SUMMARY

Proposal	Optus propose to install a new mobile base station facility at Lot 5241 Stanton Road, Boyup Brook. The proposal comprises of the following: • Installation of a 61-metre-high mast with supporting guy wires; • Installation 3 x panel antennas (no more than 2.8m in length) and 12 x remote radio units (RRUs) to be installed at the top of the mast at 58m and 59m; • Installation of a 2-Bay Outdoor Thermo Cabinet (OTC) at ground level adjacent to the mast; • Installation of a 1800mm dish mounted on the mast at a height of 43m; • A security fence around the base of the monopole and equipment cabinets, and • Installation of ancillary equipment associated with operation of the facility including; cabling, ladders, safe access methods, bird proofing, earthing and electrical works.	
Purposes	The proposed facility is necessary for Optus to provide mobile and data services to Boyup Brook and the surrounding areas.	
Property Details	Legal property description: Lot 5241 P 81743 Street Address: Lot 5241 Stanton Road, Boyup Brook	
Town Planning Scheme	Council: Shire of Boyup Brook Zone: Rural Principal Designated Use: Rural	
	Shire of Boyup Brook Town Planning Scheme no. 2	Yes
Application	Use and development of the land for the construction & operation of a mobile base station.	
Applicant	Optus c/- CommPlan Contact: Edwina Ross (02) 9363 3815 edwinar@commplan.com.au Our Ref: Boyup Brook	

INTRODUCTION

Mobile telecommunications plays a central role in society and is becoming increasingly integrated into our day-to-day lives. It shapes how people communicate, access information and complete daily tasks. 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.

As such, the demand for effective telecommunications services and infrastructure has increased considerably. An increasing number of people are demanding more mobile services from more locations nationwide. People are also demanding for coverage to be uninterrupted while they move around the country.

To cater for the growing demand for mobile services, Optus has embarked on a nationwide rollout to deliver an improved, reliable telecommunications network to the Australian public. The rollout will provide improved mobile coverage and enhanced services in metropolitan, regional and rural areas throughout Australia. This rollout consists of the upgrade of existing telecommunications facilities and where required the installation of new mobile base station's to expand the coverage footprint and offer seamless mobile services.

BACKGROUND

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

A mobile base station is a facility that provides mobile coverage 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 a 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 microwave or fibre.

Mobile phones work by sending and receiving low power radio signals, much like a 2 way radio system. The signals are sent to 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 networks.

Purpose of the proposal

Additional mobile base stations are required where surrounding facilities cannot provide sufficient coverage to a target area due to distance limitations. New facilities are also required when existing base stations are fully utilised and cannot serve further users in the area.

Optus has undertaken analysis of their mobile network in Boyup Brook and surrounding suburbs, identifying areas where coverage and network quality needs to be improved. If this investment is not made, two main issues will arise:

1. Users may have difficulty connecting to the mobile network or the call may drop out. This impacts businesses, residents and visitors to the area and the ability of users to contact emergency services.

2. Users may experience reduced data speeds, longer download times and poor network performance at busy times of the day with data intensive and time sensitive applications (e.g. newscasts, social media, mobile banking, weather forecasts, sports highlights etc.) due to the available capacity being shared across too many customers.

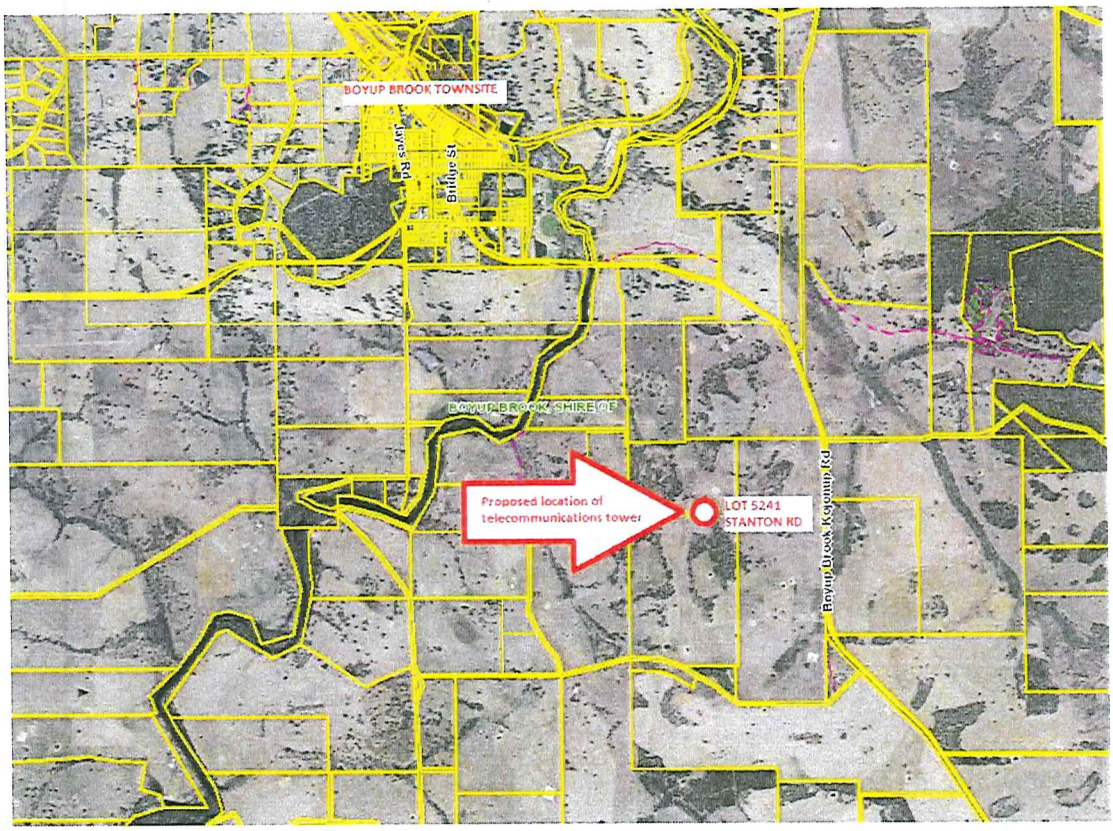
Once Optus identified the need for improved network performance, the optimisation of existing Optus facilities throughout the region was explored and undertaken where required. In some cases, this option resolves network deficiencies in an area. However, in this situation the optimisation of surrounding facilities has not been able to achieve a satisfactory outcome for the network within, and surrounding, Boyup Brook.

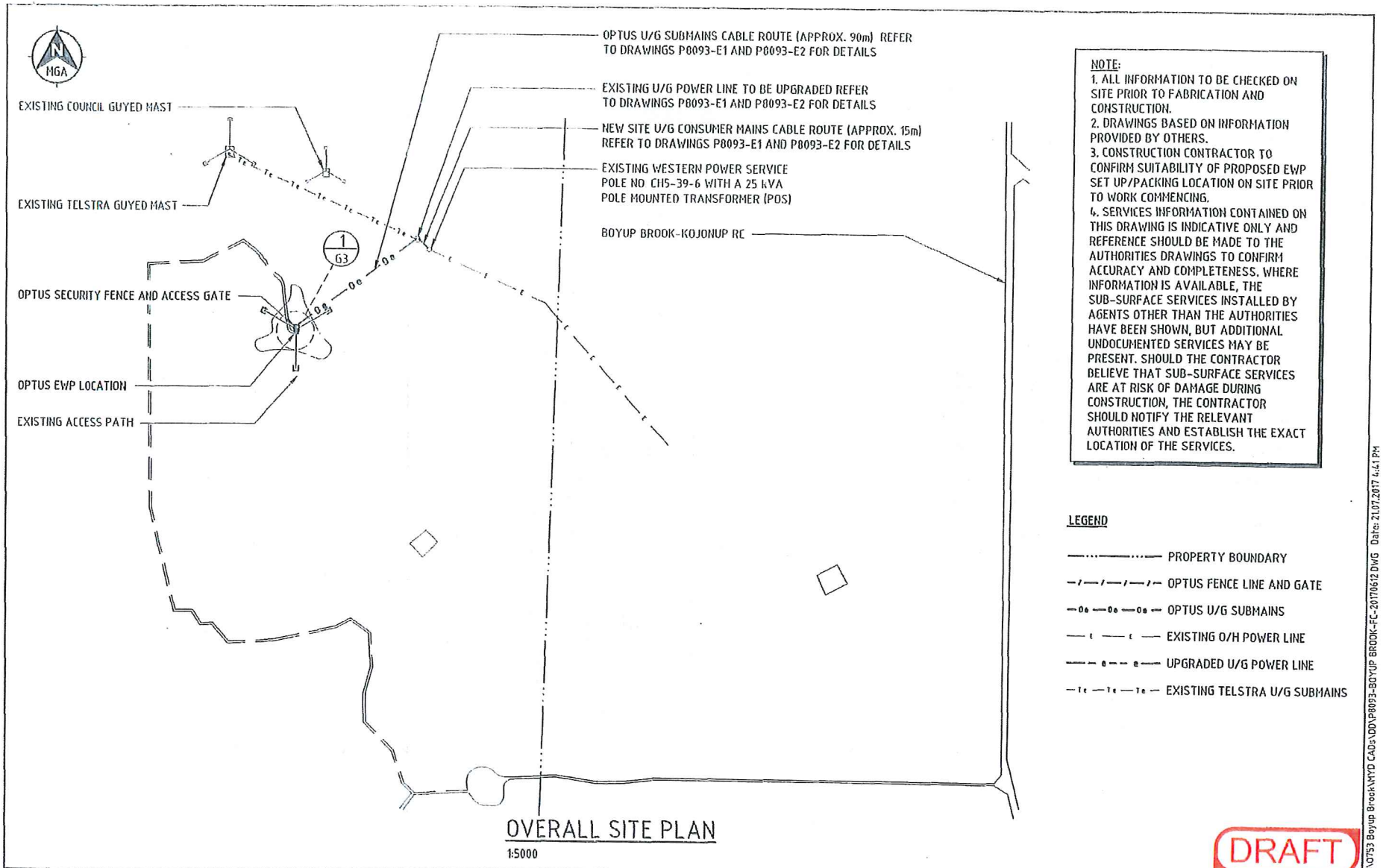
Optus has undertaken investigations into the use of other carrier and broadcast facilities within the area. However, in this case existing facilities were not deemed as suitable. As such it was concluded that the deployment of a new Optus mobile base station within Boyup Brook is the only viable solution.

PROPOSAL SUMMARY

In general terms, the proposed development will comprise the installation of new 60m mast with associated support wires, antennas and equipment housing sited on the ground. The proposed facility is located in a large rural paddock adjacent to an existing Telstra mast. The location for the facility is at a hilltop and approximately 800m from the nearest road. Existing tall trees and shrubs are scattered throughout the paddock.

A map of the property and surrounding area is provided in the figure following:


BOYUP BROOK TOWNSITE
Jayes Rd
Bridge St
BOYUP BROOK SHIRE OF
Proposed location of telecommunications tower
LOT 5241
STANTON RD
Boyup Brook Kojonup Rd



OVERALL SITE PLAN

1:5000

NOTE:
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/PACKING 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 THE 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.

LEGEND

- PROPERTY BOUNDARY
- OPTUS FENCE LINE AND GATE
- OPTUS U/G SUBMAINS
- EXISTING O/H POWER LINE
- UPGRADED U/G POWER LINE
- EXISTING TELSTRA U/G SUBMAINS

DRAFT

Rev	Date	Revision Details	Drawn	CAD	Designed	Verified	Approved
A	12.07.17	ISSUED FOR CONSTRUCTION	HYD	OA	DA	RS	PH

HUAWEI

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- P8093
BOYUP BROOK
BOYUP BROOK- KOJONUP ROAD

Drawing Title: OVERALL SITE PLAN

Drawing Status: FOR CONSTRUCTION

Drawing No.: P8093-G2

Revision: A

CAD File: T:\Optus Jobs\0753 Boyup Brook\MYD CADs\DD\P8093-BOYUP BROOK-FC-20170612.DWG Date: 21.07.2017 4:41 PM

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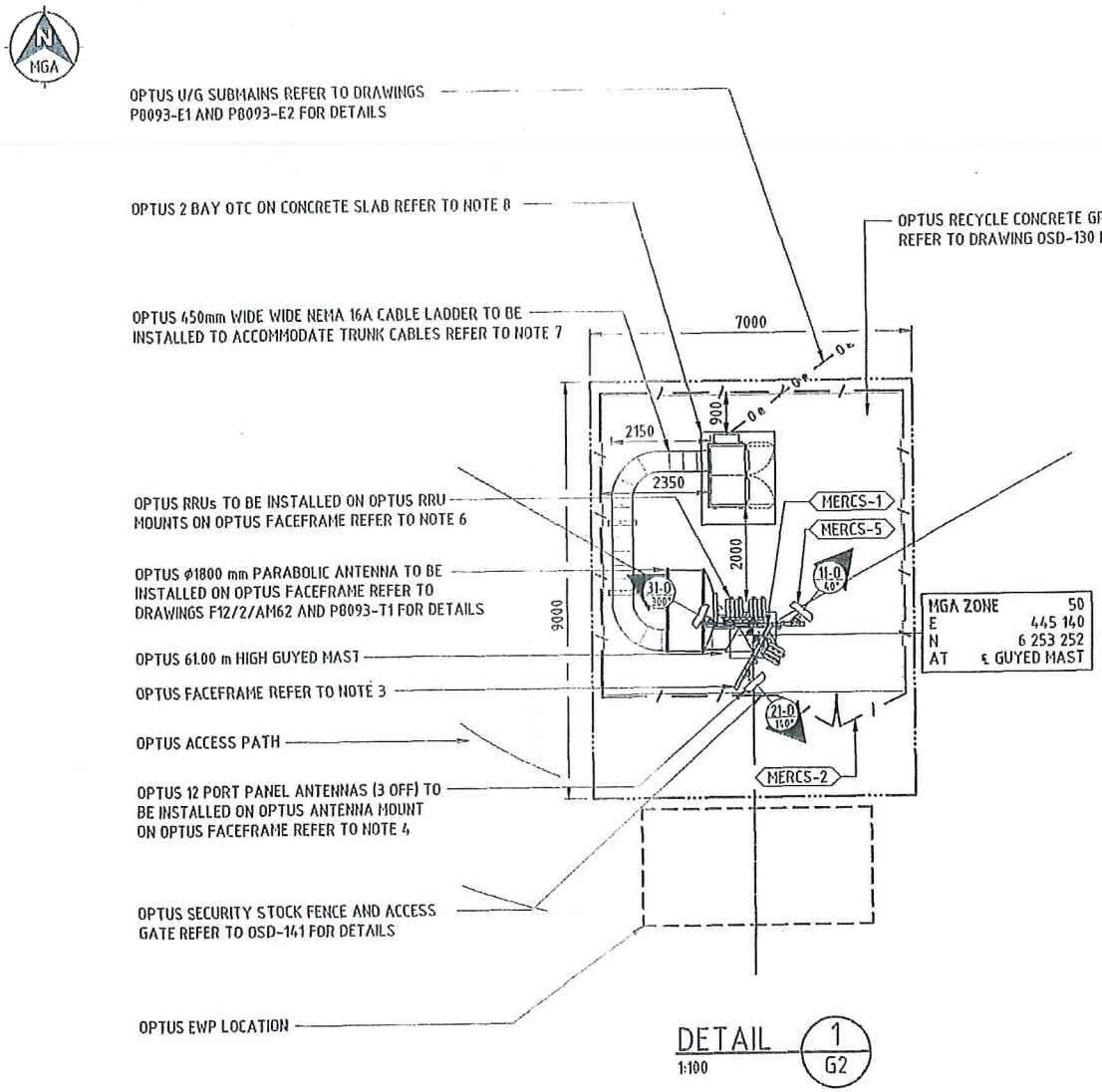


DETAIL 1 / G2
1:100

LEGEND

10 AZI

NEW

OPTUS LEASE AREA

OPTUS FENCE LINE AND GATE

OPTUS U/G SUBMAINS

EXISTING O/H POWER LINE

UPGRADED U/G POWER LINE

EXISTING TELSTRA U/G SUBMAINS

NOTES:

1. REFER TO DRAWING P8093-A1 FOR ANTENNA SYSTEM CONFIGURATION.
2. REFER TO DRAWING P8093-T1 FOR SITE TRANSMISSION DETAILS.
3. OPTUS FACE FRAME TO BE INSTALLED ON OPTUS GUYED MAST, REFER TO DRAWINGS J2630/3/P8093, F1/1/SN AND J2630/1/P8093 FOR DETAILS.
4. OPTUS PANEL ANTENNAS (3 OFF) (HUAWEI ASI4517R1) TO BE INSTALLED ON OPTUS ANTENNA MOUNTS ON OPTUS FACEFRAME REFER TO DRAWING J2630-P8093/2/AM FOR DETAILS.
5. OPTUS DIPLEXERS TO BE INSTALLED ON OPTUS ANTENNA MOUNTS BEHIND OPTUS ANTENNAS.
6. OPTUS RRUs (6 OFF - 2 OFF PER SECTOR) AND OPTUS FUTURE RRUs (6 OFF - 2 OFF PER SECTOR) TO BE INSTALLED ON OPTUS FACEFRAME REFER TO DRAWING J2630-P8093/2/AM.
7. OPTUS HYBRID TRUNK CABLE (2 OFF) (6/12) TO BE INSTALLED INSIDE OPTUS 450mm WIDE NEMA 16A CABLE LADDER REFER TO DRAWINGS OSD-510 AND HW-STD-580 FOR DETAILS.
8. OPTUS 2 BAY OTC TO BE INSTALLED ON OPTUS SLAB FOOTING REFER TO HW-STD-250 FOR DETAILS. (2000x1600x300)

DRAFT

Rev	Date	Revision Details	HYD	DA	DA	RS	FH
A	12.07.17	ISSUED FOR CONSTRUCTION					

HUAWEI

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:- P8093
BOYUP BROOK
BOYUP BROOK- KOJONUP ROAD

Drawing Title: SITE LAYOUT AND SETOUT PLAN

Drawing Status: FOR CONSTRUCTION

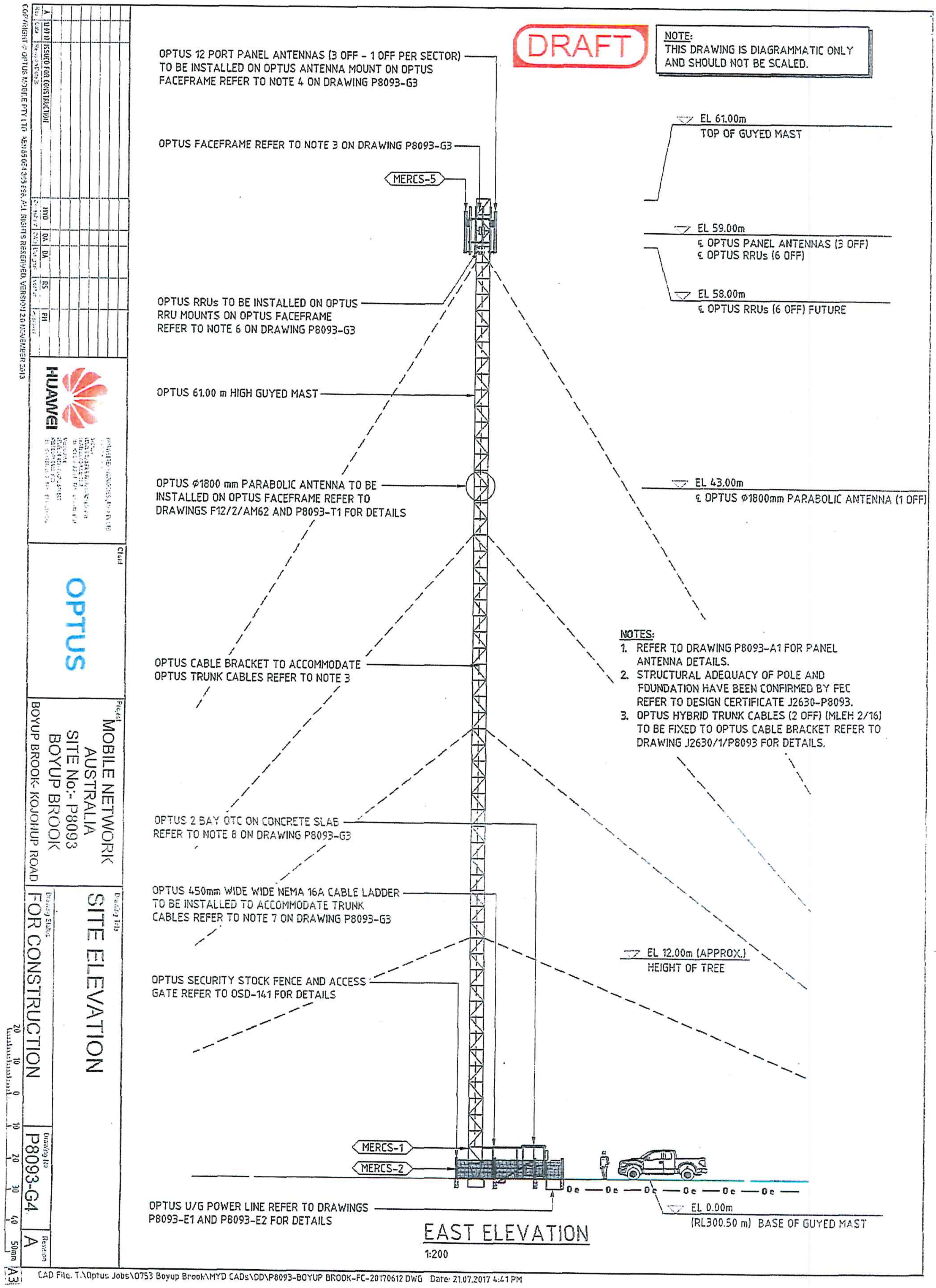
Drawing No: P8093-G3

Revision: A

20 10 0 10 20 30 40 50mm

A3

CAD File: T:\Optus Jobs\0753 Boyup Brook\MYD CADs\VDD\P8093-BOYUP BROOK-FC-20170612.DWG Date: 21.07.2017 4:41 PM



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