DATE OF ISSUE		31/10/18
DRAWING PACKAGE VERSION		1

GENERAL

P8315 - G1	SITE SPECIFICATIONS	A
P8315 - G2	OVERALL SITE PLAN	A
P8315 - G3	SITE LAYOUT AND SETOUT PLAN	A
P8315 - G4	SITE ELEVATION	A

ANTENNAS & TRANSMISSION

STRUCTURAL

ELECTRICAL

SHELTER / FITOUT

EME EXCLUSION ZONES

LEASE / LICENCE

REFERENCE DOCUMENTS

OSD-170	SITE SIGNAGE TYPICAL GROUND SITE	B
OSD-510	ELEVATED CABLE LADDER SUPPORT DETAILS - SHEET 1	A
OSD-530	CABLE LADDER RISER FIXING TO MONOPOLES	B

DISTRIBUTION

OPTUS		1
NOKIA		1
SSNC		1

OPTUS

OPTUS SITE - P8315

WANNEROO NORTH

1204 WANNEROO ROAD

ASHBY

WA 6065

DRAFT

eJV GREENFIELD PROJECT

OPTUS WORK AUTHORITY NO 376482

NOKIA

servicestream
ESSENTIAL NETWORK SERVICES
Level 3, 7-9 Tanunda Drive, Rivervale WA 6103
T +61 8 9355 7500 | F +61 8 9355 5100 | www.servicestream.com.au

NOT FOR CONSTRUCTION

Drawing No.
P8315 - 00

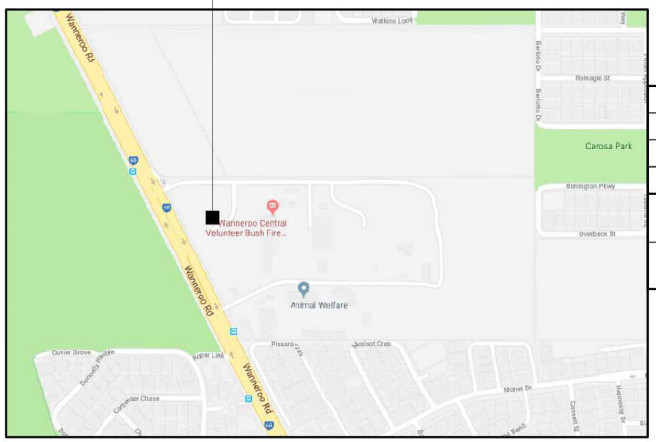
A3

CAD File: \\MCEP01\Data\WA\Nokia\West Australian Sites\P8315 Wanneroo North\02 SAED\3 Design and Engineering\1 Drawings\NFCs\P8315_NFC.dwg
Plot By: Rey Baldas Date: 02.11.18 2:18 PM

COPYRIGHT © OPTUS MOBILE PTY LTD ABN 65 054 365 696. ALL RIGHTS RESERVED. VERSION 2.0 NOVEMBER 2013

SITE ADDRESS

1204 WANNEROO ROAD
ASHBY
WA 6065



TOPOGRAPHIC MAP ... COPYRIGHT © GOOGLE MAPS

SITE LOCATION DATA	
SOURCE: SURVEY	
DATUM: MGA (GDA94)	ZONE: 50
REF LOCATION:	℄ MONOPOLE
EASTING	385 742
NORTHING	6 488 834
LATITUDE	-31.730584°
LONGITUDE	115.791055°

PROPOSED OPTUS MONOPOLE

1. PROPOSED OPTUS 23.8m STEEL MONOPOLE WITH HEXAGONAL HEADFRAME. REFER TO ROCLA/ROAM/LeBLANC/FEC MONOPOLE CERTIFICATE № XXXXXXX.
2. PROPOSED OPTUS ANTENNAS TO BE INSTALLED ON NEW HEADFRAME AT 25m. STRUCTURAL CERTIFICATE TO BE PROVIDED IN DETAIL DESIGN.
3. MONOPOLE AND HEADFRAME DETAILS, INCLUDING ANTENNA MOUNTS, FEEDER CABLE SUPPORTS, SHALL BE DESIGNED IN ACCORDANCE WITH THE "OPTUS TOWER SPECIFICATION" (OSD-030).
4. ANTENNA MAINTENANCE ACCESS BY QUALIFIED PERSONNEL ONLY (EG. VIA LADDER AND STEP PEGS WITH FALL ARREST SYSTEM PROVIDED ON MONOPOLE. (CHANGE FOR FOR ROOFTOP SITES)
5. REFER TO CONSULTANT'S GEOTECHNICAL INVESTIGATION REPORT FOR SUBSOIL CONDITIONS.

EQUIPMENT SHELTER / FITOUT

PROPOSED VOS 1.3 - END DOOR SHELTER.

TRANSMISSION

THIS SITE SHALL BE LINKED TO THE NETWORK VIA FIBRE.

REMOTE ELECTRONIC TILT

RET CONTROL FOR THIS SITE TO BE INSTALLED AS PER OPTUS (0M38040) RET/MHA DEPLOYMENT GUIDE LATEST REVISION

CONSTRUCTION SITE ACCESS

ACCESS VIA WANNEROO ROAD.
ALL ACCESS AND WORKS PRIOR TO CONSTRUCTION COMPLETION TO BE BY PRIOR ARRANGEMENT WITH CITY OF WANNEROO (MARK PRITCHARD - PROPERTY & LEASING OFFICER - 08 9405 5402 - MARK.PRITCHARD@WANNEROO.WA.GOV.AU)

EXISTING SITE HAZARDS

1. EXISTING EME TRANSMITTING ANTENNAS
2. MANUAL HANDLING
3. WORKING AT HEIGHTS
4. SLIP, TRIP AND FALLS
5. ELECTRICAL HAZARDS
6. WEATHER / LIGHTNING
7. SUN EXPOSURE
8. WILDLIFE / INSECTS

WHS SAFETY IN DESIGN RISK ASSESSMENT

ALL HAZARDS ASSOCIATED WITH THE DESIGN OF THE PROPOSED WORKS AS WELL AS ANY EXISTING OR LEGACY DOCUMENTATION "0M38346 - MRD WHS SAFETY IN DESIGN RISK ASSESSMENT MATRIX".

SITE SIGNAGE

1. SITE SIGNAGE SHALL BE IN ACCORDANCE WITH OSD-170 (GROUND SITE).
2. SPECIFY SPECIAL REQUIREMENTS REQUIRED BY SITE PROVIDER, LOCAL AUTHORITY, ETC

EME EXCLUSION ZONES

1. REFER TO RADIO COMMUNICATIONS SITE MANAGEMENT BOOK (RCSMB) FOR LATEST EME EXCLUSION ZONES FOR EXISTING AND PROPOSED ANTENNAS AT THIS SITE.
2. REFER TO DRAWING P8315-G3 FOR CONTROL MEASURES AT THIS SITE (IF APPLICABLE)

GENERAL

1. THE CONTRACTOR SHALL COMPLY WITH ALL THE RELEVANT OPTUS CONSTRUCTION STANDARDS AND SPECIFICATIONS.
2. ALL INFORMATION TO BE CHECKED ON SITE PRIOR TO FABRICATION AND CONSTRUCTION.
3. THE LOCATION AND DEPTH OF ANY EXISTING UNDERGROUND SERVICES SHALL BE PHYSICALLY VERIFIED ON SITE PRIOR TO COMMENCING EXCAVATION (e.g. BY POTHOLING)

DRAFT

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	31.10.18	ISSUED NOT FOR CONSTRUCTION (eJV GREENFIELD PROJECT)	SSNC	AD	BL	KI	DP

servicestream
ESSENTIAL NETWORK SERVICES
Level 3, 7-9 Tanunda Drive, Rivervale WA 6103
T +61 8 9355 7500 | F +61 8 9355 5100 | www.servicestream.com.au

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- P8315
WANNEROO NORTH
1204 WANNEROO ROAD

Drawing Title: SITE SPECIFICATIONS

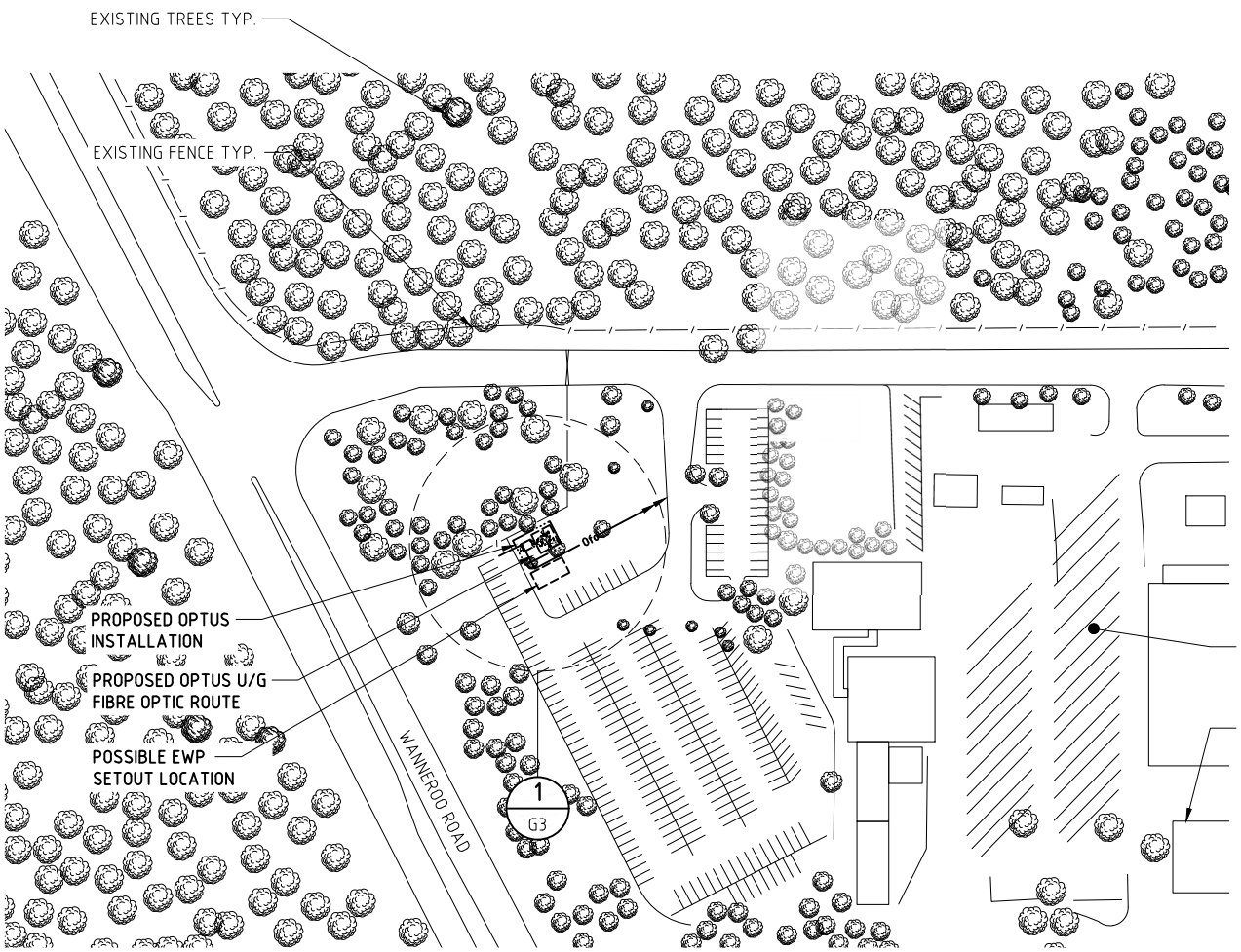
Drawing Status: NOT FOR CONSTRUCTION
Drawing No.: P8315-G1
Revision: A

CAD File: P8315_NFC.dwg
Plot By: Rey Baldas Date: 02.11.18 2:18 PM

COPYRIGHT © OPTUS MOBILE PTY LTD ABN 65 054 365 696. ALL RIGHTS RESERVED. VERSION 2.0 NOVEMBER 2013

20 10 0 10 20 30 40 50mm

A3



NOTES:

1. ALL INFORMATION TO BE CHECKED ON SITE PRIOR TO FABRICATION AND CONSTRUCTION.
2. DRAWINGS BASED ON INFORMATION PROVIDED BY OTHERS.
3. CONSTRUCTION CONTRACTOR TO CONFIRM SUITABILITY OF PROPOSED EWP SET-UP/PARKING LOCATION ON SITE PRIOR TO WORK COMMENCING.
4. SERVICES INFORMATION CONTAINED ON THIS DRAWING IS INDICATIVE ONLY AND REFERENCE SHOULD BE MADE TO THE AUTHORITIES DRAWINGS TO CONFIRM ACCURACY AND COMPLETENESS. WHERE INFORMATION IS AVAILABLE, THE SUB-SURFACE SERVICES INSTALLED BY AGENTS OTHER THAN AUTHORITIES HAVE BEEN SHOWN, BUT ADDITIONAL UNDOCUMENTED SERVICES MAY BE PRESENT. SHOULD THE CONTRACTOR BELIEVE THAT SUB-SURFACE SERVICES ARE AT RISK OF DAMAGE DURING CONSTRUCTION, THE CONTRACTOR SHOULD NOTIFY THE RELEVANT AUTHORITIES AND ESTABLISH THE EXACT LOCATION OF THE SERVICES.
5. REMOVE ALL TALL GRASS / WEEDS WITHIN THE COMPOUND TO MINIMISE SNAKE ACTIVITY.

LEGEND

- PROPERTY BOUNDARY
- Ofo Ofo — OPTUS FIBRE OPTIC
- O E O E — OPTUS OH ELECTRICITY
- O e O e — OPTUS UG ELECTRICITY

OVERALL SITE PLAN

SCALE 1:1500

DRAFT

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	31.10.18	ISSUED NOT FOR CONSTRUCTION (eJV GREENFIELD PROJECT)	SSNC	AD	BL	KI	DP

servicestream
ESSENTIAL NETWORK SERVICES
Level 3, 7-9 Tanunda Drive, Rivervale WA 6103
T +61 8 9355 7500 | F +61 8 9355 5100 | www.servicestream.com.au

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- P8315
WANNEROO NORTH
1204 WANNEROO ROAD

Drawing Title: OVERALL SITE PLAN

Drawing Status: NOT FOR CONSTRUCTION

Drawing No. P8315-G2

Revision A

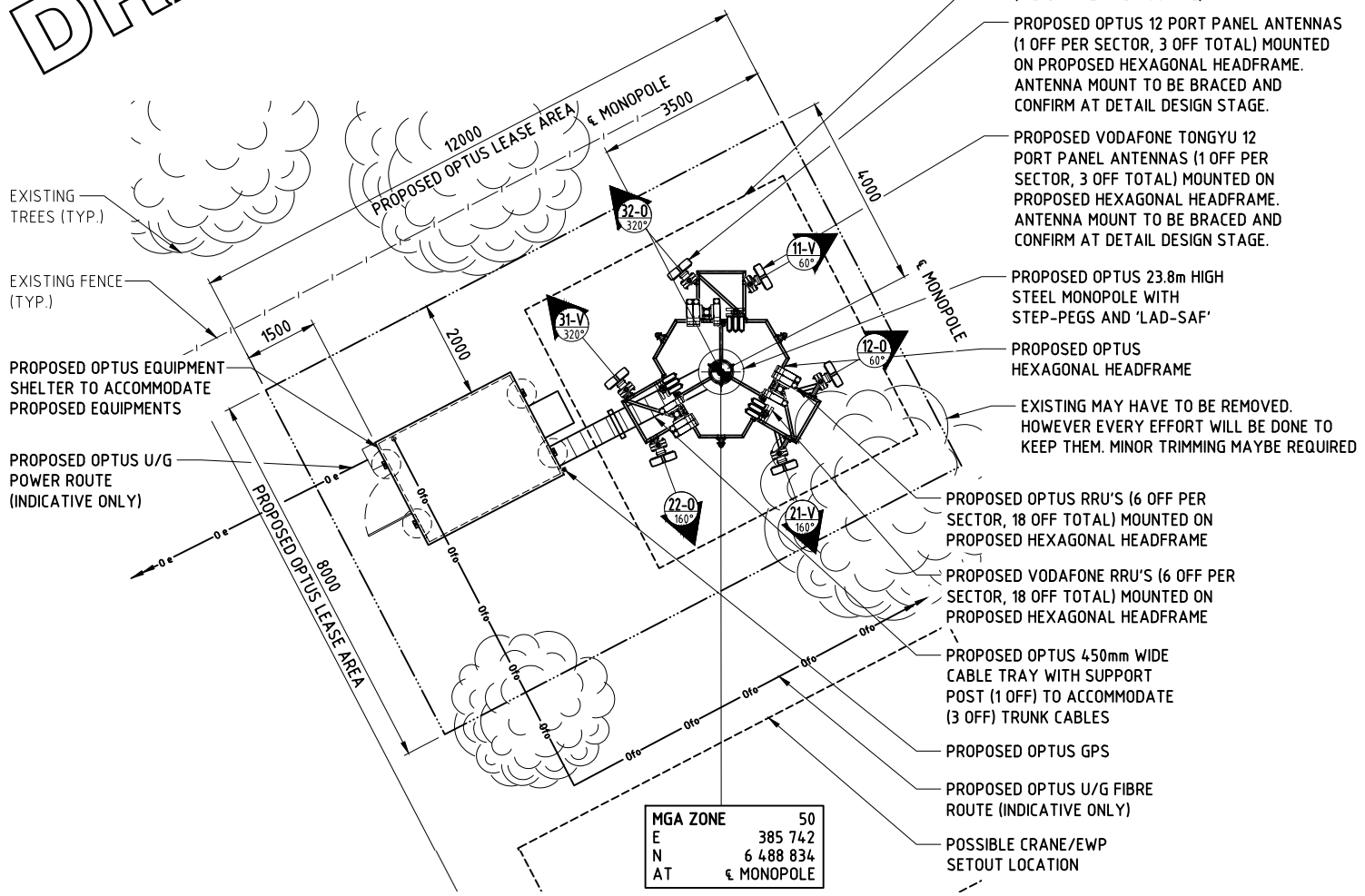
COPYRIGHT © OPTUS MOBILE PTY LTD ABN 65 054 365 696. ALL RIGHTS RESERVED. VERSION 2.0 NOVEMBER 2013

20 10 0 10 20 30 40 50mm

A3

CAD File: \\MCEP01\Data\WA\Nokia\West Australian Sites\P8315 Wanneroo North\02 SAED\3 Design and Engineering\1 Drawings\NFCs\P8315_NFC.dwg
Plot By: Rey Baldas Date: 02.11.18 2:18 PM

DRAFT



MGA ZONE	50
E	385 742
N	6 488 834
AT	℄ MONOPOLE

DETAIL 1
SCALE 1:100 G2

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

SITE ADDRESS:

1204 WANNEROO ROAD
ASHBY
WA 6065

NOTES:

1. **BASIS OF DESIGN**
   - SITE INSPECTION 21/01/2018
2. **PANEL ANTENNAS**
   - 2-OFF PER SECTOR (EACH 2.6m LONG) AT EL 25m
   - SECTOR 1 - 60°, SECTOR 2 - 160, SECTOR 3 - 320°
   - MOUNTED ON HEXAGONAL HEADFRAME
3. **TRANSMISSION**
   - VIA OPTIC FIBRE
4. **EQUIPMENT SHELTER**
   - VOS 1.3 - END DOOR SHELTER - PALE EUCALYPT / MIST GREEN
5. **OPTUS MONOPOLE**
   - 23.8m HIGH STEEL MONOPOLE WITH HEXAGONAL HEADFRAME AT EL 25m
6. **FEEDER CABLES**
   - NO COAXIAL FEEDERS USED, ONLY TRUNK CABLES IN USE
   - 6 H&S 6/12
   - LENGTH: 80m ALL SECTORS
   - OTHER DETAIL NOT SHOWN ON PLAN
7. **SITE ACCESS**
   - VIA WANNEROO ROAD
8. **ANTENNA ACCESS**
   - VIA EWP BY QUALIFIED RIGGER PERSONNEL
9. **POWER SUPPLY**
   - LV AC SUPPLY AVAILABLE AT THE LOT
   - PVA REQUIRED FOR DETAILED DESIGN
10. **OTHER (PAINTING, LANDSCAPING, SCREENING)**
    - FOR ANY TREES THAT NEED TO BE REMOVED NEW ONES WILL BE PLANTED AT A LOCATION AGREED WITH THE COUNCIL.

LEGEND

- 0fo 0fo — OPTUS U/G FIBRE OPTIC
- 0e 0e — OPTUS U/G POWER ROUTE
- LEASE AREA
- ID AZI° — PROPOSED

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	31.10.18	ISSUED NOT FOR CONSTRUCTION (eJV GREENFIELD PROJECT)	SSNC	AD	BL	KI	DP

servicestream
ESSENTIAL NETWORK SERVICES
Level 3, 7-9 Tanunda Drive, Rivervale WA 6103
T +61 8 9355 7500 | F +61 8 9355 5100 | www.servicestream.com.au

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- P8315
WANNEROO NORTH
1204 WANNEROO ROAD

Drawing Title: SITE LAYOUT AND SETOUT PLAN

Drawing Status: NOT FOR CONSTRUCTION
Drawing No. P8315-G3
Revision A

COPYRIGHT © OPTUS MOBILE PTY LTD ABN 65 054 365 696. ALL RIGHTS RESERVED. VERSION 2.0 NOVEMBER 2013

20 10 0 10 20 30 40 50mm A3

CAD File: \\MCEP01\Data\WA Nokia\West Australian Sites\P8315 Wanneroo North\02 SAED\3 Design and Engineering\1 Drawings\NFC\s\P8315_NFC.dwg
Plot By: Rey Baldas Date: 02.11.18 2:18 PM

COPYRIGHT © OPTUS MOBILE PTY LTD ABN 66 054 365 696. ALL RIGHTS RESERVED. VERSION 2.0 NOVEMBER 2013

Rev	Date	Revision Details	Consultant	Designer	Verifier	Approver
A	31.10.18	ISSUED NOT FOR CONSTRUCTION (eJV GREENFIELD PROJECT)	SSNC	AD	BL	KI	DP

servicestream
ESSENTIAL NETWORK SERVICES
Level 3, 7-9 Tanunda Drive, Rivervale WA 6103
T +618 9355 7500 | F +618 9355 5100 | www.servicestream.com.au

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- P8315
WANNEROO NORTH
1204 WANNEROO ROAD

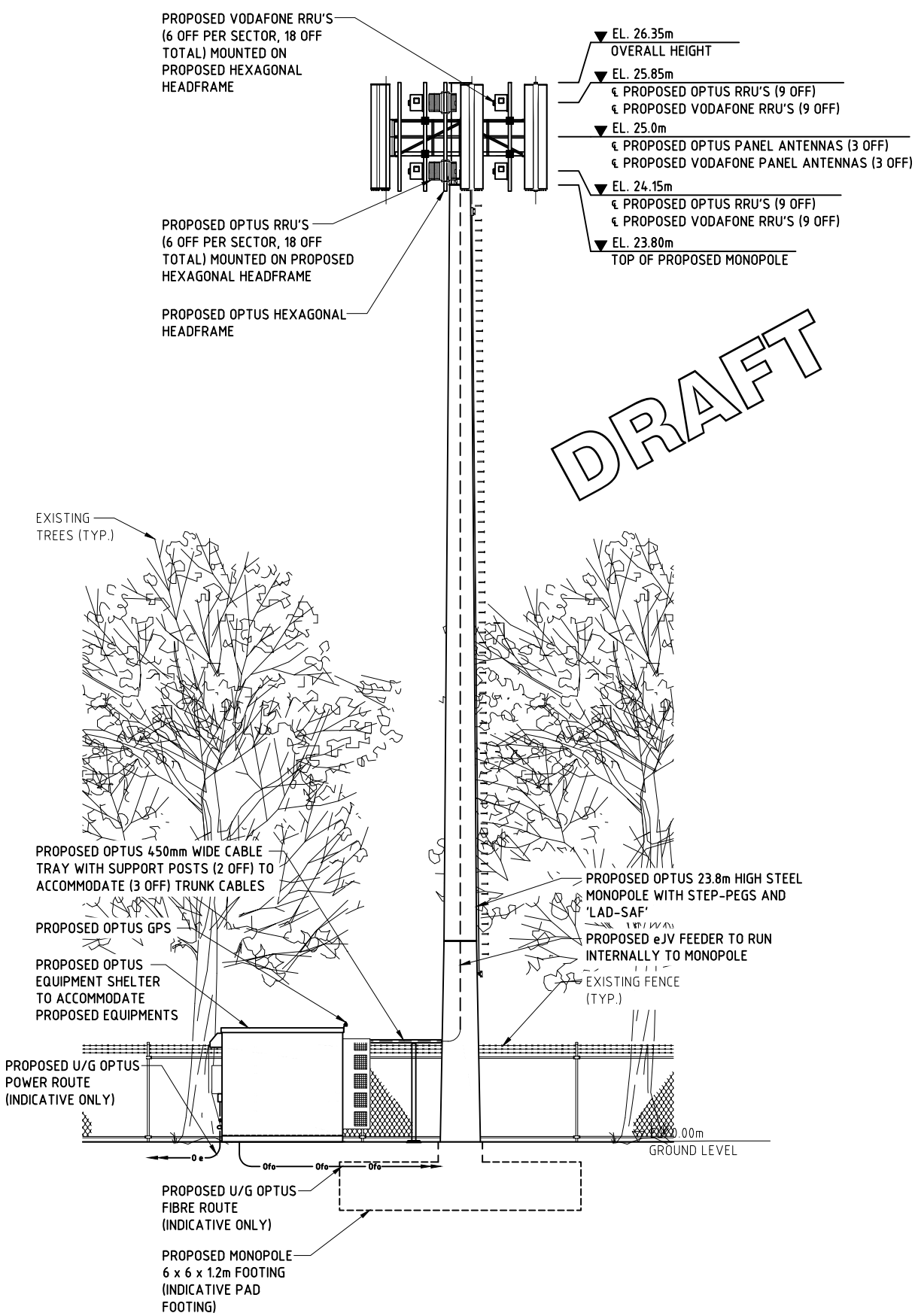
Drawing Title: SITE ELEVATION

Drawing Status: NOT FOR CONSTRUCTION

Drawing No: P8315-G4

Revision: A

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



SOUTH EASTERN ELEVATION

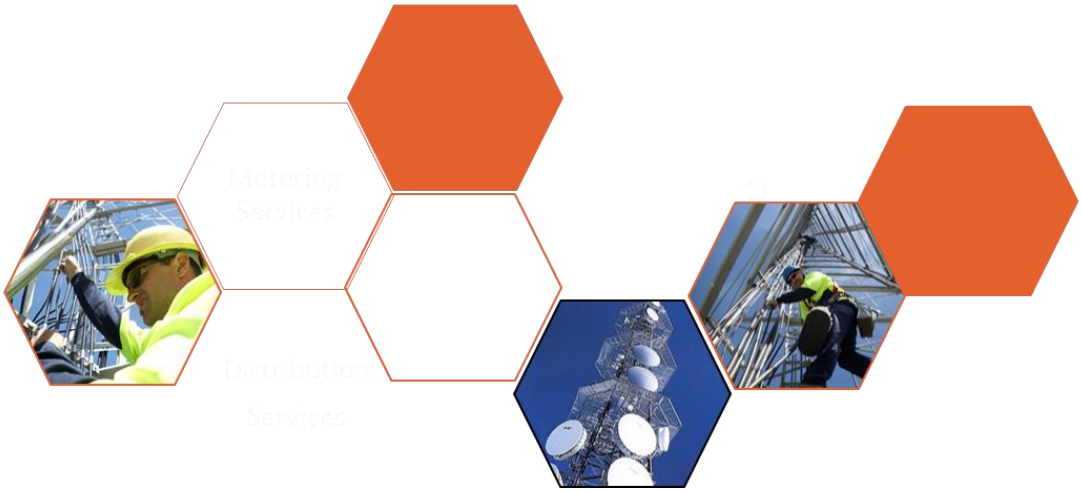
SCALE 1:100

20 10 0 10 20 30 40 50mm

A3

CAD File: \\MCFP01\Data\WA\Nokia\West Australian Sites\P8315 Wanneroo North\02 SAED\3 Design and Engineering\1 Drawings\NFCs\P8315_NFC.dwg
Plot By: Rey Baldas Date: 02.11.18 2:18 PM

servicestream
ESSENTIAL NETWORK SERVICES



PLANNING ASSESSMENT REPORT

Proposed Mobile Telecommunications Facility At:

1204 Wanneroo Rd ASHBY WA 6065

P83151 WANNEROO NORTH

servicestream
ESSENTIAL NETWORK SERVICES

November 2018

Prepared by: Service Stream - Mobile Communications

On behalf of: Optus Mobile

Document Control Record

Document Description	Development Application Submission		
Site No.	P8315	**Site Name**	Wanneroo North

	Name	**Signed**	**Date**
Prepared By	Graeme Lane		23/112018

File Location	\\mcfp01\data\WA\Nokia\West Australian Sites\P8315 Wanneroo North\02 SAED\5 Planning\2 DA
Document Status	Draft report 1

Prepared for	**Prepared by:**
Tim Brosnan, Nokia	Service Stream - Mobile Communications Contact: Graeme Lane 535 South Rd. Regency Park SA 5010 Ph: 0427 687 464 www.servicestream.com.au Graeme.Lane@servicestream.com.au

This report has been prepared as a supporting document to the Development Application. The report relies upon data, surveys, measurements and results taken at or under particular times and conditions specified herein. Any findings and conclusions or recommendations only apply to the aforementioned circumstances. Service Stream does not accept any responsibility for the use of this report by any parties without its prior written permission

OPTUS

Table of Contents

APPENDICES

1 Introduction

Service Stream Pty Ltd (Service Stream) has prepared this development application on behalf of Optus Mobile Pty Ltd (Optus). The application is for the construction of a Telecommunications Facility to support the Optus and Vodafone telecommunications networks.

The land the subject of this development application is located at 1204 Wanneroo Rd ASHBY WA 6065, (referred to as 'the site' here on in). This report addresses the merits of the development with regards to the provisions of the City of Wanneroo District Planning Scheme 2 (DPS2), relevant sections of the Planning and Development Act 2005 and related local and state government policies.

This report provides the applicant's assessment against these provisions and concludes that the development is appropriate, generally consistent with existing planning controls and intent for the area, is not anticipated to impact upon the amenity of the locality and will comprise a key piece of infrastructure for the Optus and Vodafone Telecommunications Networks. Council's approval of the application is therefore sought, subject to relevant and reasonable conditions.

2 Background to the Application

2.1 What is a mobile phone base station and how do they work?

A mobile phone base station is a facility that provides mobile telephone services to a geographical area. A mobile phone network is made up of base stations which operate together to provide service to users moving from place to place within the coverage area.

A mobile base station typically consists of the following components: antennas, support structure, base station and transmission equipment. The antennas are connected by cable to radio equipment usually housed in a room, shelter or outdoor unit. Base stations are connected to the core network by a microwave dish or by fibre cables. Mobile phones work by sending and receiving low power radio signals, much like 2-way radio system. The signals are sent and received from antennas that are attached to radio transmitters and receivers, commonly referred to as mobile phone base stations. The base stations are linked to the rest of the mobile and fixed phone network and pass the signal/call on into those other parts of the network.

2.2 Benefits of mobile technologies

Mobile telecommunications play a central role in society and are becoming more deeply integrated into our day to day lives. Mobile communications networks shape how and when people communicate and how we access information on a daily basis. Today, improved connectivity means that mobile devices are used for everything from commerce and research to location-based services and social media. Individuals, families, businesses and society are all benefiting from the improved connectivity facilitated by mobile technologies.

In addition to its personal and social value, the evolution of mobile technologies has delivered significant benefits to the Australian economy by improving productivity, business management and customer engagement. Since its introduction, mobile technology has played a key role in stimulating labour productivity growth by allowing employees to be more efficient, with more productive use of time. According to Deloitte (2016), the Australian economy is approximately $34 billion larger in 2015 that it would otherwise be due to the long-term productivity of mobile technologies.

Mobile technology also provides employees with the flexibility to work from home, promoting sustainable commuting and also reducing traffic congestion. According the Australian Mobile Telecommunications Association (AMTA), two decades ago only 4% of Australians owned a mobile device. According to the Australia Bureau of Statistics, there are now over 21 million subscribers with internet access connections via a mobile handset in Australia (ABS, 2015). Continual development has allowed Mobile Technology to become the preferred channel to access the internet for most people in Australia and the rest of the world.

To cater for growing demand, Optus and Vodafone have embarked on a nationwide rollout to deliver an improved, reliable telecommunications network to the Australian public. Since 2013 the demand for mobile data offered by 4G services has increased dramatically.

In some areas surrounding the proposed site, users will currently see they have coverage via the 'bars' on their phone. However, this relates solely to the ability to make/receive a call. Devices are data hungry as users are now demanding more services, from more locations nation-wide for indoor and outdoor coverage along with indoor video data streaming. Users also demand the ability to travel across the country without interruptions. There is such high demand for these services that the provision of telecommunications infrastructure can struggle to meet these demands. This is the scenario the Optus and Vodafone networks are experiencing in the area surrounding the proposed site location in Ashby. The Drive test Android / Apple Radio Tool (DART) analysis map below shows those areas of poor coverage and the new expected coverage area.

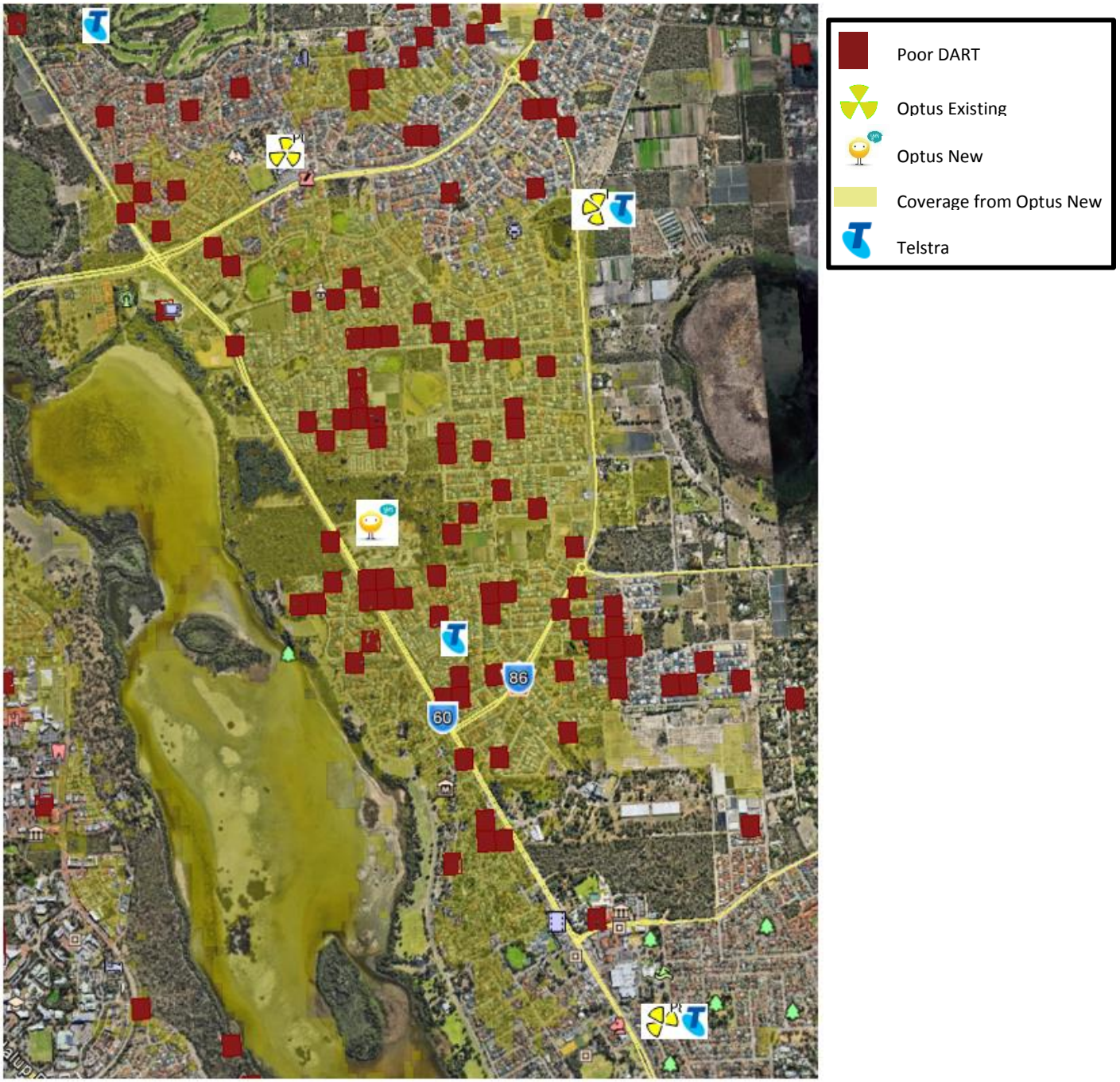


Image 1: DART analysis

2.3 Purpose of the proposal

As outlined above, 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, networks located in areas where a large number of calls are made and greater reliance on internet usage is required, will need an increased number of base stations to accommodate the high traffic demand. This is the current and on-going issue in the area of Ashby surrounding the site location

Optus and Vodafone base stations in the surrounding area experience high levels of customer usage and are operating at full capacity at times. If this issue remains unresolved – the community will continue to experience slower download and upload speeds/internet browsing and the inability to make/receive calls. The proposed facility will relieve congestion from the surrounding base stations which will have a positive knock on effect on the surrounding areas. Additionally, the new facility will provide significantly improved network coverage and data capacity, including improved in-building coverage.

Optus and Vodafone have identified that the area of Ashby is lacking vital mobile phone service and requires improved telecommunications facilities. The candidate site is located on public land in the Public Use Zone. The Responsible Authority is the Western Australian Planning Commission. City of Wanneroo who administer the Policy related policies that apply to the site.

The site selected for the proposed telecommunications facility satisfies all of the relevant planning criteria with regard to preserving the amenity of the surrounding area. At the same time, and of equal importance, the proposal satisfies Optus and Vodafone coverage objectives, providing an effective and efficient solution to respond to the identified and growing demand for network services from the community, businesses and travellers.

Furthermore, the site is ideally positioned to satisfy future requirements in terms of providing 4G technology to the area including high speed network access.

2.4 Assessment of Candidate Sites

With the objective of providing the best coverage in the Ashby area a site selection / analysis was undertaken. This process began with the investigation of possible 'co-location' opportunities on existing infrastructure in accordance with Chapter 4 Part 3 Clause 4.13 of the Telecommunications Code of Practice 2018.
Optus has applied the Precautionary Approach in the Selection and Design of the proposed site in accordance with Sections 4.1 and 4.2 of this Code.

2.4.1 Co-location Options

The only existing telecommunications facility within the search area is the Telstra rooftop Base Station at National Lifestyle Villages - Lake Joondalup,1140 Wanneroo Rd Ashby (RFNSA: 6065021), approximately 830 metres southeast of the Optus / Vodafone proposal. This facility lies at the southern end of the search area but unfortunately the site accommodates small cell technology only. Antennas heights are only 9.1 metres high. Macro cell antennas cannot be installed at this rooftop site.

Image 2: Subject site and location of possible co-location sites, Source: RFNSA.

2.4.2 Greenfield Candidates considered

No other existing telecommunications infrastructure within the area would be suitable for supporting additional telecommunications facilities to achieve the coverage objectives. Therefore it was determined that a new facility is required.

During site selection investigations, Optus considered more than ten sites in and around the search area. Most of these were discounted due to either being in sensitive locations, being unable to meet coverage objectives or because of unsuccessful tenure negotiations.

A summary of the site assessment is shown in the table below:

Candidate	Address	Comment
A 25m Monopole	1204 WANNEROO RD ASHBY 6065	Council depot site. Local Scheme Reserve for Public Use. Residential land abuts southern boundary of the greater site but a good separation distance (240m) can be achieved. There are no sensitive use sites in the vicinity.
B	Lot 12302 On Plan 218998	Ashby bar and drive thru liquor. DPS2 Zoning is URBAN DEVELOPMENT. The site is subject to East Wanneroo Cell 1 Structure Plan, which makes this a Centre Zone. A residential zone is adjacent. New dwellings being built adjacent. Separation to residential uses considered undesirable in this location.
C	141K PINJAR RD ASHBY 6065	Vacant land adjacent Ashby bar and drive thru liquor. DPS2 Zoning URBAN DEVELOPMENT. Will be zoned commercial. Again, this is adjacent a new residential area with new dwellings being built. Separation to residential uses considered undesirable ion this location.
D	Lot 3 On Plan 403346	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Future residential. Deemed unsuitable for Mobile Telecommunications infrastructure.
E	131 PINJAR RD ASHBY 6065	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Bush Forever land. Adjacent proposed Primary School to West. Deemed unsuitable for Mobile Telecommunications infrastructure.
F	81 CAROSA RD ASHBY 6065 Lot 21 On Diagram 35092	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Proposed future Primary School site. Deemed unsuitable for Mobile Telecommunications infrastructure.
G	24 MONDRIAN APP ASHBY 6065 Lot 8008 On Plan 43598	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Public Open space / Residential. Deemed unsuitable for Mobile Telecommunications infrastructure.

H	65 CAROSA RD ASHBY 6065 Lot 767 On Plan 43598	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Proposed future Primary School site. Deemed unsuitable for Mobile Telecommunications infrastructure.
I	54 CAROSA RD ASHBY 6065 Lot 15601 On Plan 41358	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Public Open space / residential. Deemed unsuitable for Mobile Telecommunications infrastructure.
J	6 PROVOST WAY TAPPING 6065 Lot 15602 On Plan 41377	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Public Open space / Residential. Deemed unsuitable for Mobile Telecommunications infrastructure.
K	120 WALDBURG DR TAPPING 6065 Lot 8009 On Plan 67828	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Public Open Space. Land adjacent is a proposed Middle School. Deemed unsuitable for Mobile Telecommunications infrastructure.
L	61 ASHLEY RD TAPPING 6065 Lot 24 On Diagram 54076	DPS2 Zoning URBAN DEVELOPMENT. Structure Plan – Cell 1 Proposed Middle School. Deemed unsuitable for Mobile Telecommunications infrastructure.

Candidate A, the Council Depot site was determined the best site to locate the new Base Station.

The Candidate locations are shown on the map next page.

Image 3: Potential site candidates, Source: Google Earth.

2. 5 Subject Site and Surrounds

The greater locality is considered to extend approximately 350m north to the Pineview Lifestyle Village at Tapping and approximately 250m south to the residential areas of Ashby and Wanneroo.

The greater locality also extends eastward, taking in the entire Depot site and westward out to Lake Joondalup.

Conti Park, a large area of native bushland is adjacent the depot site to the north and a similarly large area of crown bushland is adjacent to the west, over Wanneroo Road.

These areas of bushland and the Council deport land itself significantly demarcate the Base Station site from nearby residential areas.

The nearest residence is located approximately 340m to the south / southeast of the site, at 29 Pissaro Crescent, Ashby.

Image 4: Site location and greater locality. Source: Google Earth.

The Base Station site is proposed for a section of open, cleared land adjacent the northern end of the Council depot main car park. Coordinates for the monopole are Lat: -31.730584°, Long: 115.791055°.
This section of the greater site sits approximately 2 metres lower than the road. Adjacent the Base Station site is a fenced drainage reserve.

Image 5: View of the site from Wanneroo Road, looking northeast.

2. 6 Summary of Proposal

Drawings accompanying this application illustrate the site locality and proposed layout, site set out, site elevation, and contextual information (refer Appendix B).

The proposal comprises the following:

- The installation of a 23.8m monopole on the site (maximum height including equipment 26.35m);
- Six (6) new panel antennas at an elevation of 25m (centreline) on a hexagonal head frame, attached to the top of the monopole;
- Associated ancillary equipment including thirty-six (36) remote radio units, amplifiers, combiners, mounts, cable trays, etc.;
- The installation of a new outdoor equipment cabinet at the base of the monopole;
- Ancillary works within the equipment cabinet.

3 Regulatory Framework

3.1 Commonwealth Regulatory Framework

3.1.1 Telecommunications Act 1997

In 1991, the Commonwealth Government initiated a major reform of the communications industry in Australia. The reform allowed limited competition until July 1997 at which time full competition was permitted. In July 1997, the *Telecommunications Act 1997* was introduced, replacing the 1991 Act, which facilitated this competition.

Under the 1997 Act, the Government established the *Telecommunications Code of Practice 2018* (Commonwealth Code of Practice), which sets out the conditions under which a carrier must operate. The Carrier, as a licensed telecommunications carrier, must comply with the *Telecommunications Act 1997* and the *Telecommunications Code of Practice 2018* for all telecommunication facilities. Under the 1997 Act, provisions have been made for telecommunications carriers to be subject to State and Territory environmental and planning laws where the proposed facility does not fall within the definition of the *Telecommunications (Low-impact Facilities) Determination 2018.*

3.1.2 Commonwealth Telecommunications Code of Practice 2018

Section 2.11 of the Telecommunications Code of Practice 2018 requires carriers to ensure that the design, planning and installation of facilities are in accordance with industry 'best practice'. This is required to [2.11(3)]:

'...*minimise the potential degradation of the environment and the visual amenity associated with the facilities'.*

Best practice involves the carrier complying with any relevant industry code or standard, which is registered by the ACMA under Part 6 of the Act. The planning and siting of the current proposal has taken place in accordance with Section 3 (Planning and Siting) of the Australian Standard, Siting of Radiocommunications Facilities (AS 3516.2).

3.1.3 Telecommunications (Low-Impact Facilities) Determination

A *Low-Impact* Telecommunications Facility is a Facility which meets with the requirements of the *Telecommunications (Low-impact Facilities) Determination 2018*, which was established by the Federal Minister for Communications utilising the provisions of the *Telecommunications Act 1997*.

The Determination criteria only relate to the size and purpose of the equipment proposed, the type of supporting structure used, and the existing land use category where the facility is proposed. The Determination does not specifically relate to the power levels of the proposed equipment to be used. The Background to the Determination (Section 1.2 Page 3) explains as follows:

A facility cannot be a low-impact facility unless it is specified in this determination. Therefore overhead cabling and new mobile telecommunications towers are not low-impact facilities.

Also, a facility will be a low-impact facility only if it is installed in particular areas identified in this determination. The areas have an order of importance, based on zoning under State or Territory laws, so that any area only has its 'highest' possible zoning. The order of priority is:

- *Area of environmental significance*
- *Residential areas*
- *Commercial areas*
- *Industrial areas*
- *Rural areas.*

Telecommunications development, which is classified as low-impact, does not require planning permit approval from Local Government. Telecommunications development, which is not classified as low-impact, requires planning permit approval. Due to the proposed facility being an installation of a new telecommunications tower or pole, the development is not a low-impact facility

It is the visible physical characteristics of the equipment and supporting structures, rather than radio-frequency emissions which determine a proposal's status as either low-impact or not low-impact.

3.1.4 Industry Code C564:2011 (the Deployment Code)

The Industry Code (Mobile Base Station Deployment) is a national Code implemented in July 2012 by licensed telecommunications Carriers. The aim of the Code is to address the concerns of the community about the risks of radiofrequency EMR exposure by allowing the community and the Councils to have greater participation in decisions made by Carriers and encouraging a more collaborative approach between carriers, local councils and the community alike to mobile base station deployment. As part of this, Carriers are required to adopt a Precautionary Approach in planning, installing and operating Radiocommunications infrastructure.

The Code however does not change the existing regulatory regime at Local, State or Federal level and is a supplement to existing requirements imposed on Carriers. This proposal is compliant with the Industry Code and Optus has applied the Precautionary Approach in the Selection and Design of the proposed site in accordance with Sections 4.1 and 4.2 of this Code.

3.2 State Planning Policy

As the proposal is not low - impact under Commonwealth legislation, it requires development plan consent pursuant to the *Planning and Development Act 2005* and relevant subservient regulation and policy.

3.2.1 State Planning Policy 5.2 Telecommunications Infrastructure

State Planning Policy No. 5.2 Telecommunications Infrastructure (SPP 5.2) provides a framework for the preparation, assessment and determination of applications for planning approval of telecommunications facilities within the context of the planning system of Western Australia.

The objectives of this policy are to:

a) facilitate the provision of telecommunications infrastructure in an efficient and environmentally responsible manner to meet community needs;

b) manage the environmental, cultural heritage, visual and social impacts of telecommunications infrastructure;

c) ensure that telecommunications infrastructure is included in relevant planning processes as essential infrastructure for business, personal and emergency reasons; and,

d) promote a consistent approach in the preparation, assessment and determination of planning decisions for telecommunications infrastructure.

The following is an assessment against the relevant Policy Measures of SPP 5.2.

5.1.1 The benefit of improved telecommunications services should be balanced with the visual impact on the surrounding area.

Principles	Comments	Complies
i) Assessment of the visual impact of development proposals for telecommunications infrastructure should be made on a case by case basis;	The policy rightly acknowledges that the impacts of telecommunications facilities are directly related to design and context. In this case, the facility is to be located in an area well separated from residential areas.	✓
ii) Telecommunications infrastructure should be sited and designed to minimise visual impact and whenever possible: a) be located where it will not be prominently visible from significant viewing locations such as scenic routes, lookouts and recreation sites; b) be located to avoid detracting from a significant view of a heritage item or place, a landmark, a streetscape, vista or a panorama, whether viewed from public or private land; c) not be located on sites where environmental, cultural heritage, social and visual landscape values maybe compromised and d) display design features, including scale, materials, external colours and finishes that are sympathetic to the surrounding landscape;	The site has been selected because it is well removed from residential areas and scenic routes. The nearest dwelling site is located more than 200m to the south and the site is screened by dense trees. The facility is not expected to have a visual on the residential areas. It is considered that there are no significant views of heritage items, landmarks, vistas or panoramas that will be impacted by this facility. The facility has been deliberately sited to avoid areas of environmental, cultural heritage and visual landscape values. Sited on a main road and in a service industry area (depot), visual impacts are minor. The pole and equipment are to be finished in neutral grey, which is considered appropriate in the context of the area.	✓

iii) In addition to the existing exemptions under the Telecommunication Act, local governments should consider exempting telecommunications infrastructure from the requirement for development approval where: a) The infrastructure has a maximum height of 30 metres from finished ground level; b) The proposal complies with the policy measures outlined in this policy; and c) The proponent has undertaken notification of the proposal in a similar manner to 'low impact facilities' as defined and set out in the Mobile Phone Base Station Deployment Industry Code (C564:2011);	This proposal will have a maximum height of 26.35m and complies with the other policy measures outlined in SPP 5.2. Service Stream would be willing to conduct public notification in accordance with the Deployment Code, should Council give an undertaking to exempt the proposal from the requirement for development approval.	✓
iv)Telecommunications infrastructure should be located where it will facilitate continuous network coverage and/or improved telecommunications services to the community; and	The facility has been designed and located to provide continuous network coverage and improved services.	✓
v) Telecommunications infrastructure should be collocated and whenever possible: a) Cables and lines should be located within an existing underground conduit or duct; and B) Overhead lines and towers should be co-located with existing infrastructure and/or within existing infrastructure corridors and/or mounted on existing or proposed buildings.	The facility will accommodate two (2) carriers and will be able to accommodate an additional carrier if required. All cables and lines will be located underground and will run through the interior of the monopole, avoiding unsightly cable trays, etc.	✓

3.3 Local Planning Policy

3.3.1 City of Wanneroo District Planning Scheme 2

The City of Wanneroo District Planning Scheme 2 defines Telecommunications Infrastructure as:

any part of the infrastructure of a telecommunications network and includes any line, equipment, apparatus, tower, antenna, tunnel, duct, hole, pit or other structure used, or for use, in or in connection with a telecommunications network.

The Scheme contains no specific policy relating the Telecommunication Infrastructure.

3.3.2 Local Planning Policy 2.5: Telecommunications Infrastructure

Local Planning Policy 2.5 (LPP 2.5) has been prepared under Part 2 (Division 2) of the City of Wanneroo District Planning Scheme No. 2 (DPS 2) Deemed Provisions.

LPP 2.5 is prepared in addition to State Planning Policy 5.2 (SPP 5.2). In assessing development applications for telecommunications infrastructure, the City should have due regard to SPP 5.2 and LPP 2.5.

The policy establishes the City's standards for the assessment and determination of telecommunications infrastructure applications; and the basis for the City's recommendations to the Western Australian Planning Commission (WAPC); for instances where the WAPC determines telecommunications infrastructure applications under the Metropolitan Region Scheme.

The following is an assessment against the relevant Policy Measures of LPP 2.5:

LPP 2.5 Assessment Table - Location

Item Reference	Deemed-to-Comply provisions acceptable without consultation	Variations to the Deemed-to-Comply provisions that may be considered subject to consultation (pursuant to Section 3 of the General Policy Provisions)	Unacceptable Standards (unless otherwise stated, if any one of the following standards are met or exceeded, the application will be refused)	Assessment
L1	The applicant has demonstrated that the proposed telecommunications infrastructure addresses an **existing** lack of coverage or service availability in the locality.	The applicant demonstrates that the proposed telecommunications infrastructure addresses a **forecasted** lack of coverage or service availability in the locality.	An application that does not satisfy the standards set out in Column B or Column C.	There currently exists poor coverage within the areas of Ashby, Tapping, Sinagra and Wanneroo North including Wanneroo Road. See Image 1, DART analysis.
L2	Proposed telecommunications infrastructure is not located on a lot where an adjoining lot is zoned 'Residential', 'Mixed Use', 'Special Rural', 'Rural Community', 'Landscape Enhancement' or 'Special Residential'.	Telecommunications infrastructure proposed on a lot where an adjoining lot is zoned 'Residential', 'Mixed Use', 'Special Rural', 'Rural Community', 'Landscape Enhancement' or 'Special Residential'.	*Note: There are no unacceptable standards.*	Although the greater site allotment adjoins residentially zoned allotments to the north, south and east, separation to these land uses is generous and screening vegetation is more than sufficient. The impacts of not meeting this requirement are negligible.
L3	Proposed telecommunications infrastructure situated in the 'Business', 'Commercial', 'Civic and Cultural', 'Service Industrial' or 'General Industrial' zone should be located away from street boundaries, and behind any buildings that exist on the same land.	Proposed telecommunications infrastructure that does not or cannot satisfy the requirements prescribed in Column B.	*Note: There are no unacceptable standards.*	The proposal site is within the Public Use Zone. The separation distance to Wanneroo Road is more than 55 metres.

LPP 2.5 Assessment Table - Design

Item Reference	Deemed-to-Comply provisions acceptable without consultation	Variations to the Deemed-to-Comply provisions that may be considered subject to consultation (pursuant to Section 3 of the General Policy Provisions)	Unacceptable Standards (unless otherwise stated, if any one of the following standards are met or exceeded, the application will be refused)	Assessment
D1	The applicant demonstrates that the proposed telecommunications infrastructure is confined to a height and dimension that balances the need to provide for appropriate network coverage for the surrounding area, whilst minimising loss of amenity in the locality.	In the City's opinion, the applicant cannot adequately demonstrate that the proposed telecommunication infrastructure is at a height and dimension that would not result in a loss of amenity in the locality.	*Note: There are no unacceptable standards.*	The monopole and antenna equipment have been kept to a nominal 26.35 metres in height. This height achieves necessary network coverage for both carriers by mounting all antennas at the minimum possible height on a shared headframe. Double-stacking the carriers would result in the requirement for greater overall height.
D2	The applicant demonstrates that the telecommunications infrastructure is: • Located where it will not be prominently visible from significant viewing locations such as scenic routes, lookouts and recreation sites; • Located to avoid detracting from a significant view of a landmark, streetscape, vista or panorama whether viewed from public or private land; and • Not located on sites where environmental, cultural heritage, social and visual landscape values may be compromised.	The proposed telecommunications infrastructure does not or cannot satisfy the requirements prescribed in Column B.	*Note: There are no unacceptable standards.*	• The proposal has been located on Council Depot Land that is on a main commuter corridor. This is not a scenic route or significant viewing area. Views of the facility from nearby recreation areas will mostly obscured by existing mature trees. • The facility is not located within view of any landmark, streetscape, vista or panorama. • The facility will not be located on a site where environmental, cultural heritage, social and visual landscape values may be compromised.

LPP 2.5 Assessment Table – Design cont.

Item Reference	Deemed-to-Comply provisions acceptable without consultation	Variations to the Deemed-to-Comply provisions that may be considered subject to consultation (pursuant to Section 3 of the General Policy Provisions)	Unacceptable Standards (unless otherwise stated, if any one of the following standards are met or exceeded, the application will be refused)	Assessment
D3	The applicant demonstrates that the proposal for telecommunications infrastructure can enable the co-location of at least two (2) separate telecommunication carriers on the subject site.	The applicant demonstrates that co-location would detract from the amenity of the surrounding area to the extent that co-location is not beneficial or practical.	An application that does not satisfy the standards set out in Column B or Column C.	The proposed Base Station has been designed to accommodate both Optus and Vodafone network equipment.
D4	Telecommunications infrastructure (including any 'on-ground' facilities provided) is finished with non-reflective material in a neutral colour to minimise visual intrusion.	No alternative standard will be supported.	An application that does not satisfy the standards set out in Column B.	The proposed monopole will be finished in a neutral grey colour and the equipment will be finished in 'pale eucalypt' to blend with existing screening vegetation.
D5	The base of any monopole or lattice tower as well as any associated equipment shelters is screened from view from the public domain and adjoining properties by mature vegetation or other suitable screening or landscaping to the satisfaction of the City.	Screening of the base of the monopole, base of the lattice tower and/or the associated equipment shelter is not (or cannot be) provided as required under Column B.	*Note: There are no unacceptable standards.*	Existing mature vegetation exists adjacent the site and will effectively screen the proposal from views from all directions.

3.3.3 Advertising Requirements

Clause 3 of LPP 2.5 prescribes adverting requirements for Telecommunications Infrastructure applications. 3.1 states:

Where an application for development approval requires consultation under this Policy, the City should in all instances:

a) Give notice to all landowners and/or occupiers of land as follows:

- *Within 500 metres of the proposed telecommunications infrastructure, in instances a lattice tower is proposed; or*
- *Within 200 metres of the proposed telecommunications infrastructure in all other instances;*

In this case, the proposal is for a monopole. The City is obliged to give notice to all landowners and/or occupiers of land within 200 metres only of the proposed telecommunications infrastructure.

As stated previously, there are no residences within 240 metres of the proposal. Direct notification is not required under this policy.

Image 6: Extent of prescribed 200m notification area. Source: Google Earth.

4 Impact Assessment

4.1 Visual Impact

Visual Impact Assessment has been carried out by undertaking the following:

- An analysis of the existing visual environment, considering views in an immediate and local context.
- Visual simulations of the proposed facility from locations within the surrounding visual catchment have been undertaken to demonstrate the likely visual impacts of the works. In order to realistically illustrate the potential visual impacts of the proposed facility, a set of photomontages have been prepared to demonstrate the extent of visual change between the existing and simulated visual environment.
- Each viewpoint is then assessed against the visual impact assessment criteria. The assessment takes into consideration period of view, view distance, number of viewers and visual absorption capacity of the landscape. Each of these factors is rated and a matrix is used to determine the visual impact rating of the proposal when seen from a particular viewpoint.

4.1.1 Assessment Criteria

The approach to rating visual impact for the proposed telecommunications facility was based on two factors; the visibility of the proposed development and the Visual Absorption Capacity (VAC) of the landscape.

Visibility

The visibility of a proposal can be categorised into three components; number of viewers, period of view and distance of view.

Table 1 below outlines the assessment criteria used for categorising the visibility components outlined above.

Table 1 – Assessment Criteria

Visibility Component	Category	Criteria
Number of viewers	High	> 1,000 people per day
	Moderate	100 – 1,000 people per day
	Low	< 100 people per day
Period of view	Long Term	> 120 minutes
	Moderate Term	1 – 120 minutes
	Short Term	< 1 minute
Distance Zone	Foreground	0 – 200m
	Middle ground	200m – 1.5km
	Background	> 1.5km

The rationale for the assessment of visibility is that a proposal is highly visible if a large number of people are able to see the proposed development at relatively close distances over a long period of time.

A proposal is moderately visible if a medium number of people are able to see the proposed development at a medium distance over a moderate period of time, or a large number of people will see the proposal over a short period of time.

Alternatively if a proposal has low visibility it is essentially not visible to many people at any time.

Visual Absorption Capacity

Visual Absorption Capacity is the landscape's ability to absorb physical changes without transformation in its visual character and quality. **Table 1** outlines the rational for assessment that has been adopted in this report.

Table 1 – Visual Absorption Capacity (VAC) Rationale

VAC Category	Criteria
High	The landscape is able to absorb the impacts of the development resulting in a low degree of visual contrast
Moderate	The landscape is able to absorb some of the impacts of the development resulting in some visual contrast
Low	The landscape is unable to absorb the impacts of the development resulting in a high degree of visual contrast.

Visual Impact Rating

In order to determine the anticipated visual impact, the visibility of a proposal can be assessed against the VAC of the landscape

Table 2 provides a VIA matrix which has been used in order to establish the total visual impact a development may have on the surrounding landscape.

Table 2 - Visual Impact Assessment Matrix

		Visibility		
		Low	Moderate	High
Visual Absorption Capacity	Low	**M**	**H**	**H**
	Moderate	**L**	**M**	**H**
	High	**L**	**L**	**M**

4.1.2 Existing Visual Environment

Land form

The subject site is on a large allotment of more than 15 hectares, located on mostly flat land with a slight downward slope from south to north. The main site allotment is mostly hard-surfaced vehicle movement areas, interspersed with lawned areas and works depot administration buildings. Several tall, mature trees make a marked contribution to the character of the site.

Land Use

The property is zoned 'Public Use' and the current use of the land is works depot. Much of the land is taken up with workshop buildings and vehicle parking.

Significant Views

Significant views in this locality are mostly connected with the neighbouring open space areas to the north and west.

Photomontages have been prepared from images taken from the identified locations to demonstrate the likely local visual impacts. The photomontages form the basis of the impact assessment.

4.1.3 Photomontage Locations

Location 1: Wanneroo Road, Wanneroo

This location demonstrates a view of the proposed telecommunications facility approximately 350m northwest of the site.

Location 2: Corner Wanneroo Road and Roper Link, Wanneroo

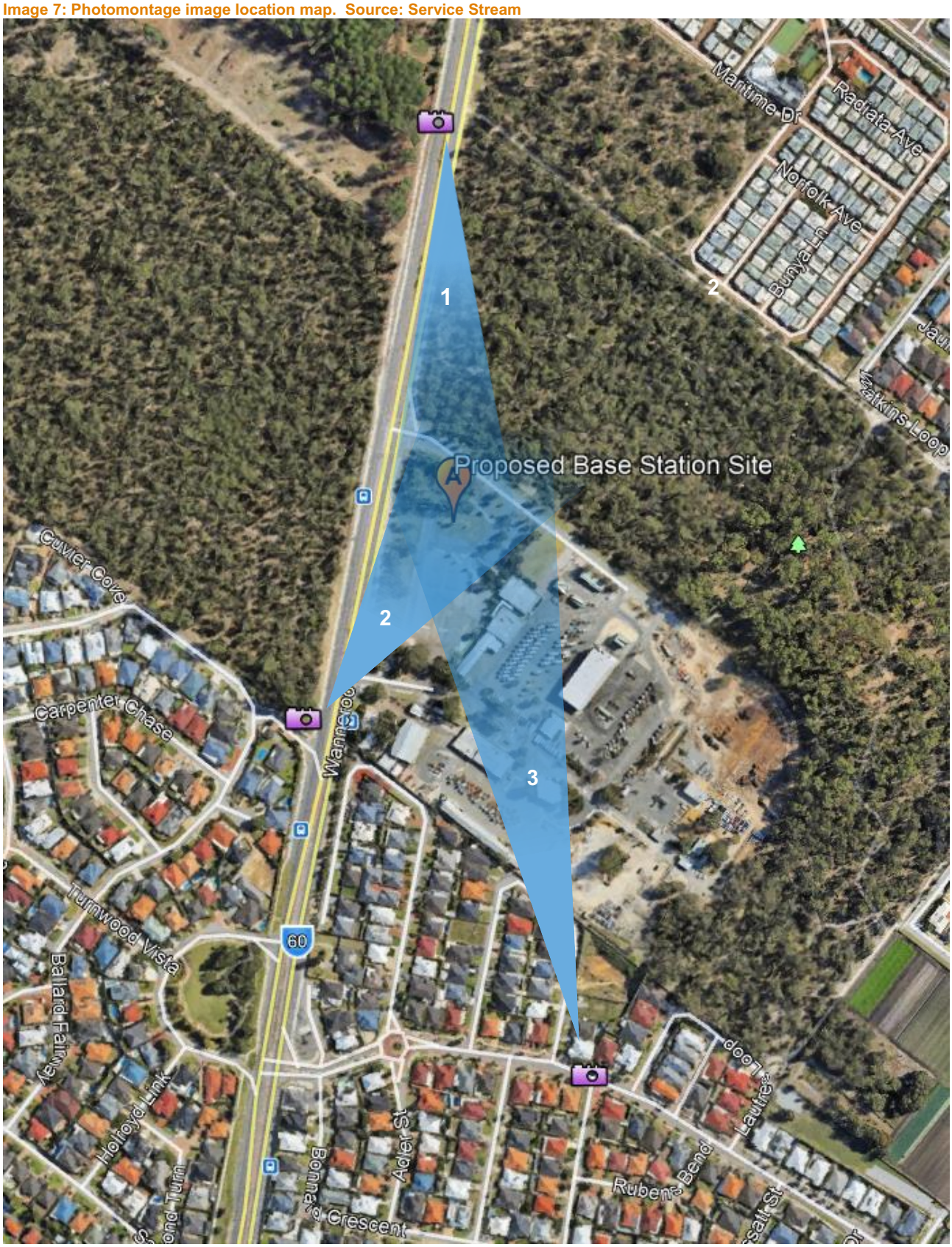
This location demonstrates a view of the telecommunications facility approximately 300m south of the site.

Location 3: Corner Monet Crescent and Gausson Turn, Ashby

This location demonstrates a view of the telecommunications facility approximately 510m southeast of the site.

Anticipated visual impacts are demonstrated on the following pages.

Image 7: Photomontage image location map. Source: Service Stream



Location 1: 350m northwest of the site.

Photomontage of the proposed telecommunications facility when viewed from location 1.

Location 1 Visual Impact Assessment

	Category	Comment
Number of Viewers	High	The number of viewers from this location is estimated to be more than 1000 people per day considering the number of vehicle movements on Wanneroo Road.
Period of View	Short Term	Period of view is anticipated to be less than 1 minute for drivers on Wanneroo Road.
Distance of View	Background	The location of the proposed facility is approximately 350m from this viewpoint.
Visibility	Moderate	The proposed facility will be moderately visible from this position, considering the visibility components above.
Visual Absorption Capacity	Moderate	Existing lighting poles and other vertical elements provide some visual absorption. Screening is provided by mature trees.
Visual Impact Rating	**Moderate**	The visual impact rating from this viewpoint will be moderate, largely owing to short viewing time and a moderate visual absorption capacity. The telecommunications facility will be partly visible and will protrude into the skyline above the screening trees.

Location 2: 300m south of the site

Photomontage of the proposed telecommunications facility when viewed from location 2.

Location 2 Visual Impact Assessment

	Category	Comment
Number of Viewers	High	The number of viewers from this location is estimated to be more than 1000 people per day considering the number of vehicle movements on Wanneroo Road.
Period of View	Short Term	Period of view is anticipated to be less than 1 minute for drivers on Wanneroo Road.
Distance of View	Background	The location of the proposed facility is approximately 300m from this viewpoint.
Visibility	Moderate	The proposed facility will be moderately visible from this position, considering the visibility components above.
Visual Absorption Capacity	Moderate	Existing lighting poles and other vertical elements provide some visual absorption. Screening is provided by mature trees.
Visual Impact Rating	**Moderate**	The visual impact rating from this viewpoint will be moderate, largely owing to short viewing time and a moderate visual absorption capacity. The telecommunications facility will be partly visible and will protrude into the skyline above the screening trees.

Location 3: 510m southeast of the site.

Photomontage of the proposed telecommunications facility when viewed from location 3

Location 3 Visual Impact Assessment

	Category	Comment
Number of Viewers	Low	The number of viewers from this location is estimated to be less than 100 people per day considering the number of vehicle movements.
Period of View	Short Term	Period of view is anticipated to be less than 1 minute.
Distance of View	Background	The location of the proposed facility is approximately 510m from this viewpoint.
Visibility	Low	The proposed facility will be hardly visible from this position, considering the visibility components above.
Visual Absorption Capacity	High	Separation distance and existing vertical elements provide visual absorption.
Visual Impact Rating	**Low**	The visual impact rating from this viewpoint will be low, largely owing to low numbers of viewers and a high visual absorption capacity. The telecommunications facility will be not be highly visible element.

4.2 Transportation and Access

Vehicular access to the site is available from the existing road network. A truck will be used to deliver equipment to the site and a cherry picker used to lift most of the equipment into place.

Construction works will be contained within the Depot site and so no increase in traffic volume on the surrounding roads is anticipated. All appropriate permits will be acquired to undertake any works during construction.

It is expected that there would be approximately six additional vehicle movements per day during construction. It is anticipated that works would be completed within four weeks after commencement given ideal working conditions.

Once constructed, mobile phone base stations are of low maintenance, unmanned and remotely operated. As such, operational visits to the site will be approximately two to six times per year. The proposed facility will not require services from public transport or parking facilities. Parking for maintenance vehicles is available on the subject site.

4.3 Health and Safety

Mobile phone base stations emit electromagnetic energy (EME). It is mandatory that mobile network operators in Australia comply with current and future Australian Radiation protection and Nuclear Safety Agency (ARPANSA) standards for the operation of the proposed facility. The Australian Communications and Media Authority are the regulatory body for compliance with this standard. The current standard is the Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (RPS 3 - 2002). This standard maintains a significant safety margin to prevent adverse health effects.

The Carriers rely on the expert advice of national and international health authorities such as the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the World Health Organisation (WHO) for overall assessments of health and safety impacts. The consensus is that there is no substantiated scientific evidence of health effects from the EME generated by radio frequency technology, including mobile phones and base stations, when used in accordance with applicable standards.

On 1 March 2003 the ACMA introduced new regulations setting limits for human exposure to EME for all types of radio communication, broadcast and telecommunications transmitters. Previous regulations only applied to telecommunications transmitters. The limits for public human exposure to EME are based on the Radiation Protection Standard - Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300GHz, developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) referred to as the ARPANSA Standard.

The proposed facility will be designed and installed to comply with maximum human exposure levels to radio frequency emissions as defined by this standard.

The Carriers do not consider the emission of electromagnetic fields relevant to the assessment of the planning merits of a site where the facility operates in accordance with prescribed standards. The proposed facility operates well within the prescribed health standards. The report provided in Appendix C shows the compliance of the proposed facility by way that the maximum cumulative EME level at 1.5m above ground is estimated to be 2.55% of the ACMA mandated exposure limit.

5 Conclusion

A detailed assessment of the proposed site has been undertaken with a view to ensuring that the proposal complies with relevant Commonwealth, State and Local Planning policies as applicable.

It is submitted that the proposal will not conflict with surrounding land uses, nor will it decrease the general amenity of the area or have a detrimental impact on the local environment.

The proposal is compliant with the City of Wanneroo District Planning Scheme and will assist Optus and Vodafone in their commitment to ensuring that telecommunications infrastructure and services are provided in an efficient and cost effective manner to meet community needs, whilst having a minimal impact on the amenity of any given area.

Most importantly, the proposal will provide much needed telecommunication services to an area that has been identified as being disadvantaged in relation to service.

The proposed facility will be designed and installed to comply with maximum human exposure levels to radio frequency emissions as defined by the ARPANSA RPS3 standard.

Approval of this facility is consistent with:

- The objectives and development control policies of the City of Wanneroo Local Planning Scheme concerning the subject land and proposal;
- The general zoning of the land;
- Maintaining the general amenity of the area;
- Protecting the environmental and heritage characteristics of the locality; and
- Complying with the ARPANSA RPS3 - Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (2002);

The proposal, which supports the delivery of and access to important, contemporary and reliable telecommunications network services for Ashby and the surrounding area, will moreover have important local and regional benefits and is consistent with current State planning directives.

It is therefore submitted that the proposal is both consistent and compliant with the relevant planning legislation and should be supported.

Appendix A - Copy of Title

WESTERN AUSTRALIA

REGISTER NUMBER	
12302/DP218998	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3121 FOLIO 790

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE OF WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 12302 ON DEPOSITED PLAN 218998

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: CITY OF WANNEROO OF LOCKED BAG 1, WANNEROO
(XE L676109) REGISTERED 19/7/2011

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

1. H512096 RESERVE 27366 FOR THE PURPOSE OF MUNICIPAL DEPOT AND COMMUNITY RADIO SERVICES REGISTERED 27/7/2000.
   L685134 CHANGE OF RESERVE PURPOSE. PURPOSE CHANGED TO MUNICIPAL DEPOT, COMMUNITY OFFICE AND TELECOMMUNICATIONS FACILITY REGISTERED 19/7/2011.
   L676109 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. WITH POWER TO LEASE FOR ANY TERM NOT EXCEEDING 21 YEARS, SUBJECT TO THE CONSENT OF THE MINISTER FOR LANDS. REGISTERED 19/7/2011.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

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

SKETCH OF LAND: LR3121-790 (12302/DP218998)
PREVIOUS TITLE: LR3105-446

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Dec 7 09:36:44 2017 JOB 55521776

Landgate
www.landgate.wa.gov.au

PROPERTY STREET ADDRESS: 1204 WANNEROO RD, ASHBY.
LOCAL GOVERNMENT AUTHORITY: CITY OF WANNEROO
RESPONSIBLE AGENCY: DEPARTMENT OF PLANNING, LANDS AND HERITAGE (SLSD)

NOTE 1: A000001A LAND PARCEL IDENTIFIER OF SWAN LOCATION 12302 (OR THE PART THEREOF) ON SUPERSEDED PAPER CERTIFICATE OF TITLE CHANGED TO LOT 12302 ON DEPOSITED PLAN 218998 ON 11-FEB-04 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 2: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.
NOTE 3: K818944 CORRESPONDENCE FILE 02827-1964-02RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Dec 7 09:36:44 2017 JOB 55521776

Landgate
www.landgate.wa.gov.au

Appendix B - Plans of the Proposed Development

Appendix C - Environmental EME Report