



OPTUS

**Planning Application
Proposed New Telecommunications
Facility**

**169 Pipidiny Road
Eglinton WA 6034**

(Lot 16 On Plan 17935)

Prepared on behalf of Optus
by Catalyst One Pty Ltd
February 2019

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EXECUTIVE SUMMARY

Proposal	<p>Optus proposes a new telecommunications facility at 169 Pipidinny Road, Eglinton. The proposal is part of a nationwide rollout to improve mobile coverage and access to enhanced services via the Optus mobile network in metropolitan, regional and rural areas across Australia.</p> <p>The proposal involves the installation of a 60m lattice tower and an equipment cabinet at ground level, together with antennas, cabling and ancillary equipment. The facility is to be contained within a 9m x 11m fenced compound.</p> <p>The compound will be accessible from an access track connecting to Pipidinny Road.</p>
Purpose	<p>The primary objective of the proposed facility is to improve depth of coverage and capacity for Optus and Vodafone throughout Eglinton, as well as along Wanneroo Road and the future extension to the Mitchell Freeway.</p>
Property Details	<p>Property Description: Lot 16 On Plan 17935 Street Address: 169 Pipidinny Road, Eglinton</p>
Town Planning Scheme	<p>Council: City of Wanneroo Scheme: Metropolitan Region Scheme Classification: Reserve – Parks and Recreation</p>
Planning Considerations	<ul style="list-style-type: none">• Metropolitan Region Scheme• SPP2.8 – Bushland Policy for the Perth Metropolitan Region• SPP3.8 – Planning in Bushfire Prone Areas• SPP5.2 – Telecommunications Infrastructure• LPP2.5 – Telecommunications Infrastructure
Application	<p>Catalyst One Huawei Project Office Level 11, 225 St Georges Terrace PERTH WA 6000</p> <p>Elliot Nelson p: enelson@catalystone.com.au e: 0433347309</p> <p>Ref: P8477 Eglinton RFNSA Ref: 6034001</p>

1 INTRODUCTION

Catalyst ONE acts for Optus with regards to the deployment of their mobile network.

In accordance with an arranged agreement, Optus and Vodafone Hutchinson Australia (VHA) endeavour to share network sites and radio infrastructure across Australia. This agreement includes the sharing of structures, cabins and antennas to reduce the amount of telecommunications infrastructure required to be deployed. Whilst VHA and Optus will share network infrastructure, they will provide completely separate services.

Both carriers regularly test the efficiency of their existing network and have both identified shortcomings in mobile network coverage in the Eglinton area. Recently, the networks have experienced significant and growing demand for mobile broadband and greater coverage. As use of mobile devices rapidly expand, further demand is placed on the networks. Both carriers are aware that the community is sensitive to network dropouts and poor speed and want to provide services to meet their expectations.

This report supports an Application for Development Approval for an Optus mobile phone base station (also containing VHA equipment) at Lot 16 (169) Pipidinny Road, Eglinton. Optus considers the siting of the proposed facility to be appropriate and acceptable in the context of the locality.

While some works can be carried out under the *Telecommunications (Low Impact Facilities) Determination 2018* without development approval, this proposal is not defined as 'Low Impact' and therefore requires approval from the Western Australian Planning Commission to proceed.

2 SITE SELECTION

2.1 *Site Selection Process*

Optus commenced the site selection process with a search of potential sites that meet the network's technical requirements, with a view to also having the least possible impact on the surrounding area. Optus applies and evaluates a range of criteria as part of this site selection process.

Optus assesses the technical viability of potential sites using computer modelling tools that produce predictions of the coverage that may be expected from these sites, as well as from the experience and knowledge of radio engineers.

There are also several other important criteria that Optus uses to assess and select potential site options. These consider factors other than the technical performance of the site, and include:

- The potential to upgrade existing facilities within the region;
- The potential to co-locate on an existing telecommunications facility;
- The potential to locate on an existing building or structure;
- The ability to minimise environmental, visual and heritage impacts;
- Proximity of the site to community sensitive locations;

- Regulatory compliance and the potential to obtain relevant planning approvals;
- Proximity to community sensitive locations and areas of environmental heritage;
- The ability to secure tenure with landowner; and
- The cost of developing the site and the provision of utilities (power, access to the facility and transmission links).

During the site selection process for the new facility, Optus carefully considered all the above criteria. This analysis is detailed in the following sections.

2.2 Candidate Locations

The Communications Alliance Industry Code – Mobile Phone Base Station Deployment promotes the use of co-locating with other carriers to mitigate the effects of facilities on the landscape. Two existing facilities within proximity to Jerdacuttup and Bedford Harbour areas were investigated as potential candidates for co-location.

The closest existing mobile facilities in the area are shown in **Figure 1**:

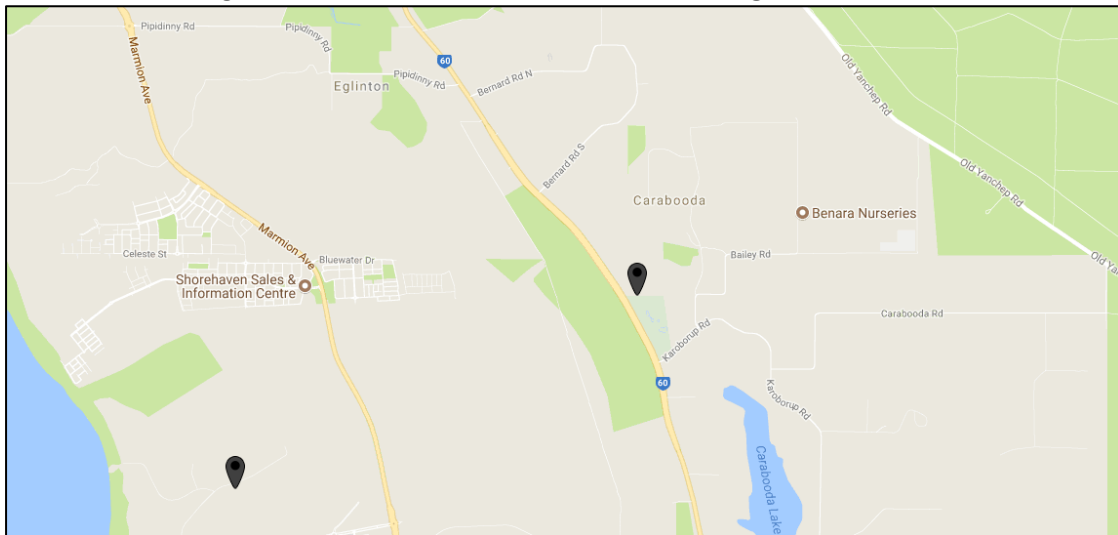


Figure 1: Locations of nearest existing telecommunications facilities.

Table 1 below outlines the reasons why each of the two above co-location candidates were discounted:

RFNSA:	Site address	Carriers	Reason for discount
6122006	414 Karaborup Road, Carabooda	Telstra Optus Vodafone	3.3 kilometres south east of the subject site. Already contains Optus infrastructure. Unable to achieve coverage objectives of servicing Eglinton.
6122002	Lot 1012 Romeo Road, Alkimos	Optus	3.7 kilometres south of the subject site. Already contains Optus infrastructure. Unable to achieve coverage objectives of servicing Eglinton.

Table 1: Reasons for discounting co-location opportunities.

Beyond the two co-location options (assessed as a priority), ten additional potential sites were also identified through a desk-based assessment and a site visit. The locations of these are shown in **Figure 2**:



Figure 2: Candidates Sites Investigated (Google Earth)

Table 2 below provides the summary of the assessment of each site.

Candidate	Site Details	Facility Type	Reasons for discount:
A	117 Pipidinny Road, Eglinton	60m lattice tower	Complex access arrangements due to the steep gradient and elevation of the site. Construction of access and providing the site with power considered to be unviable.
B	117 Pipidinny Road, Eglinton	60m lattice tower	Complex access arrangements due to the vegetation and undulated terrain. Clearing of much vegetation would be likely required.
C	30 Lacey Road, Eglinton	60m lattice tower	Yanchep National Park. A-Class Reserve.
D	30 Lacey Road, Eglinton	60m lattice tower	Yanchep National Park. A-Class Reserve.
E	1 Indian Ocean Drive, Yanchep	60m lattice tower	Yanchep National Park. A-Class Reserve.
F	1 Indian Ocean Drive, Yanchep	60m lattice tower	Yanchep National Park. A-Class Reserve.

G	3 Bulwark Avenue, Alkimos	Rooftop	Child care centre – considered to be sensitive to the community. Likely significant visual impact.
H	Lot 9020 on Plan 41112	Rooftop	Land tenure could not be secured.
I	5 Shiny Lane, Eglinton	Rooftop	Part of Allara Display Village. Substantial visual impact.
J	169 Pipidinny Road, Eglinton	60m lattice tower	Selected candidate.

Table 2: Summary of candidates investigated.

2.3 Site Selection Conclusion

From the thorough assessment of potential telecommunications base-station sites in the surrounding area, candidates 'A' and 'B' were ruled out as the builds were considered too complex and expensive to be viable. Candidates 'C' to 'F' were ruled out due to their location within Yanchep National Park, an A-Class Reserve. Rooftop candidate G to I are all in developing residential areas, and it is considered the detrimental visual impact of these proposals on the community would be simply too high.

From the candidates assessed, candidate J at 169 Pipidinny Road, Eglinton has been selected.

3 SELECTED CANDIDATE SITE CONTEXT

3.1 Subject Site and Surrounds

Table 3 below details the legal description of the subject site.

Lot	Plan	Volume	Folio	Area (ha)
16	17935	1909	60	11.31

Table 3: Site details

The subject site is located within the Perth Metropolitan Region of Western Australia, within the municipal boundaries of the City of Wanneroo. The site is located within the locality of Eglinton, approximately 47 kilometres north of the Perth CBD.

The subject site is located south of Yanchep National Park and is accessed from Pipidinny Road. The western portion of the subject site is a road reserve for the future extension of the Mitchell Freeway. The closest residence is located 500 metres south east of the subject site.

The site consists of low-lying bushland. The subject site and surrounding topography declines steeply at the east of the subject site. **Figures 3 to 5** depict the subject site and surrounds.

A copy of the Certificate of Title is attached (refer **Appendix 1**).

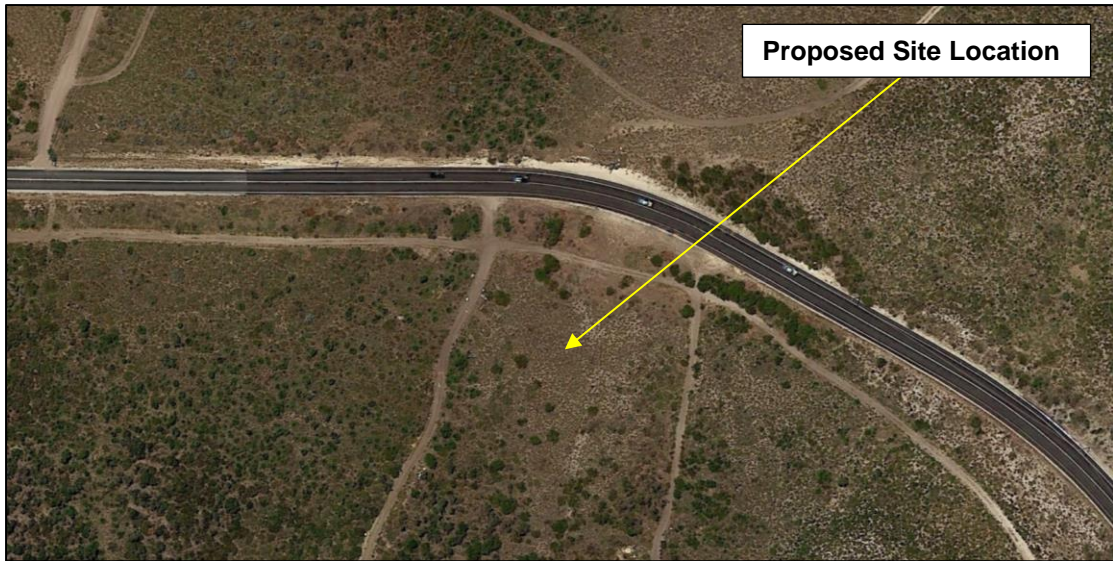


Figure 3: Aerial View of Proposed Optus Site (from Google Earth)



Figure 4: View from the subject site looking north (route of the proposed access).



Figure 5: View towards the subject site, looking west.

4 THE PROPOSAL

4.1 Installation details

The proposal involves the installation of a 60-metre lattice tower and an equipment cabinet at ground level, together with antennas, cabling and ancillary equipment, all to be contained within a 9m x 11m fenced compound.

Error! Reference source not found.4 below outlines the components of the proposed facility.

Component	Quantity	Description
Lattice Tower	1	<ul style="list-style-type: none"> Height: 60m Finish: Galvanised
Panel Antennas	6	<ul style="list-style-type: none"> Dimensions: 795mm (h) x 395mm (w) x 220mm (d) Height: 59.75m Φ
Panel Antennas	3	<ul style="list-style-type: none"> Dimensions: 2600mm (h) x 548mm (w) x 150mm (d) Height: 59m Φ
Panel Antennas	6	<ul style="list-style-type: none"> Dimensions: 860mm (h) x 520mm (w) x 130mm (d) Height: 58.25m Φ
Parabolic Antenna	1	<ul style="list-style-type: none"> Dimension: \varnothing600mm Height: 55m
Equipment Cabinet	1	<ul style="list-style-type: none"> Dimensions: 2920mm (h) x 3000mm (l) x 2500mm (w) Finish: Colorbond "pale eucalypt"

Error! Reference source not found.4: Components of Proposed Facility

The new facility will be wholly contained within an Optus stock fence with a 3m wide access gate to the north.

Preliminary plans depicting the proposal are attached (refer **Appendix 2**).

4.2 Access details

Mobile base stations operate on a continuously unmanned basis and require infrequent maintenance. Accordingly, the proposed facility will not be a significant generator of vehicular or pedestrian traffic and will not adversely impact local traffic flow.

Access to the site is proposed off Pipidiny Road using an access track. No dedicated parking spaces are proposed; the ongoing maintenance will be completed by a single light vehicle visiting the site 1-5 times a year.

5 STATUTORY PLANNING PROVISIONS

5.1 Metropolitan Region Scheme

The land the subject of the Application for Approval to Commence Development is within the area covered by the Metropolitan Region Scheme (**MRS**).

Under the provisions of the MRS, the subject site is reserved for 'Parks and Recreation'. The proposal does not conflict with the MRS reservation, and may be approved as proposed. Notwithstanding, under the provisions of Clause 16 (2) of the MRS:

Reserved land owned by or vested in a public authority may be used for any other purpose approved by the Commission with or without conditions.

A Region Scheme Certificate is attached that places the proposal outside of the Primary Regional Road reservation for the future Mitchell Freeway extension (refer **Appendix 2**).

As the proposed development will take place within an MRS Reserve for 'Parks and Recreation', the application is required to be approved by the WAPC.

Figure 6 below depicts the subject site location in relation to the proposed reserve classification.

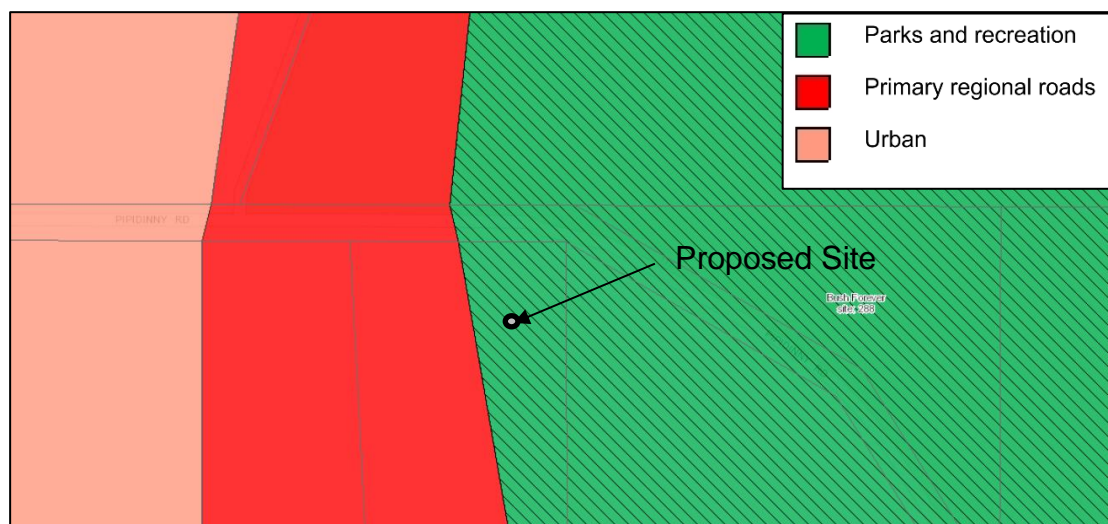


Figure 6: Metropolitan Region Scheme (PlanWA).

5.2 State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region

State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region provides a policy and implementation framework for protection and management of bushland (including Bush Forever) in the Metropolitan Area.

In general terms the policy's aim is to ensure bushland protection but does not prevent development where it is consistent with policy measures, and other planning and environmental considerations.

Clause 3.1 Bush Forever areas of the policy provides the following;

The policy does not apply if a proposal or decision has no adverse impact on regionally significant bushland within a Bush Forever area.

Further, Clause 5.1.2.1 BFA – Bush Forever reserves states:

Where land includes regionally significant bushland reserved for parks and recreation in the Metropolitan Region Scheme, proposals should:

- (i) Support a general presumption against clearing of regionally significant bushland, or other degrading activities, except where a proposal:
 - (e) is consistent with the overall purpose and intent of an existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs, and all reasonable alternatives have been considered in order to avoid or minimise any direct loss of regionally significant bushland, and reasonable offset strategies are secured to offset any loss of regionally significant bushland, where appropriate and practical.

The proposed facility will provide emergency services coverage throughout an area, which is identified by Department of Fire and Emergency Services (**DFES**) as a Bush Fire Prone Area. The proposed infrastructure is in an area which is lightly vegetated, with minimal vegetation to be removed, subject to a clearing permit.

The proposed facility is therefore beneficial for the protection and management of the local bushland and the proposed infrastructure can be approved.

5.3 State Planning Policy 3.7 – Planning in Bushfire Prone Areas

The proposed facility is located within an area identified as Bush Fire Prone as shown on **Figure 7**.

SPP 3.7 – Planning in Bushfire Prone areas and provisions under the Local Planning Scheme seek to prevent increasing the risk or consequence of bushfires in the area. The development will not emit undue heat or sparks and will not provide a source of fuel for bushfires. The structure and shelter are designed for use in bushfire prone areas. No habitable buildings are being introduced and therefore the development does not introduce any additional risks.



Figure 7: Bushfire overlay indicated in pink.

5.4 State Planning Policy 5.2 – Telecommunications Infrastructure

Primarily, the policy aims to balance the need for effective telecommunications services and effective roll-out of networks with the community interest in protecting the visual character of local areas.

Clause 4 (c) Policy Objectives of SPP5.2 states: The objectives of this policy are to *ensure that telecommunications infrastructure is included in relevant planning processes as essential infrastructure for business, personal and emergency reasons.*

The site was selected to minimise visual impacts by being away from developed residential and commercial areas. **Table 6**, below, sets out the provisions of the policy relating to visual impacts together with the response for this situation.

Policy provision	Response
<i>Telecommunications infrastructure should be sited and designed to minimise visual impact and whenever possible:</i>	
<i>a) be located where it will not be prominently visible from significant viewing locations such as scenic routes, lookouts and recreation sites</i>	<p>The proposal is in a rural setting consisting of broad hectare farmland. The location itself is 580 metres from the nearest dwelling.</p> <p>To achieve the required coverage criteria, a height of 60m is required. Although this will render the site visible from some points in the locality, there are no lookouts from which the site will be prominently visible. A structure of this height is not envisaged to be an affliction on the landscape.</p>
<i>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</i>	<p>The site has been selected so as not to compromise any significant views, places of significance or local landmarks.</p> <p>Existing native vegetation will be retained to assist in screening the development when viewed from surrounding locations. While there are locations from which the site will be visible, vegetation surrounding the site will help mitigate visual impacts by providing a backdrop to the development. In addition, this vegetation will help to obscure the view of ground infrastructure.</p>
<i>c) not be located on sites where environmental, cultural heritage, social and visual landscape values may be compromised</i>	<p>A detailed assessment has been carried out and confirms that the site is not impacted by cultural heritage constraints. An application will be lodged with the Department of Water and Environmental Regulation to clear any native vegetation.</p> <p>The site has been located and designed to minimise visual impact and to maximise distance to any residential or sensitive uses.</p>
<i>d) display design features, including scale, materials, external colours and finishes that are sympathetic to the surrounding landscape;</i>	<p>The lattice tower is to be of a galvanised finish, which is non-reflective and the most appropriate for blending in with the sky and the vegetation.</p> <p>The equipment cabinet finish is proposed to be Colorbond “pale eucalypt”, to blend in with the surrounding vegetation.</p>

Table 6: Visual Impacts expectations set out in SPP 5.2

SPP 5.2 also goes on to highlight that telecommunications infrastructure should be co-located where possible and preferably within existing infrastructure corridors where existing or proposed buildings are not available. In this case, as set out in **Section 2**, no viable co-location opportunities were available and there were no buildings or structures that could be used that would achieve coverage objectives.

The proposal is consistent with the objectives of SPP 5.2 and warrants approval.

5.5 Local Planning Policy 2.5 Telecommunications Infrastructure

Local Planning Policy 2.5 Telecommunications Infrastructure sets out:

1. Standards that represent 'deemed-to-comply' proposals. Where such standards are met, the policy provides that applications may be approved without undergoing advertising of the proposal for public comment;
2. Criteria for assessment of proposals that vary from the 'deemed-to-comply' provisions; and
3. Unacceptable standards.

The proposal is assessed against the provisions of the Local Planning Policy as set out at **Appendix 5**.

It is respectfully submitted that the proposal satisfies all deemed-to-comply standards set out in column B of the Local Planning Policy, noting the City's opinion is required in respect to item L2. It is submitted that there are no opportunities for co-location that will achieve the required depth of coverage and capacity, including increasing levels of service from 3G to 4G data availability.

6 TELECOMMUNICATIONS LEGISLATION

The installation of telecommunications infrastructure is regulated by the *Telecommunications Act 1997*, in addition to state planning legislation where applicable.

It is a carriers' licence condition to comply with the *Telecommunications Act 1997* and the Telecommunications Code of Practice 1997. The Code of Practice further requires carriers to comply with the Communications Alliance Industry Code C564:2011 – Mobile Phone Base Station Deployment (**DC Code**). The DC Code imposes site specific obligations on carriers, including the requirement to have regard to guidelines established within the DC Code to take a Precautionary Approach to site selection and infrastructure design. In accordance with the conditions of its licence, Optus has, in selection of the subject site and design of the proposed infrastructure, applied the Precautionary Approach mandated by Sections 4.1 and 4.2 of the DC Code.

The proposed infrastructure will operate in compliance with the Australian Communication and Media Authority (**ACMA**) Electromagnetic Emissions (**EME**) regulatory arrangements. A summary report of the predicted Radiofrequency EME Levels for the proposed facility has been assessed. This assessment was undertaken in accordance with the ARPANSA prediction methodology and report format. The assessment confirms that the proposed installation operating at full power complies with the Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003.

A copy of the EME Report pertinent to the subject site is attached (refer **Appendix 4**).

7 CONCLUSION

The proposed facility is necessary to address coverage issues for Eglinton and the surrounding area. The facility will form an integral component in the Optus and VHA mobile phone networks and will be an important community asset by providing improved and reliable communications to the surrounding communities.

The facility is permissible under the provisions of the Metropolitan Region Scheme and, notwithstanding the subject site not being reserved by LPS6, is consistent with the objectives of the City of Wanneroo's Local Planning Scheme No. 6.

The proposal is consistent with the principles of orderly and proper planning as outlined in preceding sections.

In summary the proposal is justified for the following reasons:

- The proposal will significantly improve the quality and capacity of mobile services and will provide a substantial public benefit to the surrounding area.
- The proposal is consistent with the provisions of the Metropolitan Region Scheme
- The proposal is consistent with the provisions of State Planning Policy 5.2 – Telecommunications Infrastructure.
- The proposal is consistent with the provisions of State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region.
- The proposal is consistent with the objectives of the City of Wanneroo Local Planning Scheme No. 6.
- The proposal is consistent with the objectives of the City of Wanneroo Local Planning Policy 2.5 – Telecommunications Infrastructure
- The proposal is adequately separated from sensitive sites and residential development.
- Minimal vegetation will need to be removed, and the vegetation that will need to be removed will be subject to a clearing permit.
- Works associated with the development are minor and are not anticipated to detrimentally affect the amenity of the area.

The proposal is consistent with planning principles derived from state and local levels and given the minimal impact on the amenity of the area and the locality generally, the application warrants the support of the City of Wanneroo.

Considering the proposal's demonstrated compliance with the applicable statutory planning instruments, the WAPC is respectfully requested to approve the subject application.

APPENDIX 1 CERTIFICATE OF TITLE



REGISTER NUMBER 16/P17935	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

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

VOLUME **1909** FOLIO **60**

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



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 16 ON PLAN 17935

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

STATE PLANNING COMMISSION OF 469-489 WELLINGTON STREET, PERTH

(T E624226) REGISTERED 6/6/1991

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

1. SAVE AND EXCEPT THE RIGHTS TO MINES OF COAL OR OTHER MINERALS INCLUDING THOSE SPECIFIED IN TRANSFER 594/1933.

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

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

STATEMENTS:

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

SKETCH OF LAND: 1909-60 (16/P17935)
 PREVIOUS TITLE: 1909-56
 PROPERTY STREET ADDRESS: 169 PIPIDINNY RD, EGLINTON.
 LOCAL GOVERNMENT AUTHORITY: CITY OF WANNEROO
 RESPONSIBLE AGENCY: WESTERN AUSTRALIAN PLANNING COMMISSION

100/92

CT 1909 0060 F



Application E624225
Volume 1909 Folio 56

WESTERN



AUSTRALIA

1909 060



CERTIFICATE OF TITLE

UNDER THE "TRANSFER OF LAND ACT, 1893" AS AMENDED

I certify that the person described in the First Schedule hereto is the registered proprietor of the undermentioned estate in the undermentioned land subject to the easements and encumbrances shown in the Second Schedule hereto.

Dated 6th June, 1991

REGISTRAR OF TITLES



PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS CERTIFICATE OR ANY NOTIFICATION HEREON

ESTATE AND LAND REFERRED TO

Estate in fee simple in portion of Swan Location 1370 and being Lot 16 on Plan 17935, delineated on the map in the Third Schedule hereto, save and except the right to mines of coal or other minerals including those specified in Transfer 594/1933.

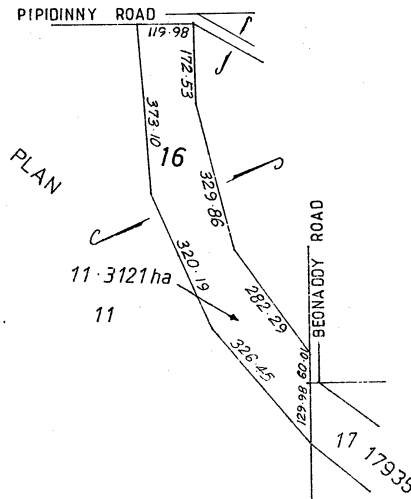
FIRST SCHEDULE (continued overleaf)

~~Ocean Dunes Pty. Ltd. of 22nd Floor, R & I Bank Tower, 108 Saint George's Terrace, Perth.~~

SECOND SCHEDULE (continued overleaf)

NIL

THIRD SCHEDULE



Scale 1: 12 500

Superseded - Copy for Sketch Only

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NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS.

E67590/3/89-20M-L/4664

FIRST SCHEDULE (continued)		NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS					
REGISTERED PROPRIETOR		INSTRUMENT		REGISTERED	TIME	SEAL	CERT. OFFICER
NATURE	NUMBER	NATURE	NUMBER				
State Planning Commission of 469-489 Wellington Street, Perth.		Transfer	E624226	6.6.91	15.02		

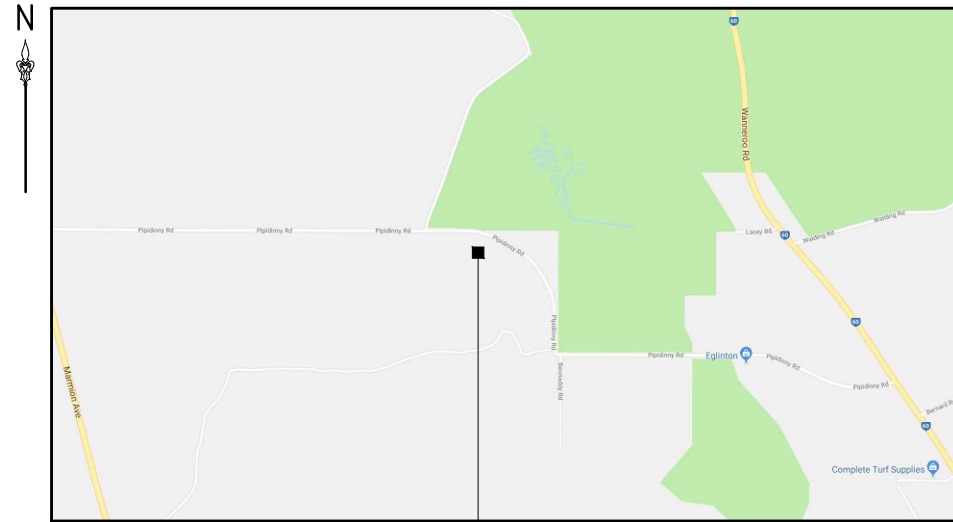
SECOND SCHEDULE (continued)		NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS									
INSTRUMENT		PARTICULARS	REGISTERED	TIME	SEAL	CERT. OFFICER	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL	CERT. OFFICER
NATURE	NUMBER										

CERTIFICATE OF TITLE VOL. 1909 FOL. 060

APPENDIX 2 DEVELOPMENT PLANS

SITE ADDRESS

169 PIPIDINNY ROAD
EGLINTON, WA 6034



SITE LOCATION DATA	
SOURCE: RFNSA	
DATUM: MGA (GDA94)	ZONE: 50
REF LOCATION:	€ TOWER
EASTING	374 804
NORTHING	6 505 091
LATITUDE	-31.58244°
LONGITUDE	115.68055°
WGS84 DATUM (USED BY GOOGLE EARTH® AND GPS DEVICES) CAN BE CONSIDERED SAME AS GDA94 (SOURCE: "GEOCENTRIC DATUM OF AUSTRALIA TECHNICAL MANUAL" VERSION 2.3)	

COPYRIGHT © GOOGLE MAPS

OPTUS SITE P8477
(RFNSA No. 6034001)

OPTUS LATTICE TOWER

1. OPTUS 60m STEEL LATTICE.
2. ANTENNA MAINTENANCE ACCESS VIA CLIMBING LADDER ON LATTICE TOWER OR EWP BY QUALIFIED WORKING AT HEIGHTS PERSONNEL ONLY.
3. FEEDER CABLE SUPPORTS DESIGNED IN ACCORDANCE WITH OPTUS TOWER SPECIFICATION (OSD-030).
4. REFER TO GEOTECHNICAL INVESTIGATION REPORT FOR SUB SOIL CONDITIONS. REFER GOLDER REPORT REF: 1783261-013-L-Rev0 DATED 08/02/2019.
5. CORROSION RATING - LOW (C2).
6. BLACK SOIL AREA - N.
7. ICE AND SNOW AREA - N.

EQUIPMENT SHELTER

1. OPTUS ICS ZONECOOL SHELTER TYPE C3, COLOURED COLORBOND "PALE EUCALYPT".

TRANSMISSION

THIS SITE SHALL BE LINKED TO THE NETWORK VIA RADIO IN ACCORDANCE WITH DRAWING P8477-T1. FOR RADIO LINKS, WORKS AT THE LINK SITE SHALL BE CARRIED OUT IN ACCORDANCE WITH LINK SITE'S TRANSMISSION DRAWINGS, ISSUED SEPARATELY.

SITE HAZARDS

1. MANUAL HANDLING
2. WORKING AT HEIGHTS
3. SLIP, TRIP AND FALLS
4. ELECTRICAL HAZARDS
5. WEATHER / LIGHTNING
6. SUN EXPOSURE
7. WILDLIFE / INSECTS
8. PUBLIC IN PROXIMITY
9. REMOTE WORK

CONSTRUCTION SITE ACCESS

1. THE SITE IS LOCATED APPROXIMATELY 48Km NORTH OF PERTH. FOLLOW THE WANNEROO ROAD TOWARDS YANCHEP, TURN LEFT ONTO PIPIDINNY ROAD AND SITE IS ON THE LEFT-HAND SIDE AT ABOUT 300m. NEW ACCESS TRACK REQUIRED TO EXTEND FROM EXISTING ACCESS TRACK ON PROPERTY (APPROXIMATELY 45m)

DRAFT

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	11.02.19	ISSUED FOR CONSTRUCTION	CATALYST	JM	DRC	CO	CM



HUAWEI TECHNOLOGIES (AU) PTY LTD
ABN 49 103 793 380
SYDNEY
LEVEL 6 TOWER B 799 PACIFIC HIGHWAY
CHATSWOOD NSW 2067
TEL: +61 2 9928 3888 FAX: +61 2 9411 8533
MELBOURNE
LEVEL 24 459 COLLINS STREET
MELBOURNE VIC 3000
TEL: +61 3 8610 0600 FAX: +61 3 9621 1575

Client:



Project:

MOBILE NETWORK
AUSTRALIA
SITE No:- P8477
EGLINTON
169 PIPIDINNY ROAD

Drawing Title:

SITE SPECIFICATIONS

Drawing Status:

FOR CONSTRUCTION

Drawing No.

P8477-G1

Revision

A



EXISTING POWER POLE
POLE ID - 321593

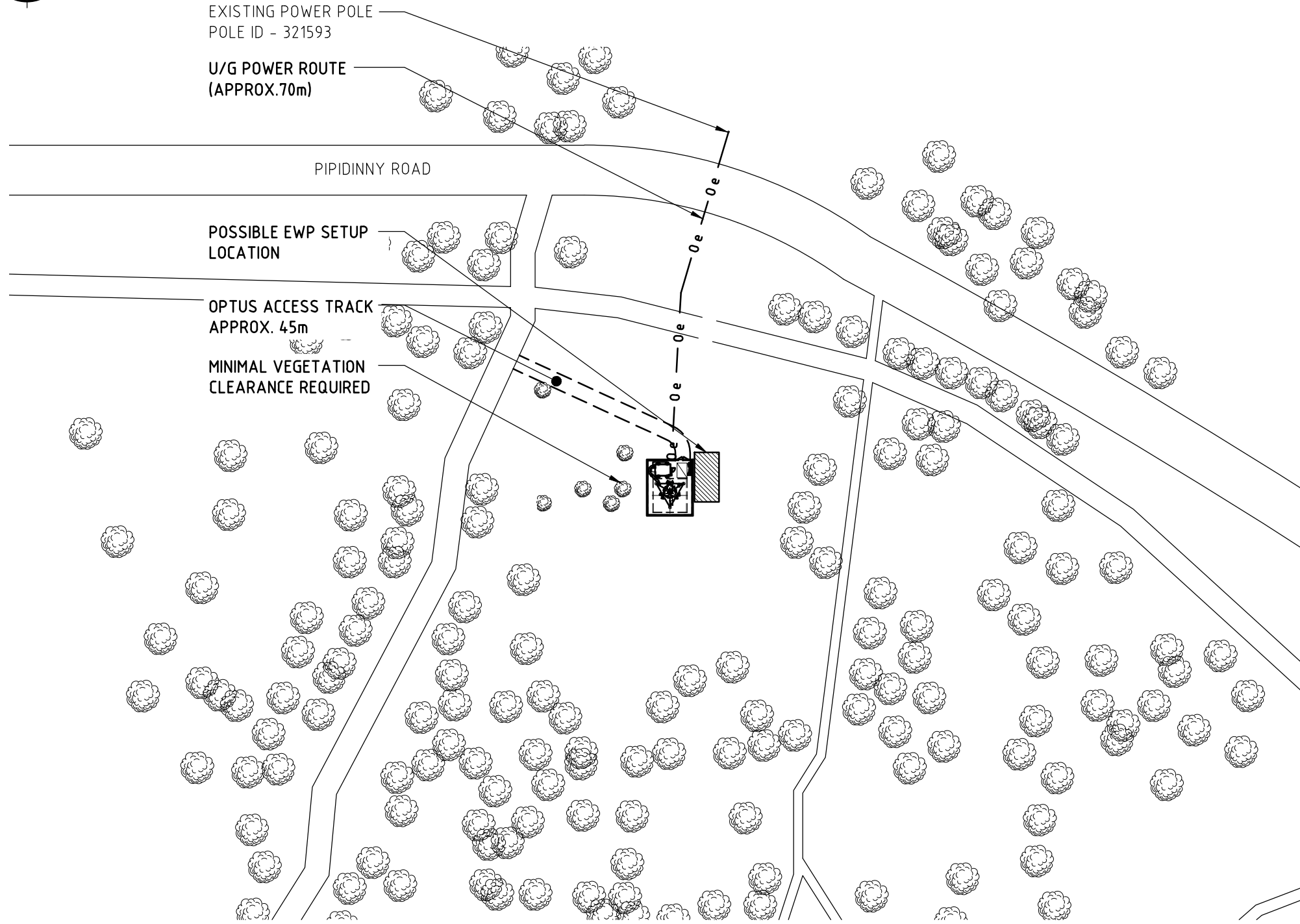
U/G POWER ROUTE
(APPROX. 70m)

PIPIDINNY ROAD

POSSIBLE EWP SETUP
LOCATION

OPTUS ACCESS TRACK
APPROX. 45m

MINIMAL VEGETATION
CLEARANCE REQUIRED



OVERALL SITE PLAN

SCALE 1:1000

DRAFT

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
A	11.02.19	ISSUED FOR CONSTRUCTION	CATALYST	JM	DRC	CO	CM



HUAWEI TECHNOLOGIES (AU) PTY LTD
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MELBOURNE
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Client:



Project:

**MOBILE NETWORK
AUSTRALIA**
SITE No:- P8477
EGLINTON
169 PIPIDINNY ROAD

Drawing Title:

OVERALL SITE PLAN

Drawing Status:

FOR CONSTRUCTION

Drawing No.

P8477-G2

Revision

A



LEGEND

— 0 e — 0 e — OPTUS U/G ELECTRICAL

OPTUS U/G POWER SUPPLY ROUTE (APPROX. 70m-TBC)

OPTUS ACCESS TRACK (APPROX. 45m)

OPTUS ZONECOOL C3 3.0m x 2.5m SHELTER

OPTUS 300mm WIDE NEMA 20B CABLE LADDER WITH SUPPORT POSTS (3 OFF)

GRAVEL GROUND COVER OR EQUIVALENT AS APPROVED BY OPTUS

OPTUS TOWER

OPTUS SECURITY FENCE WITH 3m WIDE ACCESS GATE

MGA ZONE 50
E 374 804
N 6 505 091
AT € TOWER

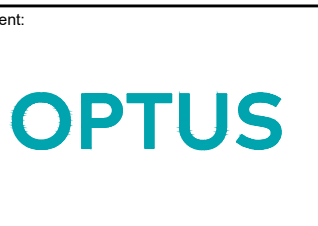
DRAFT

DETAIL 1
SCALE 1:100 G2

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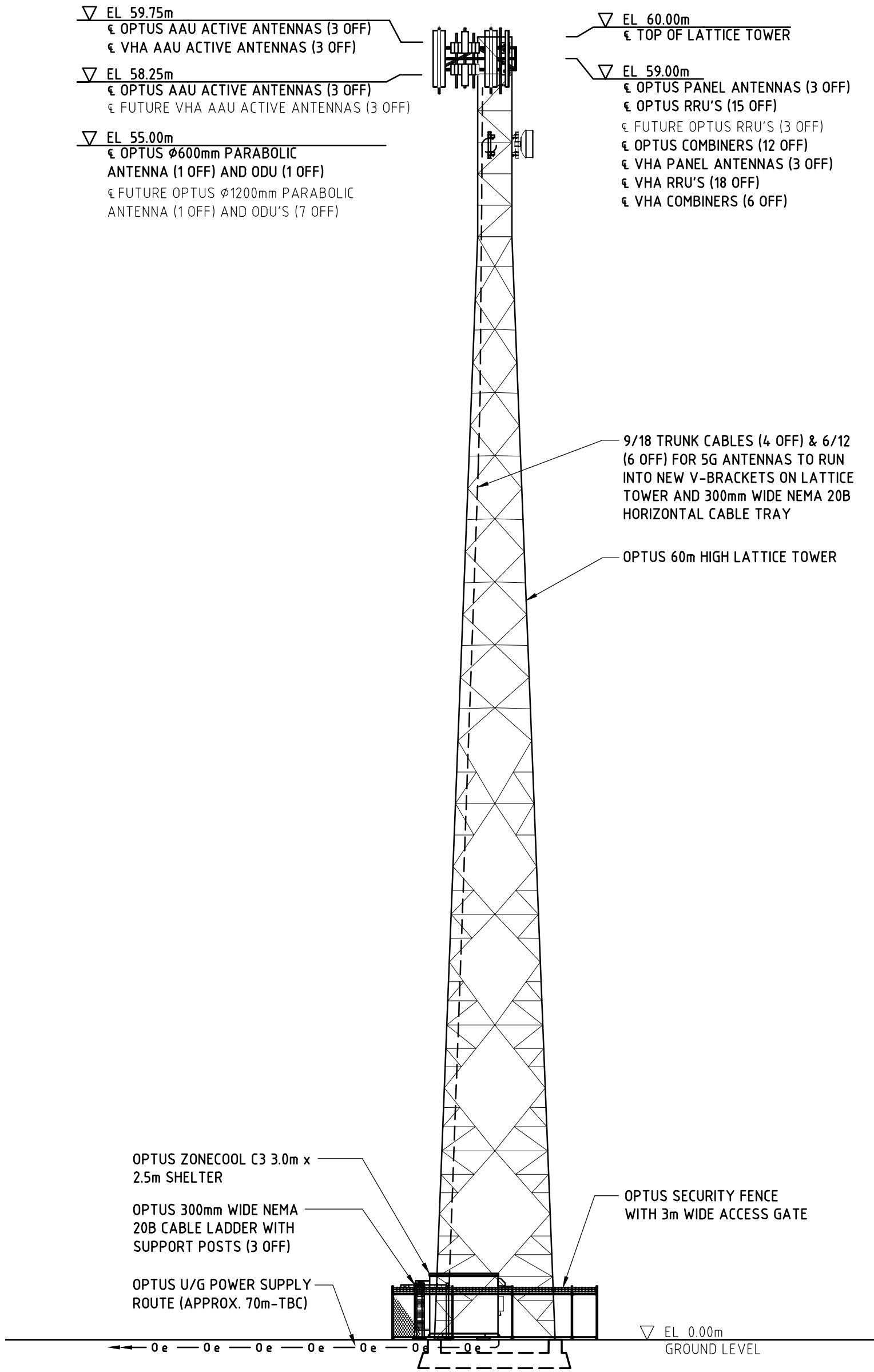
Client:
Project: **MOBILE NETWORK AUSTRALIA**
SITE No:- P8477
EGLINTON
169 PIPIDINNY ROAD

Drawing Title: **SITE LAYOUT AND SETOUT PLAN**
Drawing Status: **FOR CONSTRUCTION**
Drawing No: **P8477-G3**
Revision: **A**

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

DRAFT

- ▽ EL 59.75m
€ OPTUS AAU ACTIVE ANTENNAS (3 OFF)
€ VHA AAU ACTIVE ANTENNAS (3 OFF)
- ▽ EL 58.25m
€ OPTUS AAU ACTIVE ANTENNAS (3 OFF)
€ FUTURE VHA AAU ACTIVE ANTENNAS (3 OFF)
- ▽ EL 55.00m
€ OPTUS ϕ 600mm PARABOLIC ANTENNA (1 OFF) AND ODU (1 OFF)
€ FUTURE OPTUS ϕ 1200mm PARABOLIC ANTENNA (1 OFF) AND ODU'S (7 OFF)
- ▽ EL 60.00m
€ TOP OF LATTICE TOWER
- ▽ EL 59.00m
€ OPTUS PANEL ANTENNAS (3 OFF)
€ OPTUS RRU'S (15 OFF)
€ FUTURE OPTUS RRU'S (3 OFF)
€ OPTUS COMBINERS (12 OFF)
€ VHA PANEL ANTENNAS (3 OFF)
€ VHA RRU'S (18 OFF)
€ VHA COMBINERS (6 OFF)



9/18 TRUNK CABLES (4 OFF) & 6/12 (6 OFF) FOR 5G ANTENNAS TO RUN INTO NEW V-BRACKETS ON LATTICE TOWER AND 300mm WIDE NEMA 20B HORIZONTAL CABLE TRAY

OPTUS 60m HIGH LATTICE TOWER

OPTUS ZONECOOL C3 3.0m x 2.5m SHELTER

OPTUS 300mm WIDE NEMA 20B CABLE LADDER WITH SUPPORT POSTS (3 OFF)

OPTUS U/G POWER SUPPLY ROUTE (APPROX. 70m-TBC)

OPTUS SECURITY FENCE WITH 3m WIDE ACCESS GATE

SOUTH ELEVATION
SCALE 1:200

Rev	Date	Issued For Construction	CATALYST	JM	DRC	CO	CM
Revision Details		Consultant	CAD Designer	Verifier	Approver		
<p>HUAWEI TECHNOLOGIES (AU) PTY LTD ABN 68 103 793 803 SYDNEY LEVEL 6 TOWER B 799 PACIFIC HIGHWAY CHARTERSWOOD NSW 2057 TEL: +61 2 8228 3888 FAX: +61 2 9411 8533 MELBOURNE LEVEL 24 459 COLLINS STREET MELBOURNE VIC 3000 TEL: +61 3 8510 0000 FAX: +61 3 921 1515</p>							
Client:							
Project:		MOBILE NETWORK AUSTRALIA SITE No.: P8477 EGLINTON 169 PIPIDINNY ROAD					
Drawing Title:		SITE ELEVATION					
Drawing Status:		FOR CONSTRUCTION					
Drawing No.:		P8477-G4					
Revision:		A					
Scale:		20 10 0 10 20 30 40 50m					

APPENDIX 4 CITY OF WANNEROO LPP RESPONSE

Planning Response: P8477 Eglinton
Local Planning Policy 2.5 Telecommunications Infrastructure

Column A	Column B	Column C	Column D	Column E
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)	Planning Comment
Location				
L1	<i>The applicant demonstrates on submission of an application for planning approval that the proposed telecommunications infrastructure addresses an existing lack of coverage or service availability in the locality.</i>	<i>The applicant demonstrates on submission of an application for planning approval that the proposed telecommunications infrastructure addresses a forecasted lack of coverage or service availability in the locality.</i>	<i>An application that does not satisfy the standards set out in Column B or Column C.</i>	<p>The proposed facility will provide improved coverage and will effectively resolve coverage deficiencies in the target area. It will also service the future extension to the Mitchell Freeway. This site will provide the surrounding population with access to enhanced and seamless mobile services via the Optus and Vodafone Mobile Networks.</p> <p>The proposal is therefore considered to comply with column B.</p>
L2	<i>Proposed telecommunications infrastructure is co-located with existing telecommunications infrastructure.</i>	<i>In the City's opinion no opportunity exists for co-location in a manner that would achieve an equivalent level of coverage or service availability in the locality.</i>	<i>An application that does not satisfy the standards set out in Column B or Column C.</i>	<p>Two co-location options have been investigated as part of the site selection process:</p> <ul style="list-style-type: none"> • Tower at 414 Karoborup Road Carabooda. This tower is already utilized by Optus and cannot be upgraded to further address the network coverage requirements; and • Tower at Lot 1012 Romeo Road, Alkimos. This tower is also presently utilized by Optus and cannot be upgraded further to address the network coverage requirements. <p>The proposal itself is for two co-located carriers. The proposal is therefore considered to comply with column C.</p>
L3	<i>Proposed telecommunications infrastructure is not located on a lot where the adjoining lot is zoned 'Residential', 'Mixed Use', 'Special Rural', 'Rural Community', 'Landscape Enhancement' or 'Special Residential'.</i>	<i>Should telecommunications infrastructure be proposed on a lot where the adjoining lot is zoned 'Residential', 'Mixed Use', 'Special Rural', 'Rural Community', 'Landscape Enhancement' or 'Special Residential', telecommunications infrastructure shall be offset at least 75 metres from the boundary of the 'Residential', 'Mixed Use', 'Special Rural', 'Rural Community', 'Landscape Enhancement' or 'Special Residential' zone.</i>	<i>An application that does not satisfy the standards set out in Column B or Column C.</i>	<p>The proposed location is not adjoining any of the mentioned zones and is in a Metropolitan Region Scheme Reserve.</p> <p>The proposal is therefore considered to comply with column B.</p>

Design				
D1	<i>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.</i>	<i>In the City's opinion, an 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.</i>	<i>An application that does not satisfy the standards set out in Column B or Column C.</i>	<p>In order to achieve the required coverage criteria, a height of 60m is required. While this will be visible from some locations within the locality a less height will result in the coverage criteria not being able to be met – resulting in a loss of reliable telecommunications services.</p> <p>The site seeks to balance the need for the improved coverage objectives while minimising the potential visual impact.</p> <p>In this instance, no better candidate has been identified which can achieve Optus and Vodafone's coverage objectives.</p> <p>The proposed site maintains a very good level of separation from residential and sensitive land uses. In particular, the site is well removed from existing and future planned residential areas.</p> <p>The proposal is therefore considered to comply with column B.</p>
D2	<i>The applicant demonstrates that the proposed telecommunications infrastructure is not visually conspicuous from any location beyond the subject property boundary.</i>	<i>In the City's opinion, the proposed telecommunications infrastructure could potentially be visually conspicuous from any location beyond the subject property boundary.</i>	<i>An application that does not satisfy the standards set out in Column B or Column C.</i>	<p>By the very inherent nature of the proposal, the structure will be visible from beyond the subject property boundary. Telecommunication Facilities must protrude above the landscape to operate effectively and they must be located within the area they are intended to provide service to.</p> <p>The subject site is half a kilometre from the nearest dwelling and is not easily visible due to the high vegetation and topography.</p> <p>The proposal is therefore considered to comply with column C.</p>
D3	<i>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.</i>	<i>No alternative standard will be supported.</i>	<i>An application that does not satisfy the standards set out in Column B.</i>	<p>The facility will be available to telecommunication carriers for future co-location should a third carrier seek to use the facility. There are established carrier processes in place to facilitate co-locations should that be pursued in the future.</p> <p>The proposal is therefore considered to comply with column B.</p>
D4	Telecommunications infrastructure (including any 'on-ground' facilities provided) is finished with non-reflective paint in a neutral colour to minimise visual intrusion.	<i>No alternative standard will be supported.</i>	<i>An application that does not satisfy the standards set out in Column B.</i>	<p>The proposed structure will be of steel construction, which will quickly fade and is a finish that is non-reflective and of neutral in colour. Antennas and associated equipment will be factory finish, which is non-reflective and neutral colours.</p> <p>The proposal is therefore considered to comply with column B.</p>
D5	<i>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.</i>	<i>Screening of the base of the monopole, base of the lattice tower and/or the associated equipment shelter is not provided as required under Column B.</i>	<i>An application that does not satisfy the standards set out in Column B or Column C.</i>	<p>A cabinet situated on a concrete slab will not be visible from the public domain and will be consistent with development ordinarily expected in a rural area.</p> <p>No screening is proposed as it would further require the removal of additional native vegetation. The base of the infrastructure is already substantially removed from any surrounding dwellings and is 40 metres from Pipidinny Road.</p> <p>The proposal is therefore considered to comply with column C.</p>

APPENDIX 5 ENVIRONMENTAL EME REPORT

Environmental EME Report

Location	169 Pipidiny Road, EGLINTON WA 6034		
Date	18/02/2019	RFNSA No.	6034001

How does this report work?

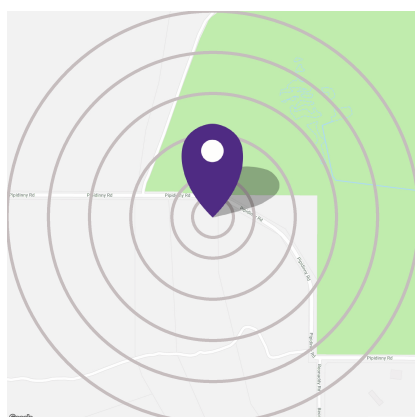
This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at 169 Pipidiny Road, EGLINTON WA 6034. These levels have been calculated by Huawei using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

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

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

A snapshot of calculated EME levels at this site

There are currently no existing radio systems for this site.



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

0.97%

out of 100% of the public exposure limit, 326 m from the location.

EME levels with the proposed changes

Distance from the site	Percentage of the public exposure limit
0-50 m	0.26%
50-100 m	0.32%
100-200 m	0.7%
200-300 m	0.96%
300-400 m	0.97%
400-500 m	0.85%

For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at <http://www.rfnsa.com.au/6034001>.

Radio systems at the site

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

Carrier	Existing		Proposed	
	Systems	Configuration	Systems	Configuration
Optus			3G, 4G, 5G	LTE700 (proposed), WCDMA900 (proposed), WCDMA2100 (proposed), LTE1800 (proposed), LTE2600 (proposed), NR3500 (proposed), LTE2300 (proposed)
Vodafone			3G, 4G	LTE2100 (proposed), LTE1800 (proposed), WCDMA900 (proposed), LTE850 (proposed),

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

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

Distance from the site	Existing configuration			Proposed configuration		
	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m ²)	Percentage of the public exposure limit
0-50m				2.65	18.68	0.26%
50-100m				3.017	24.14	0.32%
100-200m				4.98	65.88	0.7%
200-300m				5.4	77.22	0.96%
300-400m				5.38	76.66	0.97%
400-500m				4.9	63.8	0.85%

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 C564:2011](#) or other means. Calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Maximum cumulative EME level for the proposed configuration

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



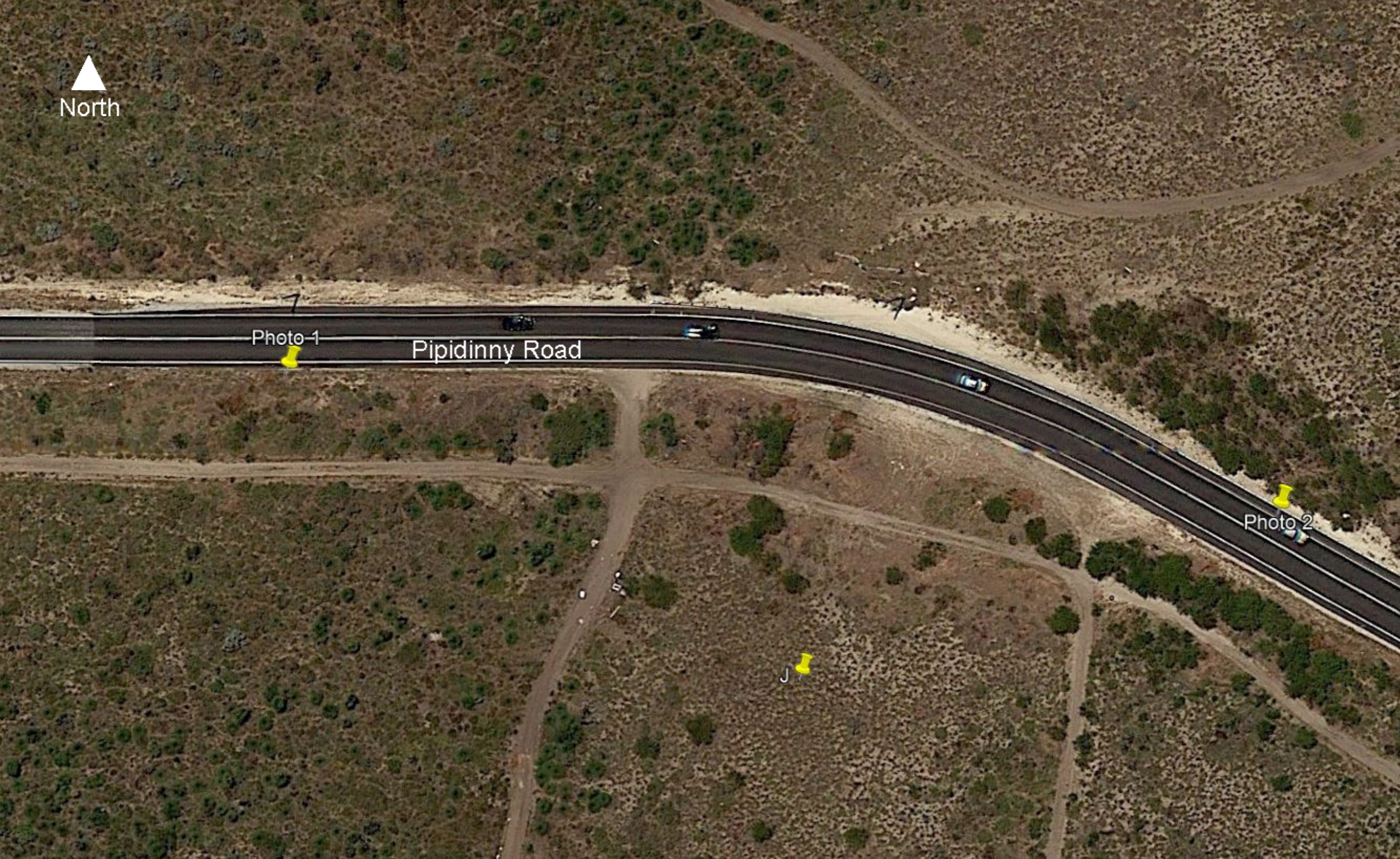
North

Photo 1

Pipidinny Road

Photo 2

J



Photomontage 1 - Before



Photomontage 1 - After



Photomontage 2 - Before



Photomontage 2 - After

