5.3. MATERIAL CHANGE OF USE TELECOMMUNICATIONS FACILITIES AT LOT 15 ASSMAN ROAD WHYANBEEL

REPORT AUTHOR(S)	Simon Clarke, Coordinator Development Assessment and Coordination
GENERAL MANAGER	Nicholas Wellwood, General Manager Operations
DEPARTMENT	Sustainable Communities
PROPOSAL	Material Change of Use (Telecommunications Facilities)
APPLICANT	Optus Mobile Pty Ltd c/- Urbis Pty Ltd Level 7, 123 Albert St BRISBANE QLD 4000
LOCATION OF SITE	Lot 15 Assman Road Whyanbeel
PROPERTY	Lot 15 on SP155089

LOCALITY PLAN

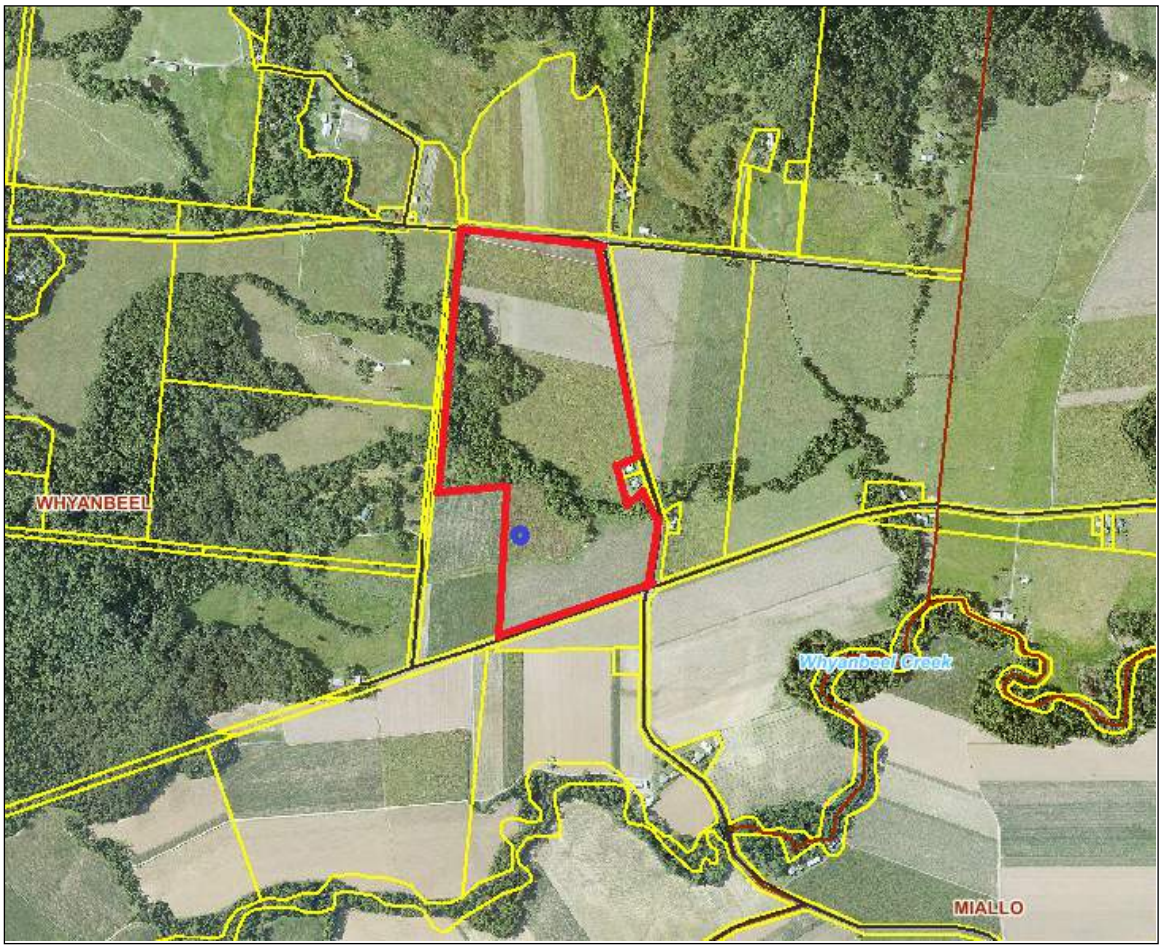


Figure 1 - Locality Plan

LOCALITY	Rural Areas and Rural Settlements
PLANNING AREA	Rural
PLANNING SCHEME	Douglas Shire Planning Scheme 2006
REFERRAL AGENCIES	None
NUMBER OF SUBMITTERS	Not applicable
STATUTORY ASSESSMENT DEADLINE	17 March 2017
APPLICATION DATE	2 September 2016

RECOMMENDATION

That Council approves the development application for Telecommunications Facilities over land described as Lot 15 on SP155089, located at L15 Assman Road, Whyanbeel, subject to the following:

APPROVED DRAWING(S) AND / OR DOCUMENT(S)

The term 'approved drawing(s) and / or document(s)' or other similar expressions means:

Drawing or Document	Reference	Date
Draft Site Layout	B1438-P1 Rev 02	20 December 2016
Draft Site Elevation	B1438-P2 Rev 02	20 December 2016

ASSESSMENT MANAGER CONDITIONS

1. **Carry out the approved development generally in accordance with the approved drawing(s) and/or document(s), and in accordance with:**

   a. **The specifications, facts and circumstances as set out in the application submitted to Council; and**

   b. **The following conditions of approval and the requirements of Council's Planning Scheme and the *FNQROC Development Manual*.**

   Except where modified by these conditions of approval

Timing of Effect

2. **The conditions of the Development Permit must be effected prior to Commencement of Use, except where specified otherwise in these conditions of approval.**

Colours

3. **The exterior finishes and colours of the facility must be non-reflective and must blend with the natural colours of the surrounding environment.**

Fencing and Signage

4. **Construct fencing for the perimeter of the facility consisting of a minimum 1.8 metre high mesh security fence. The facility is to be signed with appropriate hazard warning signs.**

Damage to Council Infrastructure

5. **In the event that any part of Council's existing infrastructure is a damaged as a result of construction activities occurring on the site, including but not limited to, mobilisation of heavy construction equipment, stripping, grubbing, the applicant/owner must notify Douglas Shire Council immediately of the affected infrastructure and have it repaired or replaced at the developer's cost, prior to Commencement of Use.**

Lawful Point of Discharge

6. **All stormwater from the property must be directed to a lawful point of discharge such that it does not adversely affect surrounding properties or properties downstream from the development, all to the requirements and satisfaction of the Chief Executive Officer.**

Health

7. **The facility must comply with all relevant State and National Standards in relation to emission of light, vibration, odour and radiation.**

ADVICE

1. **This approval, granted under the provisions of the *Sustainable Planning Act* 2009, shall lapse four (4) years from the day the approval takes effect in accordance with the provisions of the *Sustainable Planning Act* 2009.**

2. **All building site managers must take all action necessary to ensure building materials and / or machinery on construction sites are secured immediately following the first cyclone watch and that relevant emergency telephone contacts are provided to Council officers, prior to commencement of works.**

3. **This approval does not negate the requirement for compliance with all other relevant Local Laws and other statutory requirements.**

4. **For information relating to the *Sustainable Planning Act* 2009 log on to www.dilgp.qld.gov.au . To access the *FNQROC Development Manual*, Local Laws and other applicable Policies log on to www.douglas.qld.gov.au .**

LAND USE DEFINITIONS*

In accordance with the Douglas Shire Planning Scheme 2008, the approved land use of Telecommunication Facilities is defined as:

Means the use of premises for the provision of telecommunication services.

The use excludes Low Impact Telecommunications Facilities as defined by the Telecommunications (Low Impact Facilities Determination) 1997 under the Telecommunications Act.

*This definition is provided for convenience only. This Development Permit is limited to the specifications, facts and circumstances as set out in the application submitted to Council and is subject to the abovementioned conditions of approval and the requirements of Council's Planning Scheme and the *FNQROC Development Manual*.

EXECUTIVE SUMMARY

Approval is sought for the use and development of a telecommunications facility, comprising a 46 metre high monopole and an outdoor cabinet to be located at the base of the facility within a secure compound which measures approximately 110m^2 in area.

The site is located at L15 Assman Road, Whyanbeel.

The central issue of non-compliance relates to the Acceptable Measure for height within the Rural Areas and Rural Settlements Locality Code. Although exceeding the Acceptable Measure for height within the code, the nature of the facility requires a height of 46m to operate effectively. The excess in height is considered acceptable due to the facility having a slim-line appearance which will not compromise the surrounding development or environment. The development also has a small footprint which will maintain the character of the locality. The existing vegetation on the site will assist in screening the facility from surrounding views. The slimline monopole was negotiated through the assessment process as the original application involved a 50 metre high, bulky lattice structure (see Attachment 4).

Overall, the proposed facility is consistent with similar facilities scattered throughout the shire and approval is recommended subject to conditions.

TOWN PLANNING CONSIDERATIONS

Background

The subject site is located at L15 Assman Road, Whyanbeel and is legally described as Lot 15 on SP155089. The site is included within the Rural Planning Area under the 2006 Douglas Shire Planning Scheme (as amended).

L15 has a total area of 32.42 hectares and is a rural property currently used for the cultivation of sugar cane. The lot has frontage to both Kingston Road in the north and Assman Road in the south. The lot is divided by a vegetated creek corridor that runs through the middle of the property. The proposed facility is to be located on the southern side of the creek corridor close to Assman Road (300 metres setback).

Surrounding land consists of a mix of rural properties predominately used for sugar cultivation. To the west are large rural residential uses and tourist accommodation.

The original application consisted of a 50m high lattice tower with three antenna panels and 15 remote radio units. However, following Council officer concerns with respect to the visual appearance of the lattice tower, the applicants have amended the application in response to Council's information request.

Proposal

The amended proposed plans are included in Attachment 1. The amended plans now consist of a slimline monopole, with significantly reduced visual footprint. The overall height of the tower involves a 40m high monopole with slimline lattice turret head-frame (overall height 46m).

The tower will be located inside an 8.0m x 13.85m compound consisting of a 3.0m high security fence with a 3 metre wide gate providing access via Assman Road. An Optus equipment shed will also be located with the compound.

A photomontage representation of the proposed tower is included at Attachment 2.

State Planning Requirements

The State Planning Policy is relevant to the assessment of this application where a State interest is not appropriately reflected in the Planning Scheme relevant to the site. 'Part E: Interim development assessment requirements' outlines the State interests and associated development requirements which are to be considered in relation to certain development applications. An assessment against Part E reveals that none of the State interests apply to the proposed development.

Douglas Shire Planning Scheme Assessment

The proposed monopole is defined as 'Telecommunication Facilities' in the Planning Scheme. Telecommunication Facilities are code assessable development in the Rural Planning Area. The following codes apply:

Douglas Shire Rural Areas and Rural Settlements Planning Locality		**Code Applicability**	**Compliance**
Locality	Rural Areas and Rural Settlements	✓	✗ *(see comments below)*
Planning Area	Rural	✓	✗ *(see comments below)*
Defined Use	Telecommunications Facilities	✓	✗ *(see comments below)*
Overlay Codes	Acid Sulfate Soils Code	✗	n/a
	Cultural Heritage and Valuable Sites Code	✗	n/a
	Natural Hazards Code	✓	✓
General Codes	Design and Siting of Advertising Devices Code	✗	n/a
	Filling and Excavation Code	✗	n/a
	Landscaping Code	✓	✓
	Natural Areas and Scenic Amenity Code	✓	✓
	Reconfiguring a Lot Code	✗	n/a
	Vehicle Parking and Access Code	✓	✓
	Sustainable Development Code	✗	n/a

Compliance Issues

Rural Areas and Rural Settlements Locality Code

A1.1 of the Rural Areas and Rural Settlements Locality Code identifies that in all Planning Areas in this locality the maximum height of buildings/structures is 6.5m and 2 storeys.

The proposed facility (46 metre monopole) would be defined as a structure under the Douglas Shire Planning Scheme. The proposed Telecommunications Facility is not consistent with A1.1 as it exceeds 6.5m in height. It is noted the height of the proposed

tower is necessary in order to ensure that there is sufficient coverage for the whole of the Whyanbeel and surrounds.

Despite non-compliance with the acceptable solution, it is considered that the proposed height of the facility will not adversely affect the character of the locality by means of the following:

- The facility will have a slim-line appearance which will not compromise the surrounding development or environment;
- The facility will have a small footprint which will maintain the character of the locality and will not result in the degradation of the environment;
- The existing vegetation and surrounding undulating topography in surrounding areas will assist in screening the facility from surrounding views.

Given the amended slim-line design and reduced height and the nature of the facility, the excess in height is considered acceptable in this case.

Rural Planning Area Code

Performance Criteria P2 of the Rural Planning Area Code relating to Good Quality Agricultural Land (GQAL) states that GQAL is only used for agricultural uses and primary production purposes.

The small lease area of 110m² will not impact on the agricultural capabilities of the surrounding land and is therefore not in conflict with the GQAL specifications in the Douglas Shire Planning Scheme.

Telecommunications Facilities Code

The Telecommunication Facilities Code identifies that Telecommunication Facilities are located so as to minimise their impact on the landscape or townscape.

The Acceptable Measure A1.1 of the Telecommunication Facilities Code identifies that Telecommunication Facilities are located underground; OR Telecommunication Facilities are co-located with other telecommunication Facilities; OR Telecommunication Facilities are located in or on an existing structure AND Telecommunication Facilities are not located on the exterior of any Building identified on any relevant Cultural Heritage/Valuable Site Overlay on any relevant Locality Map.

The proposed facility is not compliant with A1.1. Although the facility is of significant height, it has been intentionally located within a rural area with the aim of balancing coverage objectives and resulting environmental and visual impacts.

The impact on the townscape will be minimised as the monopole is designed to have a slim-line appearance from all view points. This design is appropriate for agricultural areas as it will effectively blend with rural backdrops.

Based on the above and given the nature of the facility the proposal is likely to have a minimal impact on the landscape and townscape and is considered acceptable in this case.

Performance Criteria P2 of the Telecommunication Facilities Code identifies that Telecommunication Facilities are sited and designed such that they are visually integrated,

as much as possible, with the landscape or townscape so as not to be visually obtrusive.

The subsequent Acceptable Measures identifies that:

- (A2.1) The height of any Telecommunication Facility does not protrude more than 1m above the level of existing tree canopy or ridgelines or the building rooftops in the townscape
- (A2.2) The Telecommunication Facilities are painted a colour which blends in with the surrounding landscape/townscape.
- (A2.3) Telecommunication Facilities are sited to minimise the potential of over shadowing on adjoining and nearby land uses.
- (A2.4) Telecommunication Facilities are located predominantly in industrial, commercial and rural areas.

The proposed telecommunications facility will extend some 10-15m above the existing tree canopy and will not be consistent with A2.1. It is noted that the pole is reasonably distant from the vegetation along the creek that runs through the property). However, the proposed facility will be consistent with the Performance Criteria by means of the following:

- The proposed facility will not obstruct any significant views or landmarks in the community or vicinity;
- The proposed facility is setback over 300 metres from the closest residential dwelling. This will minimise visual impact on the rural landscape and the vicinity;
- The proposed monopole has been designed to have a slim-line appearance to enable the facility to visually integrate with existing mature vegetation and rural backdrop;
- The proposed monopole is to be located in an area surrounded by tall sugar cane for much of the year obscuring views from nearby roads.

With respect to A2.2, the facility will be colour matched to the area which will effectively blend with the landscape of the area. Conditions have been included to ensure compliance.

With respect to A2.3, given the location and form of the facility, the proposed monopole will not result in overshadowing of residential properties.

With respect to A2.4, the proposed telecommunication facility is located in a rural area which is a preferred location. Impacts on the continued use of the site are considered to be minimal. The use of this part of the lot will not detrimentally affect the agricultural use of the balance site.

With reference to Community Safety A4.1 of the code identifies that emission of light, vibration, smell or radiation beyond the site meets the State and national standards. The applicant has indicated that Optus will operate the facility in compliance with the mandatory standard for human exposure to Electro-magnetic Frequency (EME), using methodology used by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). The EME Report attached in Attachment 3 demonstrates the maximum cumulative EME will

comply with public health and safety guidelines by a significant margin. Based on this, no concerns are raised in relation to community safety.

Vehicle Parking and Access Code

Access to the site will be via an existing access track off Assman Road. The proposed telecommunications facility is self-contained and operates on a continuous unstaffed basis. Once operational, and integrated within the network, the facility typically requires only annual or half-yearly maintenance inspections. However, this would not be for a prolonged period and is not anticipated to be frequent enough to require designated parking spaces. However, there is sufficient space already available that will provide ample parking space if required.

As the proposed development requires minimal car parking and access, the proposed arrangement is considered sufficient. Overall, the proposal is compliant with the code.

Referral Agency Requirements

None applicable.

Public Notification / Submissions

Statutory notification is not required for Code Assessable applications. However, Council requested that voluntary consultation be conducted for properties in the vicinity of the tower as part of its information request. Optus advises that two (2) correspondences were received from residents of Whyanbeel and Optus responded as follows:

- *An email from a land owner at Lot 111 Kingston Road with queries about the specific location of the proposal onsite (and whether or not it may impact on their view), the site selection process and future colocation opportunities for other carriers. We prepared a comprehensive response to the queries and responded via email on 2 February 2017. In our response, we identified that the specific location of the proposal would likely be visually screened by existing vegetation along the creek bank from their vantage point. We have not had any further contact with the land owner.*

- *A phone call from a resident with a strong desire for the proposed facility to go ahead to alleviate very poor mobile reception current available in Whyanbeel. Her feedback was that the pocket of Whyanbeel is almost a black sport for communications and that the facility would be of significant benefit to the local community. She had genuine concerns about communications for emergency services, which the proposal would address. The resident also sought additional information about the proposal and the technology to be implemented. Finally, we sent a copy of the newsletter to her son for review.*

ADOPTED INFRASTRUCTURE CHARGES

The proposed development does not trigger Adopted Infrastructure Charges.

COUNCIL'S ROLE

Council can play a number of different roles in certain circumstances and it is important to be clear about which role is appropriate for a specific purpose or circumstance. The implementation of actions will be a collective effort and Council's involvement will vary from information only through to full responsibility for delivery.

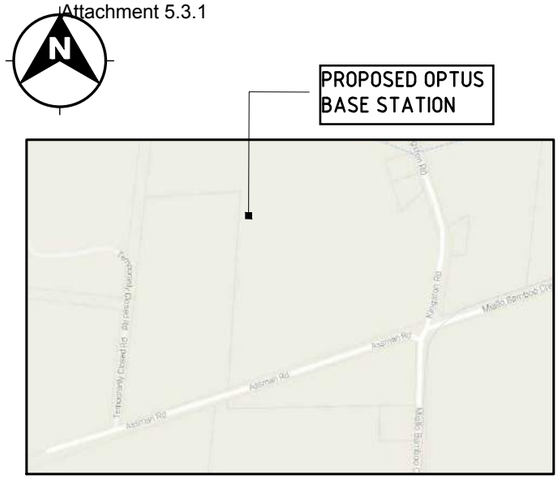
The following area outlines where Council has a clear responsibility to act:

Regulator: Meeting the responsibilities associated with regulating activities through legislation or local law.

Under the *Sustainable Planning Act 2009* and the *Sustainable Planning Regulation 2009*, Council is the assessment manager for the application.

ATTACHMENTS

1. Approved Plan(s) and Document(s) **[5.3.1]**
2. Photomontage of the proposed Telecommunications Facility **[5.3.2]**
3. Supporting Information to Planning Report EME Report **[5.3.3]**
4. Supporting Information to Planning Report - Original Proposal **[5.3.4]**



LOCALITY MAP

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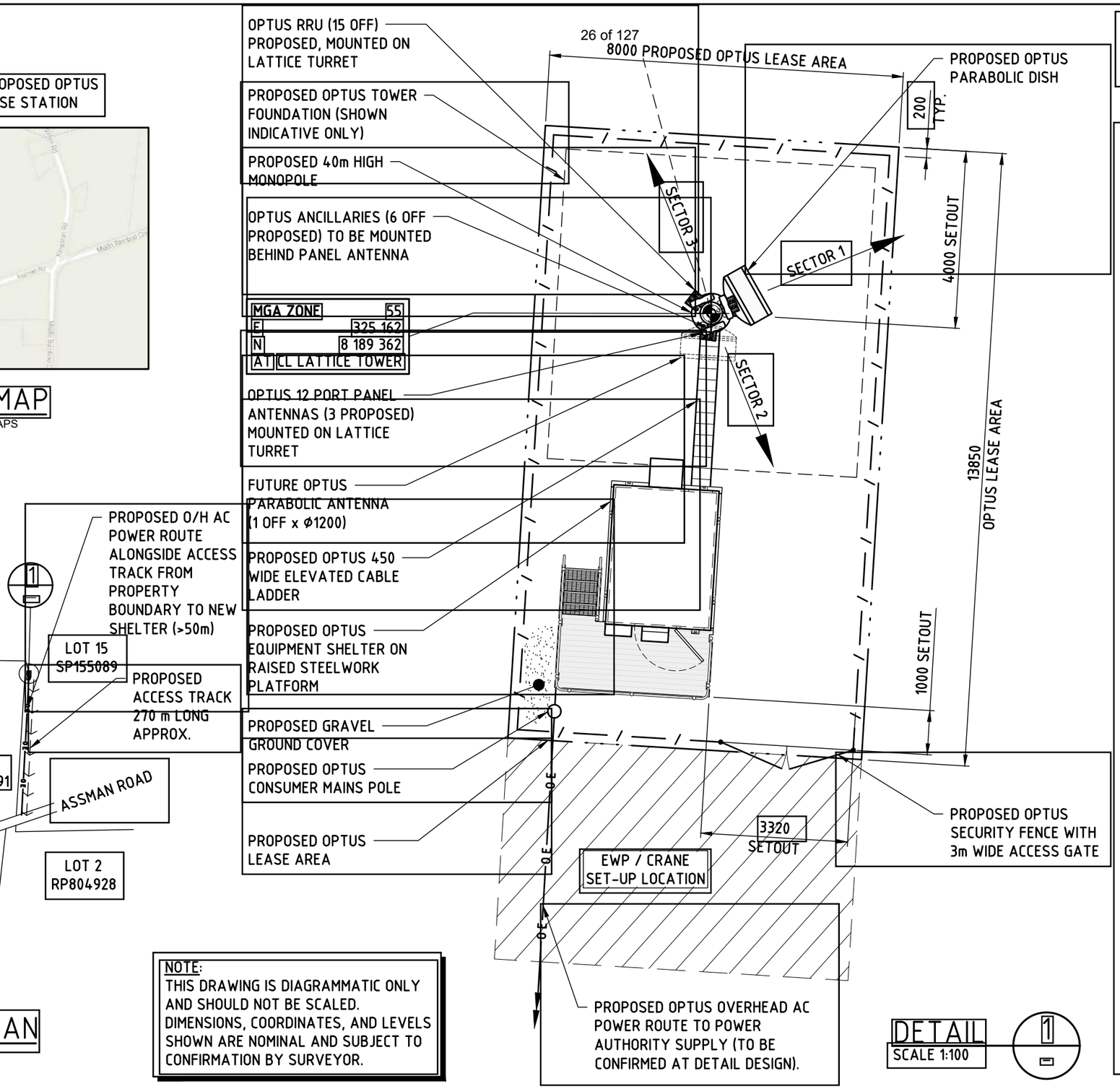

OVERALL SITE PLAN

~~SCALE: 1:10000~~

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

DETAIL 1
SCALE 1:100

SITE ADDRESS:
LOT 15 PLAN 155089 ASSMAN ROAD
WHYANBEEL
QLD 4873

NOTES:

1. **BASIS OF DESIGN**
   - SITE INSPECTION 22/03/2016
2. **PANEL ANTENNAS**
   - 1-OFF PROPOSED 12 PORT ANTENNA PER SECTOR (EACH 2.800m LONG) AT EL 45.00m
   - SECTOR 1 - 70°, SECTOR 2 - 160°, SECTOR 3 - 340°.
   - MOUNTED ON PROPOSED LATTICE TURRET HEADFRAME
3. **TRANSMISSION**
   - ø1200 PARABOLIC ANTENNA AT EL 20m
   - LINK SITE: B0093 PORT DOUGLAS
   - TO BE CONFIRMED BY OPTUS
4. **EQUIPMENT SHELTER**
   - VOS 1.3 (3.15m x 2.38m) SANDWICH PANEL SHELTER, SUPPORTED ON RAISED STEELWORK PLATFORM
   - REQUIRED FLOOR HEIGHT FOR FLOOD LEVELS TO BE DETERMINED AT DETAIL DESIGN
   - PROPOSED SHELTER IS LOCATED IN CYCLONIC REGION C
5. **STRUCTURE**
   - PROPOSED OPTUS 40m HIGH MONOPOLE WITH HEADFRAME AT E.L. 45m
6. **FEEDER CABLES (HYBRID TRUNK CABLE)**
   - 3 x 9/18 TRUNK CABLE
   - LENGTH: 50m ALL SECTORS
   - TO RUN IN 450mm WIDE HORIZONTAL CABLE LADDER & FEEDER BRACKETS UP MIDDLE LEG OF PROPOSED MONOPOLE TO PROPOSED HEADFRAME
7. **SITE ACCESS**
   - VIA PROPOSED ACCESS TRACK FROM ASSMAN ROAD
8. **ANTENNA ACCESS**
   - VIA LADDER & 'LAD-SAF' PROVIDED ON TOWER
9. **POWER SUPPLY**
   - PROPOSED THREE PHASE AC POWER SUPPLY TO BE PROVIDED BY POWER AUTHORITY.
   - AC POWER ROUTE TO BE CONFIRMED AT DETAIL DESIGN.
   - AC POWER MAINS UPGRADE MAY BE REQUIRED TO BE CONFIRMED AT DETAIL DESIGN
   - PROPOSED AC POWER RUN > 50m
10. **OTHER (PAINTING, LANDSCAPING, SCREENING)**
    - EXISTING SHRUBS AND GRASSES TO BE CLEARED AROUND PROPOSED COMPOUND AREA.
    - EWP HARDSTAND AREA TO BE DESIGNED, INSPECTED AND MAINTAINED BY CONTRACTOR PRIOR TO EACH USE.

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
02	20.12.16	LATTICE TOWER CHANGED TO MONOPOLE	OPUS	RP	AP	BC	JH
01	05.07.16	ISSUED FOR APPROVAL	ACOR	LV	LV	LG	AB

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No. B1438
WHYANBEEL
ASSMAN ROAD

Drawing Title: DRAFT SITE LAYOUT

Drawing Status: FOR APPROVAL

Drawing No. B1438-P1

Revision 02

CAD File: P:\BR15\BR150251 Optus Rollout 2015\1035 - B1438 - whyanbeel\Drawings\STR\Drawings\B1438.dwg Date: 19.11.2013 2:33 PM

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Rev	Date	Revision Details	Consultant	CAD Designer	Verifier	Approver
02	20.12.16	LATTICE TOWER CHANGED TO MONOPOLE				
01	15.07.16	ISSUED FOR APPROVAL	ACOR	LV	LV	LG	AB
			OPUS	RP	AP	BC	JH

NOTE:
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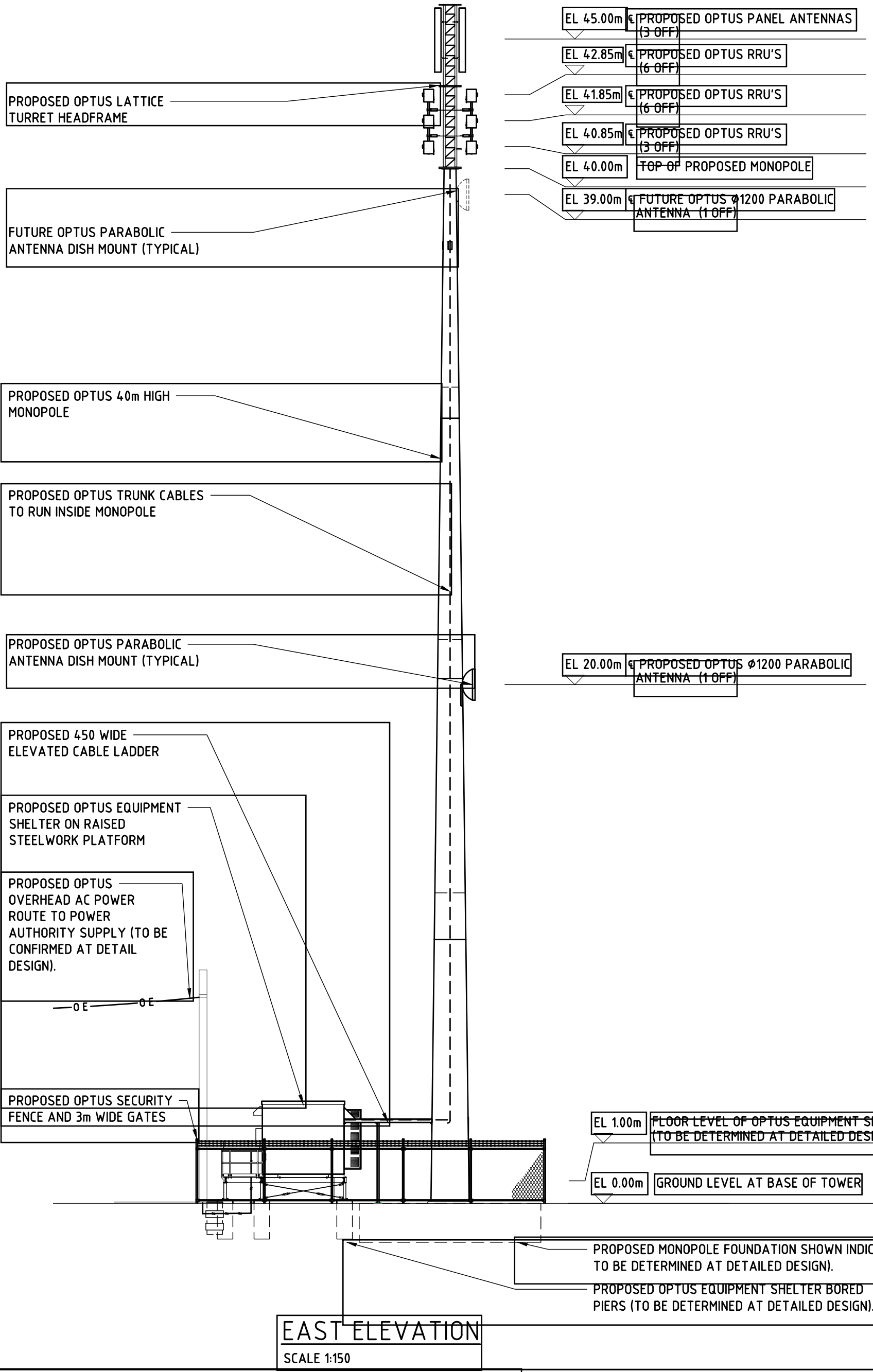

EAST ELEVATION
SCALE 1:150

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No. B1438 WHYANBEEL
ASSMAN ROAD

Drawing Title: DRAFT SITE ELEVATION

Drawing Status: FOR APPROVAL

Drawing No. B1438-P2

Revision 02

20 10 0 10 20 30 40 50mm

A3

CAD File: P:\BR15\BR150251 Optus Rollout 2015\1035 - B1438 - whyanbeel\Drawings\STP\Drawings\B1438.dwg Date: 19.12.2013 2:35:5PM

URBIS

Figure 1 – View of proposed tower facing north on Assman Road.

Environmental EME Report
Kingston Rd, WHYANBEEL QLD 4873

This report provides a summary of Calculated RF EME Levels around the wireless base station

Date 27/9/2016 RFNSA Site No. 4873019

Introduction

The purpose of this report is to provide calculations of EME levels from the existing facilities at the site and any proposed additional facilities.

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Kingston Rd WHYANBEEL QLD 4873 . These levels have been calculated by Huawei using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

The maximum EME level calculated for the proposed systems at this site is 0.25% of the public exposure limit.

The ARPANSA Standard

ARPANSA, an Australian Government agency in the Health and Ageing portfolio, has established a Radiation Protection Standard specifying limits for general public exposure to RF transmissions at frequencies used by wireless base stations. The Australian Communications and Media Authority (ACMA) mandates the exposure limits of the ARPANSA Standard.

How the EME is calculated in this report

The procedure used for these calculations is documented in the ARPANSA Technical Report "Radio Frequency EME Exposure Levels - Prediction Methodologies" which is available at http://www.arpansa.gov.au.

RF EME values are calculated at 1.5m above ground at various distances from the base station, assuming level ground.

The estimate is based on worst-case scenario, including:

- wireless base station transmitters for mobile and broadband data operating at maximum power
- simultaneous telephone calls and data transmission
- an unobstructed line of sight view to the antennas.

In practice, exposures are usually lower because:

- the presence of buildings, trees and other features of the environment reduces signal strength
- the base station automatically adjusts transmit power to the minimum required.

Maximum EME levels are estimated in 360° circular bands out to 500m from the base station.

These levels are cumulative and take into account emissions from all mobile phone antennas at this site.
The EME levels are presented in three different units:

- volts per metre (V/m) – the electric field component of the RF wave
- milliwatts per square metre (mW/m²) – the power density (or rate of flow of RF energy per unit area)
- percentage (%) of the ARPANSA Standard public exposure limit (the public exposure limit = 100%).

Results

The maximum EME level calculated for the proposed systems at this site is 2.62 V/m; equivalent to 18.18 mW/m² or 0.25% of the public exposure limit.

Radio Systems at the Site

There are currently no existing radio systems for this site.

It is proposed that this base station will have equipment for transmitting the following services:

Carrier	Radio Systems
Optus	LTE700 (proposed), WCDMA900 (proposed), WCDMA2100 (proposed), LTE2600 (proposed), LTE1800 (proposed)

Calculated EME Levels

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.

Distance from the antennas at Kingston Rd in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site					
	Existing Equipment			Proposed Equipment		
	Electric Field V/m	Power Density mW/m²	% ARPANSA exposure limits	Electric Field V/m	Power Density mW/m²	% ARPANSA exposure limits
0m to 50m				2.028	10.91	0.14%
50m to 100m				1.93	9.89	0.13%
100m to 200m				1.34	4.78	0.065%
200m to 300m				2.59	17.8	0.25%
300m to 400m				2.62	18.18	0.25%
400m to 500m				2.38	14.97	0.21%
Maximum EME level				2.62	18.18	0.25
				314.55 m from the antennas at Kingston Rd		

Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest that have been identified through the consultation requirements of the Communications Alliance Ltd Deployment Code C564:2011 or via any other means. The calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Additional Locations	Height / Scan relative to location ground level	Maximum Cumulative EME Level All Carriers at this site Existing and Proposed Equipment		
		Electric Field V/m	Power Density mW/m²	% of ARPANSA exposure limits
No locations identified				

RF EME Exposure Standard

The calculated EME levels in this report have been expressed as percentages of the ARPANSA RF Standard and this table shows the actual RF EME limits used for the frequency bands available. At frequencies below 2000 MHz the limits vary across the band and the limit has been determined at the Assessment Frequency indicated. The four exposure limit figures quoted are equivalent values expressed in different units – volts per metre (V/m), watts per square metre (W/m²), microwatts per square centimetre (µW/cm²) and milliwatts per square metre (mW/m²). Note: 1 W/m² = 100 µW/cm² = 1000 mW/m².

Radio Systems	Frequency Band	Assessment Frequency	ARPANSA Exposure Limit (100% of Standard)
LTE 700	758 – 803 MHz	750 MHz	37.6 V/m = 3.75 W/m² = 375 µW/cm² = 3750 mW/m²
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m = 4.50 W/m² = 450 µW/cm² = 4500 mW/m²
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m = 4.50 W/m² = 450 µW/cm² = 4500 mW/m²
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m = 9.00 W/m² = 900 µW/cm² = 9000 mW/m²
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m = 10.00 W/m² = 1000 µW/cm² = 10000 mW/m²
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m = 10.00 W/m² = 1000 µW/cm² = 10000 mW/m²
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m = 10.00 W/m² = 1000 µW/cm² = 10000 mW/m²
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m = 10.00 W/m² = 1000 µW/cm² = 10000 mW/m²

Further Information

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) is a Federal Government agency incorporated under the Health and Ageing portfolio. ARPANSA is charged with responsibility for protecting the health and safety of people, and the environment, from the harmful effects of radiation (ionising and non-ionising).

Information about RF EME can be accessed at the ARPANSA website, http://www.arpansa.gov.au, including:

- Further explanation of this report in the document “Understanding the ARPANSA Environmental EME Report”
- The procedure used for the calculations in this report is documented in the ARPANSA Technical Report; “Radio Frequency EME Exposure Levels - Prediction Methodologies”
- the current RF EME exposure standard
  Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), 2002, ‘Radiation Protection Standard: Maximum Exposure Levels to Radiofrequency Fields — 3 kHz to 300 GHz’, Radiation Protection Series Publication No. 3, ARPANSA, Yallambie Australia.
  [Printed version: ISBN 0-642-79400-6 ISSN 1445-9760] [Web version: ISBN 0-642-79402-2 ISSN 1445-9760]

The Australian Communications and Media Authority (ACMA) is responsible for the regulation of broadcasting, radiocommunications, telecommunications and online content. Information on EME is available at http://emr.acma.gov.au

The Communications Alliance Ltd Industry Code C564:2011 ‘Mobile Phone Base Station Deployment’ is available from the Communications Alliance Ltd website, http://commsalliance.com.au .

Contact details for the Carriers (mobile phone companies) present at this site and the most recent version of this document are available online at the Radio Frequency National Site Archive, http://www.rfnsa.com.au.

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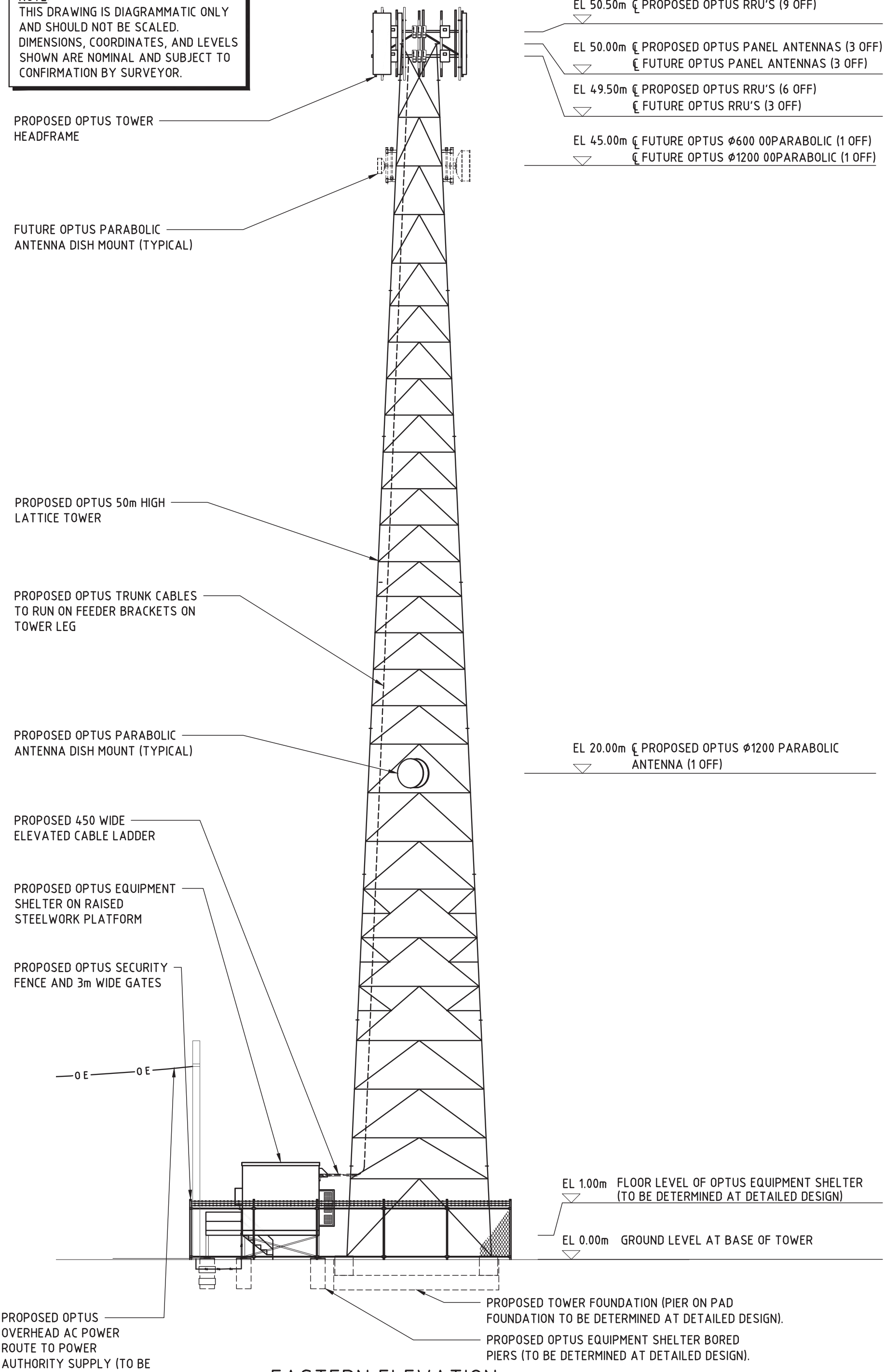
Rev	Date	Revision Details	Consultant	CAD Designer	Verifier	Approver
01	05.07.16	ISSUED FOR APPROVAL	ACOR	LV	LG	AB

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



EASTERN ELEVATION

SCALE 1:150

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Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No. B1438 WHYANBEEL
ASSMAN ROAD

Drawing Title: DRAFT SITE ELEVATION

Drawing Status: FOR APPROVAL

Drawing No. B1438-P2

Revision 01

20 10 0 10 20 30 40 50mm

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