTAGE SHOWS FACILITY WITH TURRET HEADFRAME IN A PALE EUCALYPT COLOUR**
- **MONTAGES HAVE BEEN PREPARED AS ACCURATELY AS POSSIBLE, BUT ARE NOT TO SCALE AND ARE INDICATIVE ONLY**

FOR REFERENCE

indara DIGITAL INFRASTRUCTURE	LEVEL 1, 110 PACIFIC HIGHWAY ST LEONARDS NSW 2065 COMMUNITY@INDARA.COM 02 9495 9000	Project: **S4605 Fadden Hills South** Unnamed Public Reserve Cnr Bugden Ave and Nicklin Cr, Fadden ACT 2904	Drawing Title: **MONTAGE 3**	Drawn: ZJ Date: 6/12/2024 Scale: NTS

7.2 Technical Requirements

The visual impact of the proposed facility requires consideration in light of, and in balance with, the technical requirements considered by mobile carriers with regards to site selection briefly discussed below:

- The coverage from a base station is impacted by terrain and environmental obstructions, like buildings and vegetation as are present within the Fadden area. Even a small shift in location can result in large impacts to coverage.
- Base stations must be close to the area they are servicing. Relocating the facility, even by a small distance, could impact the site's ability to service the area effectively.
- Individual base stations are cells within a wider network, meaning they must also work in conjunction with surrounding base stations in the area. If sites are too close to each other, they may cause interference, while sites that are too far from each other, may result in coverage interruptions.

The proposed facility is in a favourable location to service the wider Fadden area. Even if an alternate site were available, relocating the facility may result in a substantially worse service outcome.

The proposed facility is sited to improve existing coverage within the area and strengthen capacity and connectivity both currently and into the future, in line with expectations of continued significant growth in and reliance upon telecommunications services as has been experienced within recent years.

8. Radiofrequency Emissions and Safety

It is the position of the Australian government, and peak health bodies like the World Health Organization (WHO), that mobile base stations are safe.

Australian Government Advice

What do we know about EME? Answer: extensive scientific research confirms that mobile technology has no long or short term health effects; and the Australian Government is focused on capturing the benefits of advanced telecommunications while ensuring strict protections and safety standards are met.

The EME standard set by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) defines the maximum exposure limit for all wireless equipment and is strictly enforced by the Australian Communications and Media Authority (ACMA). Measurements undertaken by carriers and ACMA show that mobile telecommunication sites emit a tiny fraction of maximum EME exposure

limits. The exposure limits are themselves very conservative. As such, sites which operate at 100% of the limit are still considered safe.

This standard is informed by decades of quality studies undertaken by expert Australian and international scientists which show the low levels of EME produced by telecommunications equipment have no adverse effects. This includes previous generations of mobile technology, like 3G and 4G, and the higher, more efficient, radio waves used for 5G.

https://www.infrastructure.gov.au/media-centre/5g-and-electromagnetic-energy

EME is one of the most heavily studied types of energy in the world. Decades of research shows there is no verifiable evidence that EME from telecommunications facilities pose a negative health risk, especially when emission levels are below the maximum exposure limits set out in the Standard for Limiting Exposure to Radiofrequency Fields – 100 kHz to 300 GHz (the Standard).

https://www.infrastructure.gov.au/media-technology-communications/spectrum/5g-eme

All mobile base stations in Australia must comply with a strict safety standard called the *Standard for Limiting Exposure to Radiofrequency Fields – 100 KHz to 300 GHz (RPS S-1)*. The standard has been prepared by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), based on the recommendations of ICNIRP (International Commission for Non-Ionising Radiation Protection).

The Australian Communications and Media Authority (ACMA) regulates compliance with the standard. The safety standard applies to all mobile frequencies currently used in Australia, including 4G and 5G.

The Standard operates by placing a limit on the strength of the signal (or RF EME) that mobile carriers can transmit to and from any network base station. The environmental standard restricts the signal strength to a level low enough to protect all people at all times. It has a significant safety margin, or precautionary approach, built into it.

An ARPANSA EME report has been prepared to demonstrate compliance with the Australian standard. This report demonstrates the maximum signal strength that a proposed telecommunications facility is capable of producing, assuming it is operating at maximum capacity.

This facility will operate at maximum EME levels representing **3.03%** of the Australian standard. Refer ***Appendix 5***.

Note that mobile base stations are designed to operate at minimum, not maximum, power levels at all times. The facility will only operate at a level necessary to accommodate the number of customers using the facility at any one time. Actual EME levels emitted by the facility will generally be much lower than those shown in the ARPANSA EME Report.

9. Conclusion

Downer, for the Indara Group, is seeking development consent to install a new telecommunications facility at a Unnamed Public Reserve at the Corner of Bugden Avenue and Nicklin Crescent, Fadden ACT 2904. The new facility is proposed to improve mobile services in the Fadden area.

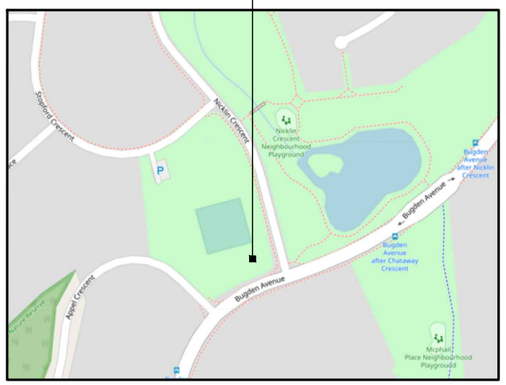
The facility has been sited to minimise impact on surrounding land uses as far as practicable, generally accords with planning requirements for the site, and has as small as possible a visual impact.

Given the significant public benefit afforded by the proposal, it is requested that consent be granted to undertake the project.

Appendix 1: Proposal Plans

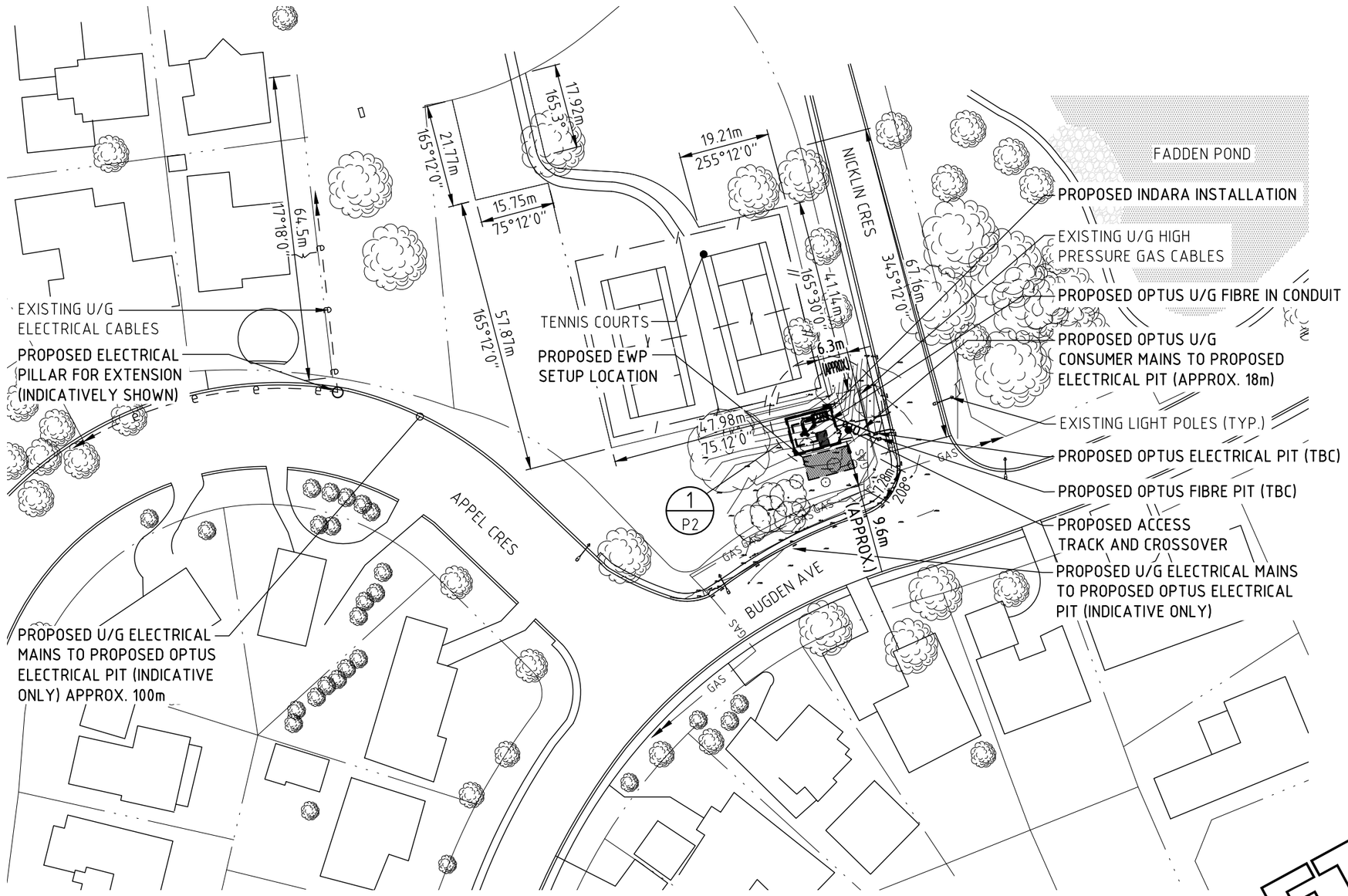
MGA

PROPOSED BASE STATION
(RFNSA No.: 2904010)



LOCALITY MAP

COPYRIGHT © GOOGLE MAPS



OVERALL SITE PLAN

SCALE 1:1000

LEGEND

- PROPERTY BOUNDARY
- U/G OPTUS FIBRE OPTIC
- U/G OPTUS ELECTRICITY
- U/G ELECTRICAL MAINS
- EXISTING GAS
- EXISTING ELECTRICAL

DRAFT

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
02	29.10.24	ISSUED FOR APPROVAL	DOWNER	JM	AR	IT	AA
01	27.07.23	ISSUED FOR APPROVAL	SERVICESTREAM	NV	PP	PP	GM

Client: indara DIGITAL INFRASTRUCTURE

Project:
INDARA
DIGITAL INFRASTRUCTURE
BUN No:- TBC
FADDEN HILLS SOUTH
LOT 14, BUDGDEN AVE, FADDEN

Drawing Title:
OVERALL DRAFT SITE LAYOUT

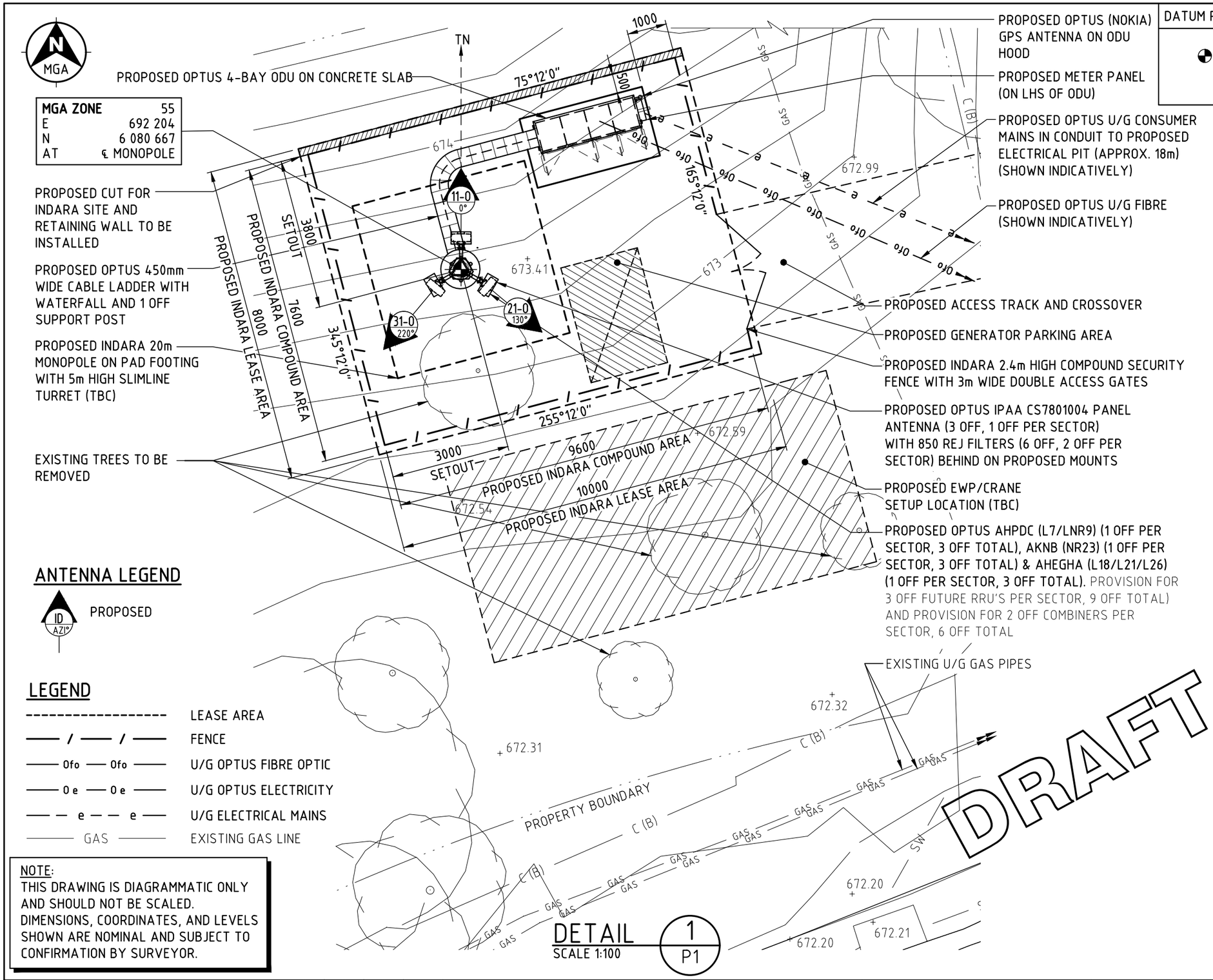
Drawing Status: FOR APPROVAL

Drawing No. S4605-P1

Revision 02

20 10 0 10 20 30 40 50mm

A3



MGA ZONE	55
E	692 204
N	6 080 667
AT	℄ MONOPOLE

DATUM POINT	GDA94 CO-ORDINATES		ZONE	GROUND LEVEL
⊕	LATITUDE	-35.398761°	55	A.H.D RL. 672m EL 0.0m
	LONGITUDE	149.116425°		

SITE ADDRESS:
PUBLIC RESERVE
OPPOSITE 365 BUGDEN AVE,
FADDEN, ACT 2904

BUN NO: TBC
CARRIER SITE ID: S4605
RFNSA NO: 2904010

NOTES:

1. **SITE DESIGN VISIT** 09/02/2023
2. **BUSHFIRE PRONE AREA -** YES
3. **FLOOD PRONE AREA -** NO
4. **INDARA MONOPOLE**
   PROPOSED 20m HIGH INDARA MONOPOLE WITH 5m HIGH SLIMLINE TURRET (TBC) AT TOP OF MONOPOLE FOOTING TBC IN DETAILED DESIGN
5. **OUTDOOR CABINET**
   PROPOSED 4-BAY ODU ON CONCRETE SLAB
6. **ANTENNA MOUNTING AND PANEL ANTENNAS**
   1 OFF PANEL ANTENNA IPAA CS7801004 PER SECTOR (EACH 2.66m LONG) AT EL 23.64m
   (3 OFF TOTAL)
   SECTOR 1 - 0°, SECTOR 2 - 130°, SECTOR 3 - 220°
   MOUNTED ON 5m HIGH SLIMLINE TURRET (TBC)
7. **TRANSMISSION (CARRIER)**
   VIA UNDERGROUND FIBRE LINE TBC BY OPTUS
8. **SITE ACCESS AND SECURITY**
   VIA PROPOSED ACCESS OFF BUGDEN AVE
9. **FEEDERS/HYBRID CABLES MANAGEMENT**
   1 OFF 9/18 (10mm^2) MLEH PER SECTOR (3 OFF TOTAL)
   LENGTH: 40m ALL SECTORS
   450mm WIDE HORIZONTAL CABLE LADDER
10. **ANTENNA ACCESS**
    VIA EWP BY QUALIFIED RIGGER PERSONNEL ONLY
11. **POWER SUPPLY**
    A DISTRIBUTION NETWORK EXTENSION WILL BE REQUIRED (APPROX. 100m)
    AN APPLICATION HAS BEEN SUBMITTED FOR A PROPOSED SUPPLY OF 63A 3PH FOR OPTUS (NO POWER CURRENTLY ON THE LOT)
    AN INDICATIVE SUPPLY POINT IS SHOWN AS AN ELECTRICAL PIT OUTSIDE THE OPTUS SITE
    INSTALL A PROPOSED MAINS CABLE FROM THE SUPPLY POINT TO THE OPTUS SITE (APPROX. 25m)
    FINAL DETAILS TBC WITH POWER APPROVAL
12. **PAINTING SCHEME**
    ODU - PALE EUCALYPT
    POLE - PALE EUCALYPT
    ANTENNAS, RRU'S - PALE EUCALYPT

ANTENNA LEGEND

ID / AZI° — PROPOSED

LEGEND

- LEASE AREA
- FENCE
- Ofo Ofo — U/G OPTUS FIBRE OPTIC
- O e O e — U/G OPTUS ELECTRICITY
- e e — U/G ELECTRICAL MAINS
- GAS — EXISTING GAS LINE

NOTE:
THIS DRAWING IS DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED. DIMENSIONS, COORDINATES, AND LEVELS SHOWN ARE NOMINAL AND SUBJECT TO CONFIRMATION BY SURVEYOR.

DETAIL 1/P1
SCALE 1:100

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
02	29.10.24	ISSUED FOR APPROVAL	DOWNER	JM	AR	IT	AA
01	27.07.23	ISSUED FOR APPROVAL	SERVICESTREAM	NV	PP	PP	GM

Client: indara DIGITAL INFRASTRUCTURE

Project: INDARA DIGITAL INFRASTRUCTURE
BUN No:- TBC
FADDEN HILLS SOUTH
LOT 14, BUDGDEN AVE, FADDEN

Drawing Title: DRAFT SITE LAYOUT

Drawing Status: FOR APPROVAL

Drawing No. S4605-P2

Revision 02

20 10 0 10 20 30 40 50mm A3

Rev	Date	Revision Details	Consultant	CAD Designer	Verifier	Approver
02	29.10.24	ISSUED FOR APPROVAL	DOWNER	JM	AR	
01	27.07.23	ISSUED FOR APPROVAL	SERVICESTREAM	NV	PP	IT	AA

Client:

indara DIGITAL INFRASTRUCTURE

Project:

INDARA
DIGITAL INFRASTRUCTURE
BUN No:- TBC
FADDEN HILLS SOUTH
LOT 14, BUDGDEN AVE, FADDEN

Drawing Title:

DRAFT SITE ELEVATION

Drawing Status:

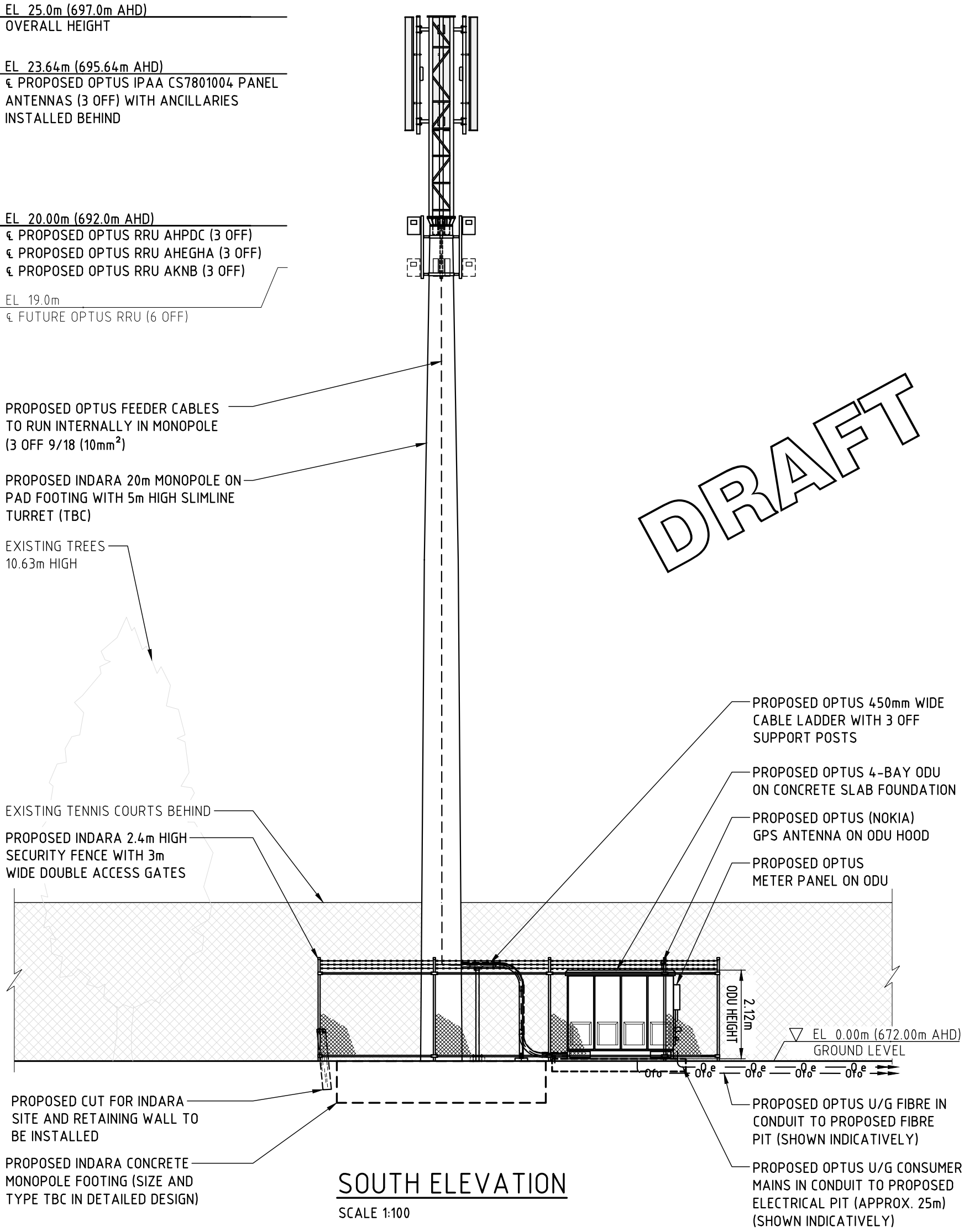
FOR APPROVAL

Drawing No.

S4605-P3

Revision

02

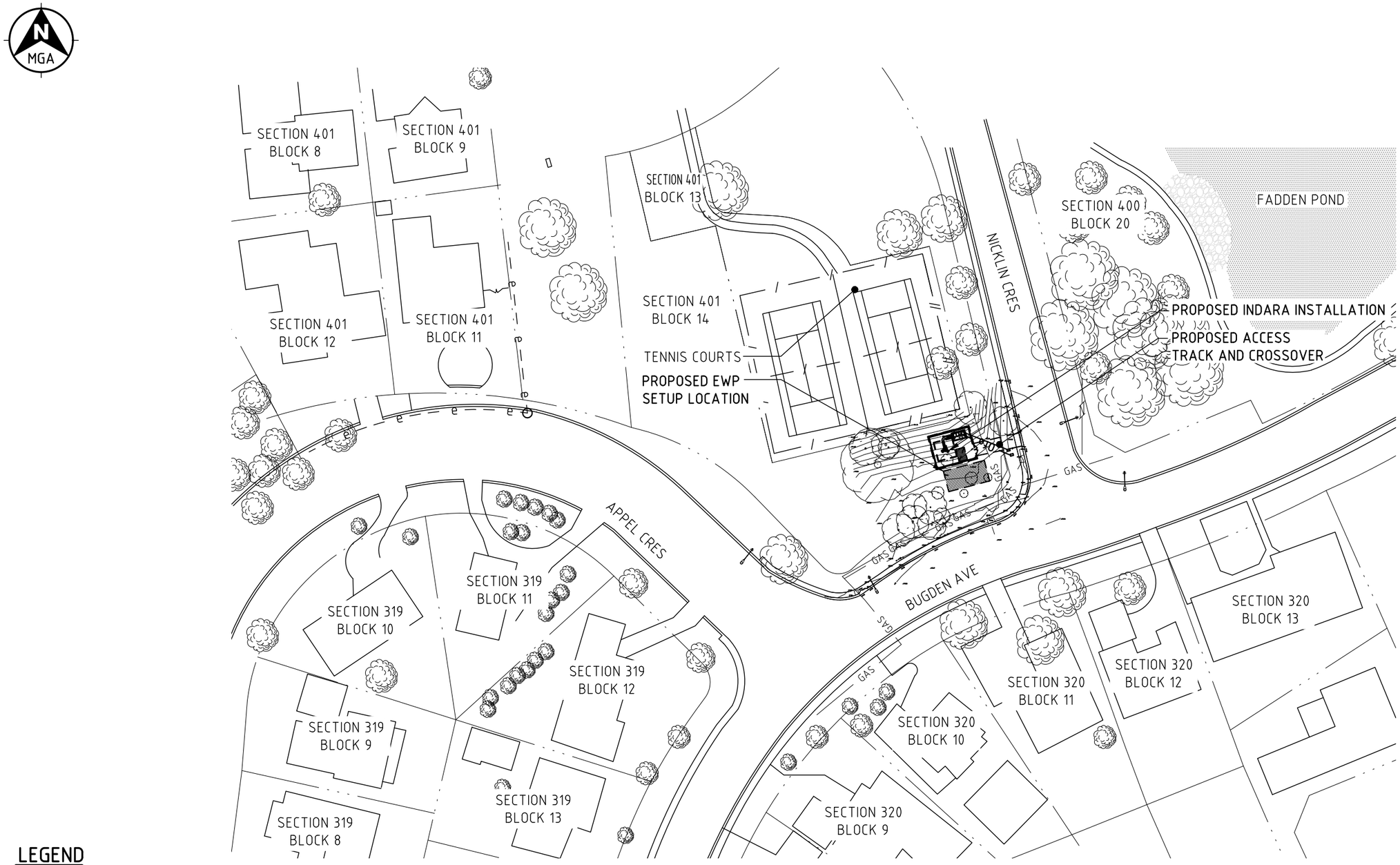


SOUTH ELEVATION

SCALE 1:100

20 10 0 10 20 30 40 50mm

A3



LEGEND

- PROPERTY BOUNDARY
- U/G OPTUS FIBRE OPTIC
- U/G OPTUS ELECTRICITY
- U/G ELECTRICAL MAINS
- EXISTING GAS
- EXISTING ELECTRICAL

LEASE PLAN

SCALE 1:1000

DRAFT

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
02	29.10.24	ISSUED FOR APPROVAL	DOWNER	JM	AR	IT	AA
01	27.07.23	ISSUED FOR APPROVAL	SERVICESTREAM	NV	PP	PP	GM

Client: indara DIGITAL INFRASTRUCTURE

Project: INDARA DIGITAL INFRASTRUCTURE
BUN No:- TBC
FADDEN HILLS SOUTH
LOT 14, BUDGDEN AVE, FADDEN

Drawing Title: DRAFT LEASE PLAN

Drawing Status: FOR APPROVAL

Drawing No. S4605-L1

Revision 02

20 10 0 10 20 30 40 50mm

A3

Appendix 2: Tree Management Plan

TREE MANAGEMENT PLAN

DIGITAL INFRASTRUCTURE
S4605

SECTION 401 BLOCK 14
FADDEN, ACT 2904

PREPARED FOR

Downer

PREPARED BY

Sean Gentry

Arboricultural Consultant

GCertArb (MELB)

DipHort (Arb)

16 December 2024

Sean Gentry
Tel: 0405 333 262

Email: sean@treedepartment.com.au

www.treedepartment.com.au

ABN 34 114 927 173

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Downer has engaged ACT Tree Felling to provide a Tree Management Plan (TMP) as part of a proposal to construct a telecommunications monopole and electrical infrastructure in the southeastern section of Section 401 Block 14, Fadden, ACT. Refer to Figure 1.

1.2 The aim of this report is to:

- Identify and allocate ID number for all trees that had the potential to be impacted by the proposal.
- measure tree dimensions.
- assess the health, structure and site conditions of the trees.
- provide an arboricultural value to each tree.
- provide indicative Tree Protection Zones (TPZ) and Structural Root Zones (SRZ).
- provide a photograph of each tree.
- assess the impact the development may have on the assessed trees.
- provided a site-specific Tree Management Plan to detail tree protection requirements through all stages of construction and to ensure protected trees remain viable post development.
- provided a scaled Tree Protection Plan.

1.3 The TMP has been drafted in reference to *AS4970 -2009 Protection of Trees on Development Sites*. Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) have been calculated as per *AS4970 - 2009* guidelines.

1.4 Four small, low-value public trees will need to be removed to facilitate the proposed construction works.

Figure 1: Aerial Photo of Section 401 Block 14 Budgen Ave, Fadden, ACT 2904. Source ACTmapi viewed 5 September 2024.

2 METHODOLOGY

On 1 September 2024, Sean Gentry carried out a site inspection at the above-mentioned site. The trees were inspected from the ground only, and no diagnostic tests were carried out. Observations were recorded, and photographs were taken during the inspection. Trees were inspected, and the report was drafted in reference to *AS4970 2009 Protection of tree on development sites* and the *Urban Forest Act 2023* guidelines.

- Where necessary binoculars were used in the visual inspection.
- Tree height has been assessed with a Nikon range finder and tree spread has been paced to give approximate measurements.
- Diameter at Breast Height (DBH) is measured at 1.4m as per the *AS4970 (2009)* with a diameter tape unless applicable planning provisions or local laws require different measuring height specifications.
- Tree Protection Zones and Structural Root Zones have been calculated as per the *AS4970 (2009)* guidelines.
- Trees are assessed based on size, location, health, structure, amenity value, management requirements and local by-laws/overlays.
- Plans have been reviewed and TPZ encroachments etc have call been calculated using AutoCad Lite. Tree location plans have been drafted using Autocad Lite.
- A tree risk assessment is not within the scope of this report.

3 PROTECTED TREE SCHEDULE

3.1 The following public trees had the potential to be impacted by the proposal and were subject to this TMP:

No	Taxon	Common name	Origin	DBH (cm)	Cir. at 1.4m (cm)	TPZ radius (m)	DAB (cm)	SRZ radius (m)	Height (m)	Width (m)	Age	ULE	Health	Structure	Form	Regulated Tree	Arboricultural value	Comments
1	*Quercus palustris*	Pin Oak	Exotic	23	72.26	2.8	28	2	8	5	Semi-mature	20+years	Fair	Fair-good	Symmetrical	Yes	Medium	Public tree
2	*Quercus palustris*	Pin Oak	Exotic	23	72.26	2.8	30	2	9	7	Semi-mature	20+years	Fair	Fair-good	Symmetrical	Yes	Medium	Public tree
3	*Eucalyptus goniocalyx*	Long-leaved Box	Indigenous	47	147.7	5.7	55	2.6	16	10	Semi-mature	20+years	Fair-good	Fair	Asymmetrical	Yes	Medium	Public tree. Naturally occurring.
4	*Eucalyptus goniocalyx*	Long-leaved Box	Indigenous	100	314.2	12	110	3.5	18	18	Semi-mature	20+years	Fair	Fair	Asymmetrical	Yes	High	Remnant tree. Public tree
5	*Casuarina cunninghamiana*	River She-oak	Australian Native	21	65.97	2.6	25	1.9	11	4	Semi-mature	11-20 years	Fair	Fair	Symmetrical	Yes	Medium	Public tree

No	Taxon	Common name	Origin	DBH (cm)	Cir. at 1.4m (cm)	TPZ radius (m)	DAB (cm)	SRZ radius (m)	Height (m)	Width (m)	Age	ULE	Health	Structure	Form	Regulated Tree	Arboricultural value	Comments
6	*Casuarina cunninghamiana*	River She-oak	Australian Native	21	65.97	2.6	25	1.9	11	4	Semi-mature	11-20 years	Fair-good	Fair-good	Symmetrical	Yes	Medium	Public tree
7	*Casuarina cunninghamiana*	River She-oak	Australian Native	14	43.98	2	15	1.5	8	2	Semi-mature	11-20 years	Fair-good	Fair-good	Symmetrical	Yes	Medium	Public tree
8	Eucalyptus melliodora	Yellow Box	Indigenous	10	31.42	2	12	1.5	3	2	Semi-mature	20+years	Fair-good	Fair-good	Symmetrical	Yes	Low	Public tree
9	*Eucalyptus melliodora*	Yellow Box	Indigenous	13	40.84	2	15	1.5	3	3	Semi-mature	20+years	Fair-good	Fair-good	Symmetrical	Yes	Low	Public tree
10	*Casuarina cunninghamiana*	River She-oak	Australian Native	10	31.42	2	13	1.5	3	3	Semi-mature	11-20 years	Fair-poor	Fair	Symmetrical	Yes	Low	Public tree. Chlorotic
11	*Casuarina cunninghamiana*	River She-oak	Australian Native	10	31.42	2	13	1.5	2	2	Semi-mature	11-20 years	Fair-poor	Fair	Symmetrical	Yes	Low	Public tree. Chlorotic
12	*Casuarina cunninghamiana*	River She-oak	Australian Native	10	31.42	2	13	1.5	2	2	Semi-mature	11-20 years	Fair-poor	Fair	Symmetrical	Yes	Low	Public tree. Chlorotic

Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated as per Australian Standard *AS4970-2009 Protection of Trees on Development Si*

4 TREE PROTECTION PLAN

4.1 Digital Infrastructures 4605

Draft Site Plans

Section 401 Section 14

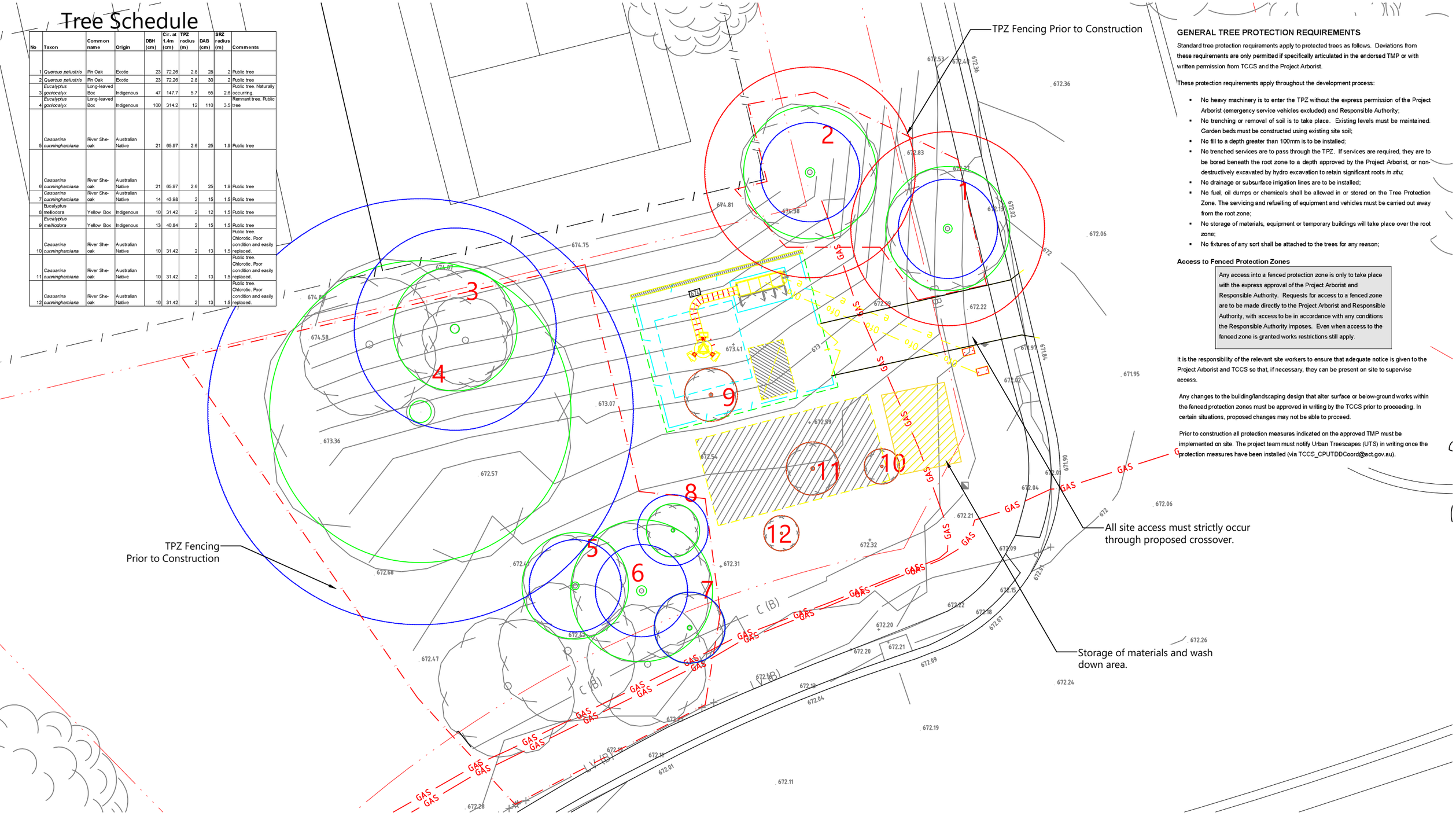
Fadden

Indara Digital Infrastructure

Rev 2 29/10/2024

Tree Schedule

No	Taxon	Common name	Origin	DBH (cm)	Circ. at 1.4m (cm)	TPZ radius (m)	DAB (cm)	SRZ radius (m)	Comments
1	*Quercus palustris*	Pin Oak	Exotic	23	72.26	2.8	28	2	Public tree
2	*Quercus palustris*	Pin Oak	Exotic	23	72.26	2.8	30	2	Public tree
3	*Eucalyptus goniocalyx*	Long-leaved Box	Indigenous	47	147.7	5.7	55	2.6	Public tree. Naturally occurring.
4	*Eucalyptus goniocalyx*	Long-leaved Box	Indigenous	100	314.2	12	110	3.5	Remnant tree. Public tree
5	*Casuarina cunninghamiana*	River She-oak	Australian Native	21	65.97	2.6	25	1.9	Public tree
6	*Casuarina cunninghamiana*	River She-oak	Australian Native	21	65.97	2.6	25	1.9	Public tree
7	*Casuarina cunninghamiana*	River She-oak	Australian Native	14	43.98	2	15	1.5	Public tree
8	*Eucalyptus melliodora*	Yellow Box	Indigenous	10	31.42	2	12	1.5	Public tree
9	*Eucalyptus melliodora*	Yellow Box	Indigenous	13	40.84	2	15	1.5	Public tree
10	*Casuarina cunninghamiana*	River She-oak	Australian Native	10	31.42	2	13	1.5	Public tree. Chlorotic. Poor condition and easily replaced.
11	*Casuarina cunninghamiana*	River She-oak	Australian Native	10	31.42	2	13	1.5	Public tree. Chlorotic. Poor condition and easily replaced.
12	*Casuarina cunninghamiana*	River She-oak	Australian Native	10	31.42	2	13	1.5	Public tree. Chlorotic. Poor condition and easily replaced.



GENERAL TREE PROTECTION REQUIREMENTS

Standard tree protection requirements apply to protected trees as follows. Deviations from these requirements are only permitted if specifically articulated in the endorsed TMP or with written permission from TCCS and the Project Arborist.

These protection requirements apply throughout the development process:

- No heavy machinery is to enter the TPZ without the express permission of the Project Arborist (emergency service vehicles excluded) and Responsible Authority;
- No trenching or removal of soil is to take place. Existing levels must be maintained. Garden beds must be constructed using existing site soil;
- No fill to a depth greater than 100mm is to be installed;
- No trenched services are to pass through the TPZ. If services are required, they are to be bored beneath the root zone to a depth approved by the Project Arborist, or non-destructively excavated by hydro excavation to retain significant roots *in situ*;
- No drainage or subsurface irrigation lines are to be installed;
- No fuel, oil dumps or chemicals shall be allowed in or stored on the Tree Protection Zone. The servicing and refuelling of equipment and vehicles must be carried out away from the root zone;
- No storage of materials, equipment or temporary buildings will take place over the root zone;
- No fixtures of any sort shall be attached to the trees for any reason;

Access to Fenced Protection Zones

Any access into a fenced protection zone is only to take place with the express approval of the Project Arborist and Responsible Authority. Requests for access to a fenced zone are to be made directly to the Project Arborist and Responsible Authority, with access to be in accordance with any conditions the Responsible Authority imposes. Even when access to the fenced zone is granted works restrictions still apply.

It is the responsibility of the relevant site workers to ensure that adequate notice is given to the Project Arborist and TCCS so that, if necessary, they can be present on site to supervise access.

Any changes to the building/landscaping design that alter surface or below-ground works within the fenced protection zones must be approved in writing by the TCCS prior to proceeding. In certain situations, proposed changes may not be able to proceed.

Prior to construction all protection measures indicated on the approved TMP must be implemented on site. The project team must notify Urban Treescapes (UTS) in writing once the protection measures have been installed (via TCCS_CPUTDDCoord@act.gov.au).

LEGEND

Existing Tree
Blue AS4970 denotes TPZ
Red shows canopy +2m TPZ
Orange denotes SRZ

Existing Tree To Be Removed

Tree Protection Fencing

A.C.T TREE FELLING

Tree Protection Plan

Scale: 1:200 @ A3
DIGITAL
INFRASTRUCTURE
S4605 Section 401
Block 14 FADDEN, ACT
2904 Prepared by SG

5 GENERAL TREE PROTECTION REQUIREMENTS

5.1 Standard tree protection requirements apply to protected trees as follows. Deviations from these requirements are only permitted if specifically articulated in the endorsed TMP or with written permission from TCCS and the Project Arborist.

5.2 These protection requirements apply throughout the development process:

- No heavy machinery is to enter the TPZ without the express permission of the Project Arborist (emergency service vehicles excluded) and Responsible Authority;
- No trenching or removal of soil is to take place. Existing levels must be maintained. Garden beds must be constructed using existing site soil;
- No fill to a depth greater than 100mm is to be installed;
- No trenched services are to pass through the TPZ. If services are required, they are to be bored beneath the root zone to a depth approved by the Project Arborist, or non-destructively excavated by hydro excavation to retain significant roots *in situ*;
- No drainage or subsurface irrigation lines are to be installed;
- No fuel, oil dumps or chemicals shall be allowed in or stored on the Tree Protection Zone. The servicing and refuelling of equipment and vehicles must be carried out away from the root zone;
- No storage of materials, equipment or temporary buildings will take place over the root zone;
- No fixtures of any sort shall be attached to the trees for any reason;

Access to Fenced Protection Zones

Any access into a fenced protection zone is only to take place with the express approval of the Project Arborist and Responsible Authority. Requests for access to a fenced zone are to be made directly to the Project Arborist and Responsible Authority, with access to be in accordance with any conditions the Responsible Authority imposes. Even when access to the fenced zone is granted works restrictions still apply.

5.3 It is the responsibility of the relevant site workers to ensure that adequate notice is given to the Project Arborist and TCCS so that, if necessary, they can be present on site to supervise access.

5.4 Any changes to the building/landscaping design that alter surface or below-ground works within the fenced protection zones must be approved in writing by the TCCS prior to proceeding. In certain situations, proposed changes may not be able to proceed.

5.5 Prior to construction all protection measures indicated on the approved TMP must be implemented on site. The project team must notify Urban Treescapes (UTS) in writing once the protection measures have been installed (via TCCS_CPUTDDCoord@act.gov.au).

6 PRE- CONSTRUCTION

Induction

6.1 Prior to the commencement of site works, the builder is to meet with the Project Arborist to discuss tree protection requirements and the implementation of the TMP. The TMP must form part of the induction process for all contractors working on-site.

Site Access

6.2 Site access must be strictly through the access points identified in the endorsed LMPP and TPP-01. Access through unleased land that is not identified on the approved LMPP is strictly prohibited.

6.3 The existing crossover must be utilised for all machinery and vehicle access during the project. There must be no vehicles, machinery, or materials on or passing through the grassed part of the verge.

Tree Removal

6.4 Four, small low-value trees, Trees 9, 10, 11, and 12, are proposed to be removed as part of the development.

6.5 A canopy contribution agreement is required to remove a protected tree. The contribution counterbalances the loss of canopy coverage. The financial contribution and replanting requirements are different for non-homeowners (investors and developers) and will be determined by the ACT Government during the application process. The requirements will depend on the size and location of the tree/s to be removed.

6.6 The financial and replanting requirements will increase depending on the zoning on which the tree is located. For example, tree removal in higher-density areas requires more replanting (or higher financial contribution) to compensate for the high community impact of tree removal.

6.7 To estimate the replanting and/or financial contribution amounts required, use the tree calculator. Replanting numbers and costs decrease as more trees are retained or replanted on site.

6.8 For further information go to https://www.cityservices.act.gov.au/trees-and-nature/trees/canopy-cover/canopy-contribution-framework

Canopy protection and pruning

6.9 No pruning was required to facilitate the proposed construction.

6.10 The developer is responsible for preventing damage to tree canopies and protecting all existing tree canopies from construction activities. Pruning of the canopy is strictly prohibited unless identified on the approved TMP.

6.11 Standard TCCS tree protection notes state all pruning and tying of branches must be undertaken by suitably qualified arborists (AQF Cert 3) in accordance with *AS4373* guidelines. Where practical branches should be tied back clear of the work, and pruning should only be used as a last resort.

6.12 A pruning report from the arborist must be completed and issued to TCCS Urban Treescapes (UTS) with the LTMP and LoDR for approval before pruning activities can commence.

6.13 Once the pruning report has been endorsed by TCCS Urban Treescapes, the project representative must notify TCCS Urban Treescapes of when the pruning is planned to take place (via TCCS_CPUTDDCoord@act.gov.au).

Fencing

6.14 Prior to any works, tree protection fencing must be established to exclude as much of the TPZ area as reasonably practical. Fencing must remain in place until the cessation of all heavy construction works and operational acceptance is granted in writing by TCCS. Fencing must be erected and aligned as shown in 5 Tree Protection Plan and endorsed LMPP.

6.15 Fencing shall be erected to meet the following criteria:

- To be constructed of temporary security fencing (or similar), securely fixed to concrete block bases. No holes are to be dug for fence construction unless outside the specified TPZ. Fencing is to be of a minimum height of 1.8m.
- All connecting fixtures/hardware must be securely mounted so fencing cannot be dismantled and removed by the public. The use of alternative fencing materials must be discussed with and approved by TCCS.
- Fencing must be setback from footpaths and civil infrastructure as per REF04 requirements. Any deviation form these setbacks must be clearly noted on the LMPP for review by TCCS.
- At least one weatherproof sign per side is to be attached to each fenced TPZ and is to clearly state “TREE PROTECTION ZONE, NO ENTRY CONTACT THE CONTRACTOR IF ENTRY IS REQUIRED and is to have the Contractor’s (or appointed site foreman) and Project Arborist’s contact details.

6.16 Refer to 11 TPZ signage for a printable sign for use.

Figure 2 Example of TPZ signage. Refer to 7. TPZ signage for printable version

Ground Protection

6.17 Where protective fencing to exclude the TPZ is not reasonably practicable, ground protection is to be installed within the indicative TPZ area to help minimise soil compaction and disturbance. The existing driveway can be utilised as ground protection provided it remains in place for the duration of all hard construction and is only removed as part of landscaping works.

6.18 The existing driveway must be utilised for ground protection added as required elsewhere as specified on Tree Protection Plan. The existing driveway must remain in place for the duration of all hard construction works and only be removed and replaced at the end of the project as as part of the landscaping phase of the project.

6.19 Other acceptable methods of ground protection include wooden rumble boards with gaps no greater than 30 mm between boards placed over 200mm, of course (mulch only required if machinery or vehicle access if required. Purpose-made and engineered ground protection mats such as Alturna matts/Pro-tech mats or cellular geotextile filled with 20mm aggregate, provided products are sufficiently engineered and rated for the appropriate load-bearing capacity.

6.20 Ground protection must be kept in place and in good condition for as long as access is required.

6.21 Alternative stabilisation for access routes, such as to enable access for heavy vehicles, must be based on a design by a suitably qualified designer and must be approved for use by TCCS.

6.22 Refer to https://www.profloor.com.au/wp-content/uploads/2016/01/pro-tech_mats.pdf specifications.

Figure 3: Example of rumble boards used for ground protection. If used for vehicular traffic, boards must be installed over 200mm of coarse mulch.

Figure 4: Example of Alturna matts used for ground protection.

Tree Roots Protection

Protect tree roots from vehicle traffic, whilst maintaining water and nutrient absorption using TERRAM GEOCELL.

Using TERRAM GEOCELL for tree root protection ensures the roots beneath are protected from vehicle loads by confining the sub-base and stabilising the ground. When the permeable TERRAM GEOCELL is filled with a porous, no fines, free-flowing aggregate the system allows essential passage of air and water providing essential nutrients to the roots. TERRAM GEOCELL is ideal for "No-Dig" situations.

Typical Applications

- Permanent Woodland Trails
- Paths & Cycleways
- Driveways*
- Roads
- Access Routes*
- Parking Areas

See Arboricultural Advisory and Information Services APN12: Driveways close to trees

TERRAM GEOCELL is supplied as flat packed panels which are opened to form the honeycomb-like structure. These are positioned and pinned to the ground using fixing pins and filled with a suitable, permeable infill.

TERRAM GEOCELL confines the infill and ensures that downward forces are spread laterally, reducing pressure on the sub-base. Without this cellular system, the surface would become rutted and compacted with the traffic loads, damaging the tree roots and potentially resulting in the death of the tree.

WHY TERRAM GEOCELL?

- Lightweight and easy to handle reducing installation costs.
- Permeable geotextile allows free flow of water, essential in tree root applications.
- The flexible TERRAM geotextile material allows TERRAM GEOCELL to effectively adapt to any variations in the terrain.
- TERRAM GEOCELLS are easily cut to size without damage, therefore reducing cost.

Typical Profile

Compatable Products

- BODPAVE™40 porous pavers
- BODPAVE™85 porous pavers
- TRUCKPAVE™
- TERRAM geotextile filter
- Geogrid

Fixing Pins

Fixing pins available upon request.

Product Details

PRODUCT	PANEL SIZE (m)	CELL Dia & DEPTH (mm)	PANEL WEIGHT	TYPICAL LOADING
GEOCELL 25/10	5 x 7	250 dia x 100	17kg	Pedestrian cycle*
GEOCELL 25/15	5 x 7	250 dia x 150	25kg	Light vehicles*
GEOCELL 22/20	6 x 3	220 dia x 200	20kg	Optimum for heavier vehicles or more frequent traffic*

* These are typical profiles only.

Figure 5: Example of cellular geotextiles suitable for ground protection.

6.23 Refer to https://www.profloor.com.au/wp-content/uploads/2016/01/pro-tech_mats.pdf specifications

7 DURING CONSTRUCTION

7.1 The following site-specific protection measures for each tree are as follows. Please note that requirements outlined in 5 General Tree Protection Requirements still apply. All works within the TPZ of protected trees must be carried out under the supervision of the project Arborist.

Foundation Establishment

7.2 There must be no excavation within the TPZ area of a retained tree.

Service installation

7.3 No trenched services are to pass through the TPZ. If services within the TPZ area is unavoidable, services must be installed using direct drilling at a minimum depth specified by the Project Arborist or installed using hydro excavation under the supervision of the Project Arborist. No roots 30cm in diameter or greater are to be pruned without authorisation from TCCS.

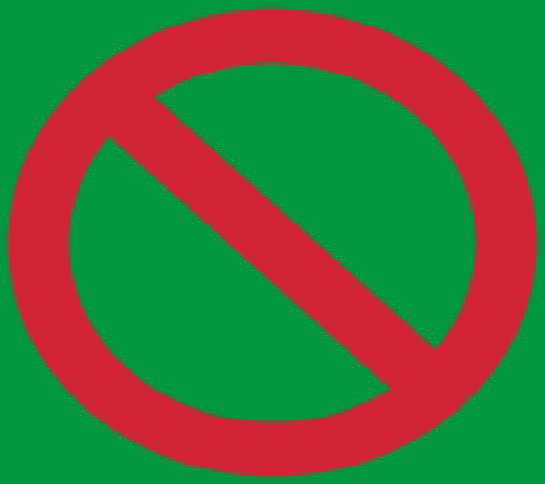
8 POST CONSTRUCTION

8.1 At the cessation of all heavy construction works the Project Arborist is to carry out a final assessment of the trees.

9 APPENDIX 1 - TPZ SIGNAGE

Refer to next page. Sign can be printed, filled in then laminated and posted on fencing as required. .

TREE PROTECTION ZONE



NO ACCESS

CONTACT:

10 APPENDIX 2 - DEVELOPMENT IMPACT ASSESSMENT

10.1 This impact assessment was based on the following drawings provided:

10.2 Digital Infrastructures 4605
Draft Site Plans
Section 401 Section 14
Fadden
Indara Digital Infrastructure
Rev 2 29/10/2024

Table 2 Development Impact Summary

No	Taxon	Common name	Development impact (% of TPZ encroachment)	Arboricultural Value	Protected Tree	Comments
1	*Quercus palustris*	Pin Oak	None	Medium	Yes – Public tree	Tree can be retained and protected.
2	*Quercus palustris*	Pin Oak	None	Medium	Yes – Public tree	Tree can be retained and protected.
5	*Casuarina cunninghamiana*	River She-oak	None	Medium	Yes – Public tree	Tree can be retained and protected.
6	*Casuarina cunninghamiana*	River She-oak	None	Medium	Yes – Public tree	Tree can be retained and protected.
7	*Casuarina cunninghamiana*	River She-oak	None	Medium	Yes – Public tree	Tree can be retained and protected.
8	Eucalyptus melliodora	Yellow Box	Removal - within the footprint of crane pad	Low	Yes – Public tree	Small tree, easily replaced
10	*Casuarina cunninghamiana*	River She-oak	Removal - within the footprint of crane pad	Low	Yes – Public tree	Small tree, easily replaced
11	*Casuarina cunninghamiana*	River She-oak	Removal - within the footprint of crane pad	Low	Yes – Public tree	Small tree, easily replaced
12	*Casuarina cunninghamiana*	River She-oak	Removal - within footprint of monopole pad	Low	Yes – Public tree	Small tree, easily replaced

Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated as per Australian Standard *AS4970-2009 Protection of Trees on Development Sites*

Appendix 3: Landscape Management Protection Plan

TPZ Fencing - 1800mm secure metal fencing to exclude TPZ area prior to construction

TPZ Fencing
1800mm secure metal fencing to exclude TPZ area prior to construction

Proposed driveway entry over verge as stabilised access point/crossover to prevent transfer of soil to roadway. Provide recycled crushed concrete to depth of 150mm - 200mm, with underlay of geotextile fabric.

Storage of materials, site accommodation, wash down area and temporary toilet (yellow hatched area).

Sediment Control Fencing - 1800mm secure metal fencing with geotextile to prevent transfer of sediment.

General

It is the responsibility of the developer to ensure that all territory assets are protected from damage.
No works other than those identified on the approved LMPP are to take place within the Tree Protection Zone (TPZ) of an existing tree. No construction activities such as storage, parking, stockpiling, site sheds, construction access, washdown, excavation etc. are accepted without approval.
Prior to construction all protection measures indicated on the approved LMPP MUST be implemented onsite. The project team must notify Urban Treescapes (UTS) in writing once the protection measures have been installed and to organise an inspection (via TCCS_CPUTDDCoord@act.gov.au).

Site Access – Refer Vehicle Access within TPZ also.

Site access must be strictly through the access points identified on this plan. Access through unleased land that is not identified on the approved LMPP is strictly prohibited.

Storage of materials

The storage of construction materials and the parking of vehicles or equipment on verges or adjacent public open spaces are not permitted without prior approval from TCCS.
Only storage and parking locations on unleased land identified on this LMPP are approved.

Site Accommodation

Site sheds, site amenities, storage sheds, skips, billboards, or containers are strictly prohibited from being placed on unleased land unless identified on the approved LMPP, and Public Unleased Land Permit.

Only site amenities on unleased land identified on this LMPP are approved.

Protection Fencing

Fencing must be erected before commencement of any construction activities on site, this includes but is not limited to starting of demolition works, delivery of machinery or materials, stockpiling, storage etc.

Fencing must be erected in the location, alignments and material indicated on the approved LMPP and must stop access throughout construction.

Fencing must remain in place for the entirety of the project, and maintained in good, safe working order until operational acceptance is granted. Removal before OA is granted must be approved by TCCS in writing.

Fencing must be rigid mesh temporary fence panels supported by steel posts and concrete bases. Support posts driven into the ground are STRICTLY prohibited.
All connecting fixtures/hardware must be securely mounted so fencing cannot be dismantled and removed by the public.

The use of alternative fencing materials must be discussed with, and approved by TCCS
Fencing must be setback from footpaths and civil infrastructure as per REF04 requirements.

Any deviation form these setbacks must be clearly noted on the LMPP for review by TCCS.

Tree Protection

Refer to Tree Management Plan prepared by ACT Tree Felling

The developer is responsible to minimise any impacts on the tree canopies and protect all existing tree canopies from construction activities.

Excavation within the TPZ must be executed using either under-boring, hydro-excavation or hand digging techniques, unless an alternative method has been documented and endorsed by Urban Treescapes.

Where identified by UTS, excavation to expose roots may be required to be undertaken by low-pressure hydro-excavation using a fan shaped nozzle head that is kept 15cm from soil profile.

A suitably qualified arborist must be present when excavations through the TPZ of a tree are being executed.

No roots greater than 30mm in diameter are to be cut, Refer Section 5.2 of these notes.

If additional excavation within the TPZ is identified to be required through the construction period, the developer/contractor must seek approval for this excavation from TCCS BEFORE.

Rectification of unleased land

For all Works, other than minor works*, and unless otherwise approved by AA, a suitably qualified landscape architect or horticulturist shall be employed to ensure that work in the verge meets the Requirements.

The architect/horticulturist shall also be present during any cultivation or restoration of the verge which affects plant material and shall provide certification, endorsed by the Coordinator, that all work, cultivation and restoration have been performed to industry standards.(i.e. minor in complexity and / or scope of works and confirmed as a minor works by AA)

At the finalisation of the development works, the territory assets in unleased land adjacent the development must be unaltered and in the same or better condition than before the development works commenced, unless adjustments to these assets have been approved by TCCS as part of the development approvals.

Where territory assets on unleased land have been damaged by the development, these assets must be fully rectified at the cost of the developer to the requirements in the TCCS Municipal Infrastructure Technical Specifications, or the requirements in the Composite Verge Landscape Plan as approved by TCCS.

Sediment Control Notes:

Sediment controls must be in place prior to commencement of any building works and checked daily sediment controls must be retained until re-vegetation is fully established after building completion to comply with best practice guidelines to prevent . The developer will comply with the Act Environment Protection Authority, environment protection guidelines for construction and land development in the Act, March 2011. Stormwater sumps to be located on site

LEGEND

Existing Tree
Blue AS4970 denotes TPZ
Red shows canopy +2m TPZ
Orange denotes SRZ

Existing Tree To Be Removed

Tree Protection Fencing

Sediment Control Fence

A.C.T TREE FELLING

Landscape Manangement and Protection Plan

Scale: 1:200 @ A3
DIGITAL INFRASTRUCTURE S4605
Section 401 Block 14
FADDEN, ACT 2904
Prepared by SG

Appendix 4: EPBC Act Protected Matters Report

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 23-Oct-2024

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	41
Listed Migratory Species:	8

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	18
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	16
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	800 - 900km upstream from Ramsar site	In feature area
Hattah-kulkyne lakes	600 - 700km upstream from Ramsar site	In feature area
Riverland	700 - 800km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	800 - 900km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities			[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Natural Temperate Grassland of the South Eastern Highlands	Critically Endangered	Community likely to occur within area	In feature area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species			[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia			
Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Aphelocephala leucopsis](#) Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Botaurus poiciloptilus](#) Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Callocephalon fimbriatum](#) Gang-gang Cockatoo [768]	Endangered	Species or species habitat likely to occur within area	In feature area
[Calyptorhynchus lathami lathami](#) South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Climacteris picumnus victoriae](#) Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Falco hypoleucos](#) Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Grantiella picta](#) Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor			
Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Melanodryas cucullata cucullata			
South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysostoma			
Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Polytelis swainsonii			
Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pycnoptilus floccosus			
Pilotbird [525]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rostratula australis			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata			
Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
FISH			
Macquaria australasica			
Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
FROG			
Litoria castanea			
Yellow-spotted Tree Frog, Yellow-spotted Bell Frog [1848]	Critically Endangered	Species or species habitat may occur within area	In feature area
INSECT			
Synemon plana			
Golden Sun Moth [25234]	Vulnerable	Species or species habitat likely to occur within area	In feature area
MAMMAL			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalinolobus dwyeri			
Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat may occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
PLANT			
Dodonaea procumbens			
Trailing Hop-bush [12149]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eucalyptus aggregata			
Black Gum [20890]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lepidium aschersonii			
Spiny Peppercress [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
Lepidium hyssopifolium			
Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat likely to occur within area	In feature area
Leucochrysum albicans subsp. tricolor			
Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat known to occur within area	In feature area
Pomaderris pallida			
Pale Pomaderris [13684]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Prasophyllum petilum			
Tarengo Leek Orchid [55144]	Endangered	Species or species habitat may occur within area	In feature area
Rutidosis leptorhynchoides			
Button Wrinklewort [67251]	Endangered	Species or species habitat likely to occur within area	In feature area
Senecio macrocarpus			
Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat may occur within area	In feature area
Swainsona recta			
Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat likely to occur within area	In feature area
Thesium australe			
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Aprasia parapulchella			
Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Delma impar			
Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Tympanocryptis lineata			
Canberra Grassland Earless Dragon, Lined Earless Dragon [25558]	Critically Endangered	Species or species habitat may occur within area	In feature area

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava			
Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos			
Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii			
Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
[Chalcites osculans as Chrysococcyx osculans](#) Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
[Haliaeetus leucogaster](#) White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
[Hirundapus caudacutus](#) White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Farrer Ridge	Nature Reserve	ACT	In feature area
Isaacs Ridge	Nature Reserve	ACT	In buffer area only
Wanniassa Hills	Nature Reserve	ACT	In feature area

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
construct addition to Admin Annex	2004/1891	Not Controlled Action	Completed	In feature area
Dunlop 4 West Residential Development	2003/1055	Not Controlled Action	Completed	In feature area
East O'Malley Residential Estate	2003/1163	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Extension to cooling towers at the rear of Old Parliament House	2004/1625	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Kingston Foreshore Development - Reclamation and Filling Lake Burley Griffin	2004/1383	Not Controlled Action	Completed	In feature area
minor alterations to NE corner OPH	2004/1824	Not Controlled Action	Completed	In feature area
National Gallery Upgrade	2001/295	Not Controlled Action	Completed	In feature area
North and South Poplars Residential Development	2003/1136	Not Controlled Action	Completed	In feature area
Sale of part of Blkl3/Sct19 ACT Water Police HQ	2003/1057	Not Controlled Action	Completed	In feature area
Telecommunication Work, Block 2 Section 364, Fadden, ACT	2012/6411	Not Controlled Action	Completed	In buffer area only
upgrade mechanical services Reps & Senate Press Offices	2005/1933	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Aerial baiting for wild dog control	2006/2713	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Canberra Centenary Trail Project	2012/6645	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

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

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix 5: ARPANSA EME Report

Environmental EME Report

Location	Lot 14, BUGDEN AVE, FADDEN ACT 2904		
Date	20/09/2024	**RFNSA No.**	2904010

How does this report work?

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Lot 14, BUGDEN AVE, FADDEN ACT 2904. These levels have been calculated by Downer Group using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).
A document describing how to interpret this report is available at ARPANSA's website:
A Guide to the Environmental Report.

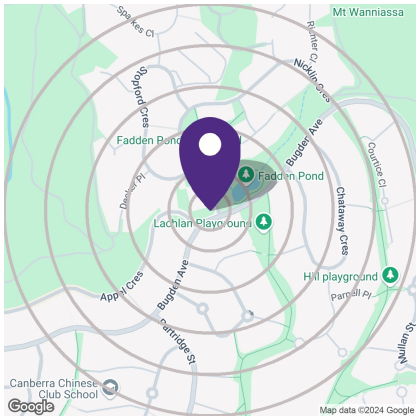
A snapshot of calculated EME levels at this site

There are currently no existing radio systems for this site.

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

3.03%

out of 100% of the public exposure limit, 157 m from the location.



EME levels with the proposed changes

Distance from the site	Percentage of the public exposure limit
0-50 m	1.26%
50-100 m	1.47%
100-200 m	3.03%
200-300 m	2.40%
300-400 m	1.08%
400-500 m	0.60%

For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at *http://www.rfnsa.com.au/2904010*.

Radio systems at the site

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

	Existing		Proposed	
Carrier	**Systems**	**Configuration**	**Systems**	**Configuration**
Optus			4G, 5G	NR/LTE700 (proposed), NR/LTE900 (proposed), LTE1800 (proposed), NR/LTE2100 (proposed), LTE2600 (proposed), NR2300 (proposed), NR3500 (proposed)

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

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

	Existing configuration			Proposed configuration		
Distance from the site	Electric field (V/m)	Power density (mW/m²)	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m²)	Percentage of the public exposure limit
0-50m				6.01	95.66	1.26%
50-100m				6.94	127.61	1.47%
100-200m				9.34	231.37	3.03%
200-300m				8.40	186.95	2.40%
300-400m				5.65	84.59	1.08%
400-500m				4.21	47.07	0.60%

Calculated EME levels at other areas of interest

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

Maximum cumulative EME level for the proposed configuration

Location	Height range	Electric field (V/m)	Power density (mW/m²)	Percentage of the public exposure limit
Tennis courts	0-2 m	5.47	79.34	0.97%
Dwelling 1	0-3 m	4.09	44.28	0.53%
Dwelling 2	0-3 m	7.57	152.13	1.64%
Dwelling 3	0-6 m	6.58	114.93	1.72%
Hilton Playground	0-4 m	7.30	141.20	1.76%
Bugden playground	0-4 m	4.95	64.89	0.81%

Appendix 6: Development Outcomes Report

Development Outcome Report – Version effective 27/09/2024

Introduction - The proposal and vision

As described within the Development Application **(DA)** for Planning Consent.

Site description

This section provides an overview of what the site currently looks like. The purpose of this section is to set the scene, considering any potential constraints, and to describe the site in the context of the surrounding area.

	Applicant response
Block, Section, Suburb	Block 14, Section 401, Division of Fadden.
Block Area	This large 'U' shaped land parcel approximately 5,229m² in size which surrounds a smaller land parcel (Block 13, Section 401, Division of Fadden) of 2,742m². Both land parcels together forming an unnamed public reserve which incorporates tennis courts and parking.
Zone (including overlays)	The land parcel is zoned PRZ1 - Urban Open Space. Overlays affecting the land include; Pe: Urban Open Space. The proposed development is consistent with the provisions of the Parks and Recreation Zones Policy, under which use of the land for the purposes of a 'communications facility' is permissible use for which planning consent can be considered. Zone assessment outcomes and requirements are responded to below within this report.
Current Use	This public land parcel is managed by the department of Transport Canberra and City Services (TCCS). Land is currently utilised as an unnamed public reserve. A Crown Lease is required from TCCS to occupy and use the land for the purposes of a telecommunications facility. This agreement is subject to the approval of the required planning permit.
Proposed Use	Telecommunications facility.
Access, Driveways and Parking	As discussed within DA ***Section 5***, due to the nature of the land parcel as a reserve (with Block 13, Section 401, Division of Fadden, located to its northern boundaries), there is no current dedicated access into the land parcel. Access is provided off Stopford Crescent into Block 13, Section 401, Division of Fadden only. As such, a new cross over and access point is proposed off Nicklin Crescent with an approximately 6.3m gravel access track to be installed to access the proposed facility. Refer proposal plans at DA ***Appendix 1***. It is anticipated that temporary parking during the construction period can be accommodated within the land parcel and the adjoining land parcel car park. Once constructed, the facility will operate on a largely unmanned basis with parking required for typically one maintenance vehicle 2-3 times per year for relatively brief time periods.

Site constraints	The land parcel has a gently sloping topography which falls away towards the south (away from the tennis courts located to its north). It is anticipated that minimal ground clearance will be required in order to construct the proposed facility. The land parcel contains areas of grassed open space together with strands of existing vegetation. The facility has been sited, set back from roadways to the south-eastern portion of the land parcel within a partially vegetated area. It is anticipated that this location will provide elements of screening and visual background to the facility at lower levels as further discussed in DA ***Section 7***. The land parcel is elevated in nature and not subject to flooding or drainage concerns. The proposed facility will not be a contributor of additional stormwater, will not require storm water discharge point or alter the existing natural waterflows across the land parcel to existing points of discharge. The site is within proximity to, but not within, bushfire prone areas and given its largely concrete and steel nature, it is not anticipated to pose a bushfire risk. Desktop reviews have not identified heritage sites within proximity to the proposed facility, nor have any contamination risks been identified within the locality.
Environmental values	As discussed within DA ***Section 5***, a comprehensive preliminary assessment of the nearby natural environment was undertaken within the planning, design and procurement stages of this proposed development. The proposed facility is not within area of previously mapped high biodiversity value. It is anticipated that there is minimal risk of the proposal impacting on potential threatened species or ecological communities that may occur within the broader area. It is expected that any future upgrades or maintenance will not impact endangered wildlife within the vicinity. The proposal is not of National Environmental Significance. As discussed in DA ***Section 5.2***, whilst the proposed site is not within proximity to a tree listed as a 'Registered Tree' within the wider area. However, given that the site is within publicly owned land, all trees are protected under the *Urban Forest Act 2023*, including those within the adjacent road reserve. As this proposal requires the removal of four (4) small trees from within the land parcel, the required Tree Management Plan (TMP) and Landscape Management Protection Plan (LMPP) will be prepared for the approval of the required Authority, should development consent be provided.

	Under the Territory Plan 2023, Telecommunications Facilities do not trigger the requirement to respond to the Biodiversity Sensitive Urban Design Guide (BSUD).
Surrounding Land Uses and Development	As detailed in DA ***Section 4***, the proposed development is located within the suburb of Fadden with the area being largely comprised of Residential (RZ1 – Suburban) and Urban Parks and Recreational (PRZ1 - Urban Open Spaces) zoned land. The suburb sits within a natural valley formed by the surrounding Wanniassa Hill Nature Reserve to the west, north and east, with Fadden Pines district park separating the Fadden topographically for suburbs further to the south. The proposed facility is set below the elevations of the Wanniassa Hills Nature Reserve and visually protected ridgeline. Fadden is a well-established residential area with land surrounding the facility incorporating areas such as community tennis courts and associated carparking (to the north) and open spaces, together with the Fadden Hills Pond and associated playground and parkland to the east of Nicklin Crescent. Residential development typically comprises low-density single storey houses with the varying topography and street orientations lending to the incorporation of varying houses designs such as split-levels and raised/sunken driveways. Gardens and road verge vegetation is typically well established with the suburb benefiting from a typically hilled and vegetated horizon. The proposed facility is set back from residential land uses as much as is possible, being approximately 45m from the nearest residences to the south. The Genisis Family Day Car Centre is located approximately 410m to the north-east, with Lachlan Playground 145m to the south-east and Fadden Primary School located 505m to the south. Existing road verge vegetation and the undulating topography of the area provide some visual buffering of the lower levels of the proposed facility from surrounding residential developments as discussed in DA ***Section 7***.
Additional Comments	N/A

Additional detail

Pre-DA processes or advice

Whilst general advice has been sought by the Applicant in relation to the recent activation of the Planning Act 2023, formal advice or pre-DA meeting has not been undertaken prior to the lodgement of this Application. It is anticipated that further DA advice will be received during the Application review process including any subsequent Requests for Information and Community Consultation processes.

This Development Application forms the required Environmental Impact Statement (EIS).

No Independent Environmental Significance Opinion (ESO) has been obtained to date.

It is noted that whilst ongoing property tenure discussions have been had with TCCS in relation to the proposal, the siting of the proposed facility has been selected by the Applicant. In addition, and subsequent to the requirements of planning Legislation, the Applicant is required by TCCS to undertake and provide any additional or mandatory items such as an LMPP, to the satisfaction of TCCS and which may be required for the consideration of this Application.

Initial advice sought by the Applicant indicated that the proposed development of a '*communications facilities'* did not required consultation with the National Capital Design Review Panel (NCDRP).

Statutory considerations

The *Planning Act 2023* sets some mandatory considerations that need to be made during the DA process for certain or all development types.

While many of these will be considered by the Territory Planning Authority during the assessment and decision-making process, below are some key considerations that an applicant needs to also make during the design process.

If the site of the proposed development adjoins another zone—whether the development proposal achieves an appropriate transition between the zones.

Applicant response

The proposed development is located upon land zoned Urban Open Space – PRZ1 which forms an unnamed public reserve. The land parcel is bounded to the north, east and south by public roads.

Whilst land to the western boundary of the subject land parcel transitions into residential RZ1 – Suburban land zoning, this area is set back approximately 80m from the proposed facility. Existing vegetation between these areas is to be largely protected, retaining the nature of the transition between these two land areas.

The tennis courts to the north of the proposed facility form a natural boundary from the unnamed reserve toward Stopford Crescent and residential areas to the north, zoned RZI – Suburban.

Treelined road reserves on both frontages of Nicklin Cresent and the Fadden Pond reserve provide continuation of urban open space from residential areas further to the east. Whilst vegetation within the subject land parcel fronting Bugden Avenue form a transition toward RZ1 – suburban zoned land to the south of Bugden Avenue, providing an element of visual separation to the residential properties upon its southern verge.

Given that the proposal's relatively compact compound and location within an area of urban open space, with separations to zoning transitions (that incorporate set-back from residential areas to the western periphery and roadways to the north, east and south) in the surrounding area, it is considered that the proposal generally supports and achieves appropriate transitions between zones. It does not detract from the zoning transitions from PRZ1 land into RZ1 land in the wider area, nor from the existing land uses within adjoining land parcels such as the tennis courts to the north or Fadden Pond and reserve to the east of Nicklin Crescent.

The suitability of the proposed development in the context of the site and the site surrounds, including the permissible uses for those areas.

Applicant response

As described within this report and the DA, the proposed facility is located upon land zoned Urban Open Space – PRZ1, forming an unnamed public reserve. A 'communications facility' is a permissible use for which planning consent can be considered.

As discussed within ***Section 2*** of the DA, identification of a suitable facility location within the context of Fadden's developed urban environment and topography, capable of providing the required coverage and capacity improvements to the area, is challenging.

Indara and Optus adopt a precautionary approach to site selection and every attempt is made to avoid community sensitive locations (such as schools, childcare centres and aged care residences), as well as residential zoned land, in the first instance, however, given the constraints of this developed urban environment, coverage constraints and candidate availability, it was not possible to site a facility away from residential land uses on this occasion.

Given the lack of suitable alternative candidates for upgrade, colocation or new greenfield facilities, this proposed site was selected.

It is acknowledged that the site will be visible within the context of its immediate surroundings, in order to function however, the design of the proposed facility has sought to minimise visual intrusion through the use of a slimline monopole and slim turret headframe to heights to achieve the required coverage. It is proposed that the facility, including ground based equipment be coloured pale eucalypt so as to blend with the vegetated landscape. Whilst several small trees will be required to be removed to provide for construction, the location of the facility within the land parcel has been placed so as to benefit from low to medium level screening and backdrop provided by existing vegetation from some surrounding viewpoints.

On balance with the significant benefit telecommunications facilities will provide to the Fadden community, the facility is considered to be compatible within the context of existing and future permissible development and use of land within the area.

The interaction of the proposed development with any other adjoining or adjacent development proposals for which a development application has been submitted or development approval given.

Applicant response

The proposed development is sited within an already established area, with the applicant not aware of any current development proposals upon the affected land parcel or those nearby, at the time of writing this report. Given its compact nature, it is therefore not anticipated to adversely affect current of future development proposals upon the land parcel or within the area.

District Strategies

The facility is located within the Tuggeranong District per section D8 of the Plan. The proposal is considered to be generally consistent with the requirements for this District.

Part Seven – Tuggeranong District Strategy of the *ACT District Strategies 2023, Volume 2*, provides a framework for future growth and change and to achieve the vision set out in the Planning Strategy for Canberra to be a sustainable, competitive and equitable city into the future through initiatives for the *Five Big Drivers*.

In line with the District Strategies the proposed new facility at Fadden responds to the Five Big Drivers (the social, environmental, economic, transport and amenity factors that are essential to creating liveable places) as detailed as detailed in the below table.

Big Five Driver	Response to Tuggeranong Initiatives
Blue-green network	The facility has been designed to minimise impacts on the local environment and environmental quality of the area. It is sited away from priority areas of high biodiversity value and wildlife habitat corridors and designed to conserve existing vegetation near to the site whilst enhancing the use of existing open space and amenity through the provision of improved telecommunications facilities for the community, supporting Initiatives 1.1, 1.4. Initiative 1.7 is supported through the compounds, largely permeable, water sensitive urban design which will maintain existing water flows and avoid the creation of heat islands. The site is situated away from areas of cultural and heritage significance. Existing tree canopies will be retained wherever possible with the facility being positioned and designed to avoid bushfire risk. The facility will provide critical communications services to the area in times of emergency.
Economic access and opportunity across the city	The facility will strongly benefit economic sustainability. Improved access to communications technologies enhances opportunities for future employment, supporting and reinforcing existing business and commercial centres to grow and assisting people to work from home or within proximity to home, supporting Initiative 2.3. The facility will assist in connectivity and access of residents to tertiary education providers and community facilities, either existing or future, aiding Initiative 2.4. In support of Initiative 2.5, the proposed site is situated on land zoned PRZ1 – Urban Open Space, a zoning permitting communications use and being in line with planning provisions. The relatively small site area ensures that current uses of the land are not diminished, with urban land being retained for public use.
Strategic movement to support city growth	The proposal is for supportive infrastructure that will, through improved communications connectivity, enhance the urban environment. Through bolstering wider network capacity and capabilities, the proposed facility will strengthen and support Fadden's connections to other nearby suburbs and the wider City. It will support the wider network of existing and future economic enterprises, schools and services as well as road connectivity, future light rail and priority active travel routes within the ACT. Pedestrian and vehicle access to mobile phone connections will be greatly enhanced. All of these items support city growth in line with Initiatives 3.1 to 3.4.
Inclusive centres and communities	Improved mobile connectivity will contribute toward economic vitality and community wellbeing. Optus has identified the need for improved network coverage and services within the Fadden area. The proposed facility will support and enhance existing and future planned local community services, facilities, and meeting places through enhanced access to telecommunications services, supporting Initiatives 4.1 through 4.4. In line with the City-wide vision, enhanced telecommunications access will aid all residents in Canberra being able to access, by active travel, a group or local centre where they feel welcome and safe and can find basic goods for day-to-day living. This ensures communities and centres have equitable access to quality services, strengthening centres and socio-economic outcomes and may aid in activating community centres and the development of innovative precincts. In line with Initiative 4.5, the proposed facility with its small compound area, preserves land for social and community uses whilst providing the vital communications facilities which urban areas rely on.

Sustainable neighbourhoods	The facility, through bolstering the connectivity of the wider network, will support future residential densification and connectivity of urban areas, local town centres and employment areas, similarly to Initiatives 5.1, 5.2. In line with Initiative 5.3, the proposed facility is a local-scale project which promotes active streets (through improved mobile phone connectivity), maintains the existing tree canopy where possible and which has sought to integrate urban infrastructure improvements within a suitably zoned land area. The proposal seeks to retain the existing tree canopy and vegetation where possible with its small compound area protecting the permeability and urban heat outcomes of the area in line with initiatives 5.4 and 5.5. Telecommunications facilities may assist in supporting employment opportunities and the transition towards zero emissions with the potential for work-from-home opportunities reducing residents need for car travel and travel times.

Policy Outcomes

The proposed facility is in alignment with the desired policy outcomes to be achieved for the Tuggeranong District as detailed below.

Desired Policy Outcome	Response
1. Improve biodiversity and water quality outcomes across the district including Lake Tuggeranong, including promoting water sensitive urban design.	The proposed facility is in alignment with this desired outcome as it has been sited with set back from waterways and the water collection areas. The proposed compound is largely permeable in nature and will not alter the existing waterflows across the land parcel. The facility is not anticipated to be a contributor to stormwater runoff.
2. Enhance open space linkages between suburbs to improve connections across the district.	The proposed facility is not situated near to adjoining suburbs however the siting and compact compound design has sought to ensure the proposed facility compound does not cause adverse impact to existing open space linkages across the land parcel and within the surrounding area. The proposal has been sited away from identified areas of habitat and flora/fauna significance, with the existing vegetation to be retained as far as practical.
3. Enhance the employment role of the Tuggeranong town centre linked to nodes of economic activity along the Athllon Drive corridor (at Wanniassa and Drakeford Drive).	Whilst not located within the Tuggeranong town centre, the Fadden area in an important urban area which supports the Tuggeranong economy. The proposed facility, through its wider network connections, will improve the connectivity of the Fadden area with activity centres within the Tuggeranong district and beyond, providing for improved employment opportunities and economic growth. It therefore generally conforms with this policy outcome.
4. Better understand and enhance the economic role of existing group centres including Conder, Calwell and Chisholm to strengthen access to employment opportunities across the district.	As noted above, the proposed development aligns with this desired policy outcome as it will support and enhance the economic role of the Fadden through the provision of telecommunications facilities which support residents, businesses and services and increase ongoing access to employment opportunities across the district.
5. Deliver new strategic transport connections including potential future light rail to the Tuggeranong town centre via Athllon Drive.	As discussed above, the proposed facility supports improved transport connections both pedestrian and vehicular through its provision of telecommunications access (vital for navigation devices). As such, it generally supports this desired policy outcome.
6. Investigate other key corridors towards Kambah and Chisholm to support growth and enhance job accessibility.	Not applicable to this proposal.
7. Consider the role and function of existing group and local centres which may include Kambah, Wanniassa, Fadden, Chisholm, Monash, Calwell, Gordon (north), Richardson and Conder. Depending on the results of this consideration and whether further action is required, investigate planning and non-planning initiatives to support the centres' viability and role as a meeting place.	Not applicable to this proposal.
8. Focus new residential development mixed with employment opportunities in Tuggeranong town centre and in potential future light rail and rapid corridors.	Not applicable to this proposal.

Tuggeranong District Policies

Assessment Outcomes	Not Applicable. At the time of this report preparation there were no *specific Assessment Outcomes* for the Fadden locality.
Assessment Requirements	Not Applicable. At the time of this report preparation there were no *specific Assessment Requirements* for the Fadden locality.

Development Outcomes Report – Parks and Recreation Zones Policy

Parks and Recreation Zones Policy – Assessment Outcomes

Development proposals must demonstrate that they are consistent with the following assessment outcomes.

Theme- Urban Structure and Natural Systems

Assessment Outcomes	Outcomes Response
1. Biodiversity connectivity is maintained across the landscape.	Complies. Due to the compact nature of the facility and its placement to the south-eastern portion of the allotment, where possible, set back from areas of vegetation, it is not anticipated that the facility will adversely affect the biodiversity connectivity of the area.
2. Loss of native habitat and biodiversity is avoided and/or minimised.	Complies. Refer DA ***Section 5.9***,
3. The health and functionality of waterways and catchments is maintained, including through application of water sensitive urban design principles.	Complies. The proposed facility will not be a generator of stormwater, require a new point of discharge or change existing water flows across the land parcel. Its design is sensitive to urban design principals in that the compound area is largely permeable in nature, being crushed and compacted gravel, which allows water to naturally access the earth. Limiting concrete use to that of the foundations aids in reducing potential creation of 'heat islands'.

Theme- Site and Land Use

Assessment Outcomes	Outcomes Response
4. The functionality and usability of the development is appropriate for its intended purpose/use.	Complies. The proposed facility is designed to current Regulatory and Australian Standards with connections to required infrastructure such as vehicular access and electricity and fibre connections, being available. The facility is designed to meet existing coverage and capacity requirements, including in-building services, for the Fadden area.
5. The proposed use and scale of development are appropriate to the site and zone.	The proposal generally complies with the outcomes of this clause. The proposed development is set within the broader context of an urban environment which incorporates other vertical infrastructure such as power and light poles. Whilst the proposed monopole is 20m in height, its slimline design incorporating additional 5m high turret headframe and colouring of pale eucalyptus is considered a sympathetic to the scale of buildings and facilities in the surrounding area whilst achieving the required coverage outcomes.
6. Adverse impacts of development on surrounding uses (both within a site and on adjoining sites) is minimised.	Complies. As discussed within ***Section 5*** of the DA, the proposed development has been designed and sited to, wherever possible, mitigate the potential for adverse impacts to surrounding land uses. The facility compound is compact in nature and has been set back from roadways and adjoining land uses, such as community tennis courts, and residential areas, as much as is practical. Whilst, by necessity, the facility will be visible within the immediately surrounding area in order to function, as discussed in ***Section 7*** of the DA, when considered with regard to the coverage constraints of the area and the substantial community benefit that new and improved telecommunications services will provide the Fadden community.

Theme- Access and Movement

Assessment Outcomes	Outcomes Response
7. The functionality and layout of the development is well connected to the surrounding area. This includes consideration of traffic flow, passive surveillance and active travel.	Complies. The proposed facility has been designed to be as compact in nature as possible both in terms of facility height; proposed at heights to achieve desired coverage outcomes; compound size, being minimum length and depth to house the facility and; proportion/position, being located within the land parcel so as not to detrimentally affect its current or potential future use by the owner/custodian.
8. Access to, from and within the site permits safe and legible movement while catering for all users (including pedestrians). This includes consideration of vehicle manoeuvrability and access routes.	Complies. The newly proposed access into the land parcel from Nicklin Crescent has been designed following preliminary advice from TCCS in relation to road network considerations. The scale of the facility will not impede on the safety of vehicles travelling along surrounding road corridors being set back from street frontages and will be viewed within the context of existing roadside street infrastructure such as light poles. It is anticipated that this Application will be referred to TCCS for formal review as part of the assessment process.

Theme- Public Space and Amenity

Assessment Outcomes	Outcomes Response
9. The development achieves reasonable solar access and microclimate conditions to public areas and streets supports their use by the community.	Not applicable.
10. Any advertising or signs are suitable for their context and do not have a detrimental impact on the surrounding area (for instance due to size or light emission).	Not applicable. Whilst the proposed facility will have site identification and safety/security signage affixed to the chain mesh fence surrounding the compound as required by legislation, this is not illuminated or large in size and will not detrimentally impact the surrounding areas. As the proposed development is not a 'community facility', the requirements of the technical specifications of this clause are not applicable to this application.

Theme- Built Form and Building Design

Assessment Outcomes	Outcomes Response
11. The height, bulk and scale of the development is appropriate, noting the desired zone policy outcomes.	Complies. As noted within the ***DA***, the proposed facility has been designed to required heights (scale) to achieve the coverage outcomes for the area without building to heights which would provide not additional coverage improvement. Urban design principles have been adopted in the selection of a slimline monopole structure of streamline vertical nature (reducing visual bulk), which is generally considered the most appropriate facility design within an urban landscape (where upgrade or colocation opportunities are not available and where a greenfield site is required, as is the case in this instance). To further contain the appearance of visual bulk, a slim turret headframe is proposed rather than alternate headframe designs which protruded from the monopole structure. This design ensures that antennas are mounted within close proximity to the monopole retaining the appearance of a single slim vertical element within the landscape. The monopole will be finished in a pale eucalypt colour, so as to blend with the broader vegetated landscape and hilled horizon. The design of the proposal aims to minimise visual features and to also match colours of existing vertical structures within the immediate area such as tall native tree to the west of the proposal. The proposed outdoor units (ODU's) at ground level will also be finished in pale eucalypt. The compact compound area will not hinder the current or future potential use of the land for public open space. The proposed facility will provide valuable telecommunications services to the community. In line with the technical specification of this objective, the proposal is for a non-inhabitable utility structure which is not an enclosed building or structure. As such, 'gross floor' area and 'building height' do not apply to this application. The proposed facility is set back from boundaries with residential land zonings.
12. Reasonable solar access and privacy to adjoining dwellings is achieved.	Not applicable.

Theme- Sustainability and Environment

Assessment Outcomes	Outcomes Response
13. Roofed areas and hard surfaces aim to reduce urban heat island effects and minimise stormwater run-off. This includes consideration of water sensitive urban design measures.	Complies. The application is for a non-habitable utility structure with no roofed areas. It is not anticipated that the facility will alter existing water flows and will not be a contributor of stormwater. The technical specifications of this objective are not applicable to the proposal noting that, whilst the development is proposed upon a land parcel of greater land area than 2,000m², it will not increase the impervious area of the land by 100m² (the facility compound area is 73m²).
14. Threats to biodiversity such as noise, light pollution, invasive species incursion or establishment, chemical pollution, or site disturbance are avoided or minimised through good design.	Complies. Refer to ***Section 5*** and ***Section 8*** of the DA.
15. Minimise cut and fill to protect natural hydrological function and limit soil erosion and site disturbance.	Complies. The proposed siting of the facility is upon relatively flat and previously levelled area of land with minimal site levelling anticipated to provide for the compound. Erosion and sediment control measures will be put in place as discussed in ***Section 5.3*** of the DA. A *Waste Management Plan* will be required and will be completed as part of this application process.

	In line with the technical specifications of this objective, the proposed development complies will the *Environment Protection Authority* requirements regarding construction and land development.
16. The development considers and addresses site constraints, including heritage, natural features, topography, infrastructure and utilities.	Complies. Refer ***Section 5*** of the DA.
17. Environmental risks, including natural features, topography, noise, bushfire, flooding, contamination, air quality or hazardous materials are appropriately considered for the development on the site.	Complies. Refer ***Section 5*** of the DA. Whilst the proposed development is location upon a land parcel greater than 2,000m² in size, the facility will not involve the requirement for retention or detention of stormwater. Nor will the proposed installation of a new gravel access track, require alterations to existing stormwater networks. As such, a MUSIC model is not required to be prepared.

Theme- Parking, Services and Utilities

Assessment Outcomes	**Outcomes Response**
18. The development provides appropriate end-of-trip facilities.	The proposed development is for a non-habitable utility structure. As such, the technical specifications of this clause (being 16.1 through 16.3) are not applicable to this application.
19. Vehicle and bicycle parking sufficiently caters for the development while minimising visual impacts from the street or public space. This includes consideration of parking location, dimensions and number of spaces provided.	Complies. Once constructed, the facility operates on a largely unmanned basis with maintenance visits required typically 2-3 times per year (4x4 vehicle). An existing car park within the reserve, accessed off Stopford Cresent, can be utilised at these times if required. Existing vegetation within the road reserve will be protected and retained. The technical specifications in relation to this clause do not apply to this Application.
20. Waste is appropriately managed on site without having a detrimental impact on the surrounding area.	Will comply. As soil excavation is required to construct the foundations of the proposed facility, a *Waste Management Plan* is required and will be prepared as part of this Application Process. Pending approval of this development application and as part of high level design, the required Plan will be submitted to the Authority for approval prior to the construction of the proposed facility. As noted, the proposed facility will not be a generator of waste once constructed and in operation, therefore the technical specifications of this objective in relation to TCCS waste management facilities, is not applicable.
21. The site is appropriately serviced in terms of infrastructure and utility services and any associated amenity impacts are minimised.	Complies. Refer to ***Section 5.6*** of the DA. The proposed development does not include battery storage, or the demolition of existing buildings or structures. No external lighting is proposed within the development. The proposed facility does not encroach over easements or rights of way. All network infrastructure on or immediately adjacent the facility is incorporated within the proposal plans, refer DA ***Appendix 1***.

Parks and Zones Policy – Assessment Requirements

There are no applicable assessment requirements for development proposals in the parks and recreation zones.

Appendix 7: Letter of Authorisation

ACT Government
Environment, Planning and Sustainable Development

Planning Act 2023

LETTER OF AUTHORISATION

To be completed and submitted with various planning applications, including development applications, to confirm permission for a third party to act on behalf of a lessee.

LEASE OR SITE DETAILS

If more than two leases/sites please attach the following details for each additional lease/site on a separate sheet

Block/s: 14

Section: 401

Suburb: Fadden

District: Tuggeranong

Street Address: Unnamed Public Reserve, Corner of Bugden Anveue and Nicklin Crescent

Block/s: _____

Section: _____

Suburb: _____

District: _____

Street Address: _____

Where no block and section details are available, describe the location (i.e. road reserve name, or outdoor dining area location)

_____

APPLICANT DETAILS AND DECLARATION

Applicant Details (Please Print)

Applicant name: Alexandra Dempsey - Downer Group **Email**: community.consult@downergroup.com

OR

Company name: _____ **Email**: _____

Company Nominees – a Company can list up to three nominees. The **first** nominee **must** be authorised to sign on behalf of the Company

Nominee 1: _____ **Nominee 2**: _____ **Nominee 3**: _____

Applicant Declaration

I/we the applicant, by signing the below, declare that:

- I am the person authorised to sign, or to sign on behalf of the company described in this form; and
- I declare that all the information given on this form and its attachments are true and complete.

Signature: _____ **Date**: 21/5/2024

LESSEE DETAILS AND DECLARATION

Lessee Details (Please Print Names) - if more than two lessees, please number each additional lessee in 'additional lessees'

First Lessee: _____ **Second Lessee**: _____

Additional lessees: _____

Lessee Declaration - if more than two lessees, please number each additional lessee in 'additional lessees'

I/we the lessee(s), by signing the below, declare that:

- I am/we are the lessee(s) of the land described above;
- I/we have been made aware of the declaration and privacy clauses in all relevant forms; and

- I/we understand that all the information given on this form is true and complete.

I/we the lessee(s), by signing the below, authorise the person/company (to be known as *the Applicant)* to:

- obtain information in relation to this site;
- to act on my/our behalf in relation to the following types of application for the abovementioned site/s (please tick all that apply);
  - ☒ Pre-Application Meeting
  - ☒ Development Application, including amendments
  - ☐ Exemption Declaration
  - ☐ Reconsideration Application
  - ☐ Environmental Impact Statement or Environmental Significant Opinions
  - ☐ Other planning application
- to pay all application fees, bonds and securities, liaise with the Territory Planning Authority when required, alter, amen and provide further information as necessary and receive any communications relating to the application.

First Lessee Signature: _____ **Date**: _____

Second Lessee Signature: _____ **Date**: _____

Additional Lessee Signature: _____ **Date**: _____

LAND CUSTODIAN DETAILS AND DECLARATION – for works on unleased Territory Land

Land Custodian Details (Please Print) - if more than two custodians, please number each additional custodian in 'additional custodians'

First Custodian Name: _____ **Agency**: _____

Second Custodian Name: Daniel Iglesias **Agency**: TCCS - City Presentation

Additional Custodians: _____

Land Custodian Declaration - if more than two custodians, please number each additional custodian in 'additional custodians'

I/we the land custodian(s), by signing the below, declare that:

- I am/we are the land custodian(s) of the public or unleased land described above;
- I/we have been made aware of the declaration and privacy clauses in all relevant forms; and
- I/we understand that all the information given on this form is true and complete.

I/we the land custodian(s), by signing the below, authorise the person/company (to be known as *the Applicant)* to:

- obtain information in relation to this site;
- to act on my/our behalf in relation to the following types of application for the abovementioned site/s (please tick all that apply);
  - ☒ Pre-Application Meeting
  - ☒ Development Application, including amendments
  - ☐ Exemption Declaration
  - ☐ Reconsideration Application
  - ☐ Environmental Impact Statement or Environmental Significant Opinions
  - ☐ Other planning application
- to pay all application fees, bonds and securities, liaise with the Territory Planning Authority when required, alter, amen and provide further information as necessary and receive any communications relating to the application.

First Custodian Signature: _____ **Date**: _____

Second Custodian Signature: _____ **Date**: 23 May 2024

Additional Custodian Signature: _____ **Date**: _____

THIS AUTHORISATION <u>DOES NOT</u> CONSTITUTE AN APPROVAL IN PRINCIPLE OR OTHERWISE BY THE LAND CUSTODIAN IN RELATION TO THE PROPOSED DEVELOPMENT.

Privacy Notice

The personal information on this form is provided to the Environment, Planning and Sustainable Development Directorate (EPSDD) to enable the processing of your application. The collection of personal information is authorised by the *Planning Act 2023*. If all or some of the personal information is not collected EPSDD cannot process your application. The Planning Act 2023 requires the details of applications, decisions and orders to be kept on a register and made available for public inspection. Information and documentation relevant to a development application may be made available via the Internet. The personal information you provide may be disclosed to Australian Bureau of Statistics, ACT Revenue Office, the Registrar General's Office, ACTEW Corporation, ActewAGL, Transport Canberra and City Services Directorate and other Government agencies with a direct interest in the development assessment process. The information may also be disclosed where authorised by law or court order, or where the Directorate reasonably believes that the use or disclosure of the information is reasonably necessary for enforcement-related activities conducted by, or on behalf of, an enforcement body. EPSDD's Information Privacy Policy contains information about how you may access or seek to correct your personal information held by EPSDD, and how you may complain about an alleged breach of the Territory Privacy Principles. The EPSDD Information Privacy Policy can be found at www.environment.act.gov.au

Contact Details:

Environment, Planning and Sustainable Development Directorate
Customer Service Centres
GPO Box 158, Canberra City 2601
8 Darling Street Mitchell ACT 2911

Business Hours: 8.30am to 4.30pm weekdays (excluding Public Holidays)
Phone: (02) 6207 1923
Email: **ACepdcustomerservices@act.gov.au**
Website: **www.planning.act.gov.au**

ACT Government
Environment, Planning and Sustainable Development

Planning Act 2023

LETTER OF AUTHORISATION

To be completed and submitted with various planning applications, including development applications, to confirm permission for a third party to act on behalf of a lessee.

LEASE OR SITE DETAILS

If more than two leases/sites please attach the following details for each additional lease/site on a separate sheet

Block/s: 14

Section: 401

Suburb: Fadden

District: Tuggeranong

Street Address: Unnamed Public Reserve, Corner of Bugden Anveue and Nicklin Crescent

Block/s: _____

Section: _____

Suburb: _____

District: _____

Street Address: _____

Where no block and section details are available, describe the location (i.e. road reserve name, or outdoor dining area location)

_____

APPLICANT DETAILS AND DECLARATION

Applicant Details (Please Print)

Applicant name: Alexandra Dempsey - Downer Group **Email**: community.consult@downergroup.com

OR

Company name: _____ **Email**: _____

Company Nominees – a Company can list up to three nominees. The **first** nominee **must** be authorised to sign on behalf of the Company

Nominee 1: _____ **Nominee 2**: _____ **Nominee 3**: _____

Applicant Declaration

I/we the applicant, by signing the below, declare that:

- I am the person authorised to sign, or to sign on behalf of the company described in this form; and
- I declare that all the information given on this form and its attachments are true and complete.

Signature: _____ **Date**: 21/5/2024

LESSEE DETAILS AND DECLARATION

Lessee Details (Please Print Names) - if more than two lessees, please number each additional lessee in 'additional lessees'

First Lessee: _____ **Second Lessee**: _____

Additional lessees: _____

Lessee Declaration - if more than two lessees, please number each additional lessee in 'additional lessees'

I/we the lessee(s), by signing the below, declare that:

- I am/we are the lessee(s) of the land described above;
- I/we have been made aware of the declaration and privacy clauses in all relevant forms; and

- I/we understand that all the information given on this form is true and complete.

I/we the lessee(s), by signing the below, authorise the person/company (to be known as *the Applicant)* to:

- obtain information in relation to this site;
- to act on my/our behalf in relation to the following types of application for the abovementioned site/s (please tick all that apply);
  - ☒ Pre-Application Meeting
  - ☒ Development Application, including amendments
  - ☐ Exemption Declaration
  - ☐ Reconsideration Application
  - ☐ Environmental Impact Statement or Environmental Significant Opinions
  - ☐ Other planning application
- to pay all application fees, bonds and securities, liaise with the Territory Planning Authority when required, alter, amen and provide further information as necessary and receive any communications relating to the application.

First Lessee Signature: _____ **Date**: _____

Second Lessee Signature: _____ **Date**: _____

Additional Lessee Signature: _____ **Date**: _____

LAND CUSTODIAN DETAILS AND DECLARATION – for works on unleased Territory Land

Land Custodian Details (Please Print) - if more than two custodians, please number each additional custodian in 'additional custodians'

First Custodian Name: Tim Rampton **Agency**: TCCS - Roads ACT

Second Custodian Name: _____ **Agency**: _____

Additional Custodians: _____

Land Custodian Declaration - if more than two custodians, please number each additional custodian in 'additional custodians'

I/we the land custodian(s), by signing the below, declare that:

- I am/we are the land custodian(s) of the public or unleased land described above;
- I/we have been made aware of the declaration and privacy clauses in all relevant forms; and
- I/we understand that all the information given on this form is true and complete.

I/we the land custodian(s), by signing the below, authorise the person/company (to be known as *the Applicant)* to:

- obtain information in relation to this site;
- to act on my/our behalf in relation to the following types of application for the abovementioned site/s (please tick all that apply);
  - ☒ Pre-Application Meeting
  - ☒ Development Application, including amendments
  - ☐ Exemption Declaration
  - ☐ Reconsideration Application
  - ☐ Environmental Impact Statement or Environmental Significant Opinions
  - ☐ Other planning application
- to pay all application fees, bonds and securities, liaise with the Territory Planning Authority when required, alter, amen and provide further information as necessary and receive any communications relating to the application.

First Custodian Signature: _____ **Date**: 22/05/2024

Second Custodian Signature: _____ **Date**: _____

Additional Custodian Signature: _____ **Date**: _____

THIS AUTHORISATION <u>DOES NOT</u> CONSTITUTE AN APPROVAL IN PRINCIPLE OR OTHERWISE BY THE LAND CUSTODIAN IN RELATION TO THE PROPOSED DEVELOPMENT.

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