	<p align="center"><b>FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</b></p> <p align="center"><b>AGENDA</b></p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 23 Nov 2015  9.14.1 Page 1 of 12</p>
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## FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL

# NOTICE OF MEETING

**NOTICE** is hereby given that an Ordinary Meeting of the Flinders Regional Development Assessment Panel will be held as follows:

**Time:** 1pm

**Date:** Monday 23<sup>rd</sup> November 2015

**Venue:** Council Chambers  
District Council of Orroroo Carrieton  
12 Second Street,  
Orroroo, SA 5431

\* \* \* \* \*

- Site Inspection in relation to DA 830/082/15 – District Council of Mount Remarkable  
Please meet at Wilds Road, Wirrabara at 10.30am
- Site Inspection in relation to DA 830/044/15 – Trevor & Evelyn Bertrand  
Please meet at 25 High Street, Wirrabara at 10.55am
- Site Inspection in relation to DA 830/081/15 – Aurecon Australia Pty Ltd  
Please meet at 41 Crew Road, Wirrabara at 11.20am
- Site Inspection in relation to DA 502/019/15 – NBN Co Pty Ltd  
Please meet at 24 Fourth Street, Orroroo at 12.30pm

.....  
**Peter McGuinness**  
**Public Officer**

.....  
**Date**

	<p style="text-align: center;"><b>FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</b></p> <p style="text-align: center;"><b>AGENDA</b></p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 23 Nov 2015 9.14.1 Page 2 of 12</p>
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## AGENDA & REPORTS

FOR THE MEETING BEING HELD  
MONDAY 23<sup>RD</sup> NOVEMBER 2015 AT 12.30PM

**1. PRESENT:**

**2. APOLOGIES:**

**3. DECLARATIONS OF INTEREST:**

**4. CONFIRMATION OF MINUTES:**

**4.1 ORDINARY MEETING - Held 23<sup>rd</sup> September 2015**

A copy of the Minutes from the Meeting (as previously circulated) are attached for the reference of Panel Members.

***Recommendation:***

**That** the Minutes of the Ordinary Meeting of the Flinders Regional Development Assessment Panel held on 23<sup>rd</sup> September 2015 as circulated, be confirmed.

**5. BUSINESS ARISING FROM MINUTES:**

**NIL**

**MINUTES**  
**MEETING BEING HELD**  
**WEDNESDAY 23<sup>RD</sup> SEPTEMBER 2015 AT 12.00PM**  
**IN THE COUNCIL CHAMBERS OF**  
**THE FLINDERS RANGES COUNCIL, 1 SEVENTH STREET, QUORN**

**1. PRESENT:**

*Members:*

Ms Shanti Ditter (Presiding Member);  
Cr Garry Thompson;  
Cr Frank Hardbottle &  
Cr Colin Nottle

*In Attendance:*

Mr Peter McGuiness (Public Officer);  
Mr Colin Davies (CEO The Flinders Ranges Council);  
Mr Tom Hateley (Planning Consultant, Access Planning);  
Ms Lynette Brandwood (Planning Consultant, Prime Planning);  
Mr Tung Pham (Development Officer, The Flinders Ranges Council);  
Ms Sally Kent (Minute Secretary)

*Members of the Public:*

Mr Robert & Ms Wendy Brown (Applicant – RoweSA)  
Ms Sarah Cassells (Representor – RoweSA)  
Mr Dwayne & Ms Toni Crombie (Representor – RoweSA)

**2. APOLOGIES:**

Cr Ralph Goehring

**3. DECLARATIONS OF INTEREST:**

**NIL**

**4. CONFIRMATION OF MINUTES:**

**4.1 ORDINARY MEETING - Held 3<sup>rd</sup> November 2014**

**Moved Cr F Hardbottle, Seconded Cr G Thompson**

**That** the Minutes of the Ordinary Meeting of the Flinders Regional Development Assessment Panel held on 3<sup>rd</sup> November 2014 as circulated, be confirmed.

**CARRIED**

**5. BUSINESS ARISING FROM MINUTES:**

**NIL**

## 6. APPLICATIONS FOR CONSIDERATION:

### 6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

#### 6.1.1 DA 830/017/15 – Chris Phillips, Pepper Planes Co Pty Ltd – Aeroplane Landing Area

An inspection of the area was undertaken by Panel Members prior to the meeting.

The Applicant, Mr Chris Phillips, along with Mr Tom Hateley, of Access Planning were on-site to provide advice on the proposal to Members.

Details of the application for an airstrip and associated taxiways at Sections 364-369, 372-376 and 378 Hundred of Willochra were included in the Agenda papers for the meeting.

Panel Members were able to ask the Applicant questions in relation to the application, in addition to Mr Phillips explaining the idea and reasons behind the proposal.

#### **Moved Cr C Nottle, Seconded Cr G Thompson**

**That** Development Application 830/017/15 for an airstrip and associated taxiways at Sections 364-369, 372-376 and 378 Hundred of Willochra is **not** seriously at variance with the District Council of Mount Remarkable's Development Plan, Consolidated 5<sup>th</sup> September 2013.

and

That Development Plan Consent be **granted** to Development Application 830/017/15 for an airstrip and associated taxiways at Sections 364-369, 372-376 and 378 Hundred of Willochra, subject to the following conditions:

1. The development shall proceed in accordance with the plans and details submitted with and forming part of Development Application No. 830/017/15.
2. The boundaries of the airstrip and taxiways shall be fenced. Fencing shall consist of post and wire and constructed to a minimum height of 1.2 metres. All fencing shall be completed prior to the use of the airstrip and taxiways.

**CARRIED**



## 6.2 THE FLINDERS RANGES COUNCIL (FRC)

### 6.2.1 DA 7400020/15 – ROWESA Pty Ltd – Motel and Conference Centre

Details of the application to construct a motel and conference centre (comprised of 4 two storey buildings and 2 split level buildings, associated driveways and car parking, fencing, landscaping and signage) at Lots 101, 102, 103 & 114 First & Seventh Streets, Quorn were included in the Agenda papers to the meeting. Details of Representors' concerns were also included in the Agenda Report.

An inspection of the site and surrounding area was undertaken by Panel Members prior to the meeting, along with Planning Consultant Ms Lynette Brandwood of Prime Planning and Mr Tung Pham, FRC Development Officer, who were able to answer questions raised by Panel Members.

Ms Brandwood explained the layout of the site and the amendments that have been made to the application in relation to privacy of the neighbouring properties, ie fencing, landscaping and screening since it was originally submitted to Council for consideration. Ms Brandwood also explained the connection between Emily's Bistro and the proposal, and clarified for Members that Emily's Bistro, which is a licensed premises, would be the suppliers of food and drink for the patrons using the motel and conference facilities.

The Panel Members also viewed the area where bus and coaches would be parked.


Ms Ditter introduced the item to the meeting by explaining that Members of the panel had visited the site, and had read the Agenda Report that had been prepared by Council's staff. She then advised the gallery that there were Representors who had indicated their desire to be heard at the meeting. Representors were advised that they had five (5) minutes to make their representation which could be followed by questions of clarification by Panel Members. The applicant was advised that following the hearing of representors, they too would be allowed five (5) minutes to speak in support of their application.

Ms Ditter then invited Mr Dwyane Crombie to speak.

### 12.07pm – Mr Dwayne Crombie, Representor was permitted to address the Panel

Mr Crombie, outlined his concerns with the proposal, being the owners of 51 First Street, Quorn, on an adjoining boundary of the development:

- The zoning of Lot 103 was enquired about with The Flinders Ranges Council when purchasing their house in 2009, and were informed that it would only be used as a residential dwelling.
- Would not have bought their house knowing a high density development could be approved, as it has a significant impact on their home, and felt they followed the correct procedures before buying.
- Appreciate the changes made by the Applicant to their Representation, and are not wholly against the development.
- Would like the boundary fence to be built first before construction begins to shelter them from the construction site.
- High vegetation and landscaping is a concern, especially leaf drop on their side of the fence and in particular in to their gutters, which are difficult to access.
- Object to 2 fences along the boundary as this would be a litter catchment area, plus would encourage vermin and snakes.
- Plans provided to them for viewing regarding the development were limited.
- They will be obtaining an Engineer's Report on their home prior to the commencement of the development.
- Would like to be reassured that the facility will not be used for any other type of accommodation.

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- Would like the development scaled down.
- Sympathetic to development in the town, but are concerned about the design undermining the 19<sup>th</sup> Century streetscape and town's character.

Ms Ditter sought clarification from Mr Crombie regarding the double fence, to which Mr Crombie advised that there would be two fences constructed abutting one another.

Following no further questions, Ms Ditter invited Ms Sarah Cassells to speak.

#### **12.15pm – Ms Sarah Cassells, Representor was permitted to address the Panel**

Ms Cassells outlined her concerns with the proposal, being the owner of 6 Seventh Street, Quorn, on an adjoining boundary of the development:

- Zoning and the impact of the development upon existing land users, including privacy issues.
- Noise associated with the development, especially being linked to Emily's Bistro which has a license until midnight, and returning patrons to the motel at that time, compared to the quiet and uneventful evenings at present.
- Vehicle fumes, light spill and cigarette smells.
- Driveway on Seventh Street is too narrow, and 4WD will need to make a wide turn which will cause vehicle headlights to shine in the bedroom window at the front of their property.
- Potential damage to neighbouring properties during construction, especially whilst excavating.
- Existing drinking water storage is along the boundary fence and may become contaminated.
- Doors and windows will need to be kept closed on their property, along with usage of their garden and verandah being affected.
- Amendments presently made to the application are not sufficient to meet their grievances.

Following no further questions, Ms Ditter invited Ms Wendy Brown (the Applicant) to speak.

#### **12.23pm – Ms Wendy Brown, Applicant was permitted to address the Representors' concerns and explain why the application should be approved**

Ms Brown advised the following:

- Amendments have been made to the application in response to the representations.
- The development is proposed in the main and busiest street and commercial hub of Quorn.
- 3 architects have been used to keep the development in line with the town's heritage, and are considering the neighbours at all times.
- The conference centre has been located in the middle of the development to reduce the disruption as much as possible.
- The Art Gallery and Mens' Shed have signage in residential areas.
- The Lot is presently derelict.
- Groups, including film crews have indicated that there is currently not enough accommodation in town.
- Noise levels at Emily's Bistro have been maintained at all times, and there have been no issues to date. No changes proposed to hours.
- Minimum 31 rooms are needed to attract bus companies, and so the application can't be reduced in size.
- The development will be appropriately fenced and is a non-smoking environment.
- They would like to remove the neighbour's boundary fence, and erect one fence which will be of a height so that people cannot look over.
- It is an opportunity to bring employment and revenue to the town and is an opportunity for the community.

Panel Members engaged in discussion with the Applicant and Representors:

- Issue of 2 fences on the boundary with 51 First Street. Applicant to communicate with the Representors to address this issue, and remove the Representor's fence.
- Noise relating to Emily's Bistro, the function centre and motel residents.
- Height of vegetation.
- Building rules consent.

The Presiding Member noted that condition number 7 of the recommendation addressed the issue of landscaping, and condition number 10 addressed the noise issue.

It was recommended to the Applicant to seize the opportunity to address some of these issues and communicate with the neighbouring occupants, especially in regards to landscaping, fencing and noise control.

### **Moved Cr F Hardbottle, Seconded Cr G Thompson**

**That** Development Application 7400080/15 that seeks to construct a motel and conference centre (comprised of 4 two storey buildings and 2 split level buildings, associated driveways and car parking, fencing, landscaping and signage) at Lots 101, 102, 103 & 114 First & Seventh Streets, Quorn is sufficiently in accord and **not** seriously at variance with The Flinders Ranges Council's Development Plan, Consolidated 20<sup>th</sup> June 2013.

and

That Development Plan Consent be **granted** to Development Application 7400020/15 by ROWESA Pty Ltd for the construction of a conference centre, motel and associated car parking at Allotments 101, 102, 103 First Street and Allotment 114 Seventh Street, Quorn SA 5433, subject to the following conditions:

1. That except where minor amendments may be required by other relevant Acts, or by conditions imposed by this application, the development shall be established in strict accordance with the details and plans, including the amended plans as submitted in development application number 740/0020/15.
2. All car parks, driveways and vehicle manoeuvring areas shall conform to Australian Standards and be constructed, drained and paved with bitumen, concrete or paving bricks in accordance with sound engineering practice and appropriately line marked. All construction work shall be completed prior to occupation or use of the development herein approved to the reasonable satisfaction of Council.
3. The final parking layout, manoeuvring and access areas, vehicular entry points and accessible car parking spaces shall be designed and constructed in accordance with Australian/New Zealand Standards 2890.1:2004 and 2890.6:2009.
4. The carpark shall be designed in accordance with the requirements of the *Disability Discrimination Act (DDA) 1992* and AS1428
5. Vehicle crossovers shall be designed, located and constructed to Council's reasonable requirements at the applicant's expense. All construction work shall be completed prior to occupation or use of the development herein approved to the reasonable satisfaction of Council.
6. The privacy screening identified in the amended plans will be designed to prevent views below horizontal. The screening will be permanently fixed louvered privacy screening to a height of no less than 1.6 metres from finished floor level. All construction/installation work shall be completed prior to occupation or use of the development herein approved to the reasonable satisfaction of Council.

7. A detailed landscaping plan specifying the species and location of plantings on the site shall be provided for the approval of Council prior to final Development Approval. The establishment of all landscaping shall be undertaken within 3 months of the completion of the building / development works and thereafter shall be maintained in good health and condition to the satisfaction of Council. Any dead or diseased plants or trees should be replaced to the reasonable satisfaction of Council.

8. That the development and the site shall be maintained in a serviceable condition and operated in an orderly and tidy manner at all times.

9. All waste and other rubbish shall be stored in covered containers prior to removal and shall be kept screened from public view.

10. Prior to the issue of Development Plan Consent, a report shall be prepared and submitted by a suitably qualified acoustic engineer, which shall demonstrate to the satisfaction of Council that noise emissions, including but not limited to noise from mechanical plant and equipment and noise generated by service vehicles will comply with the relevant environmental noise legislation.

11. Air-conditioning plant and equipment shall be noise attenuated in accordance with the *Environment Protection (Noise) Policy 2007*.

12. Lighting of the site, including car parking areas and buildings, shall be designed and constructed to conform with Australian Standards and must be located, directed and shielded and of such limited intensity that no nuisance or loss of amenity is caused to any person beyond the site.

13. Ancillary activities such as deliveries, collection, movement of private waste bins / goods / bottles and the like shall not occur:

13.1 Between 8.00pm – 8.00am Monday to Saturday and

13.2 Between 8.00pm – 10.00am on a Sunday and public holiday


14. All stormwater design and construction shall be in accordance with Australian Standards and recognised engineering best practices to ensure that stormwater does not adversely affect any adjoining property or public road, to the satisfaction of Council. All construction work shall be completed prior to occupation or use of the development herein approved to the reasonable satisfaction of Council.

15. The development shall be provided a wastewater control system to the satisfaction of Council's Environmental Health Officer, in accordance with the *SA Public Health (Wastewater) Regulations 2013*, prior to commencement of construction. All construction work shall be completed prior to occupation or use of the development herein approved to the reasonable satisfaction of Council

16. That an appropriate Construction Environment Management Plan (CEMP) which addresses the mitigation or minimisation of impacts (especially from noise and dust) during the construction phase shall be prepared and implemented. Dust generated by machinery and vehicular movement during site works, and any open stockpiling of soil or building materials at the site, must be suppressed to ensure that dust generation does not become a nuisance off-site. Site development machinery should generally not be operated outside the hours of 7.00am to 6.00pm daily.

17. The final selection of colours and materials shall be provided to the satisfaction of Council in consultation with the Department of Environment, Water & Natural Resources.

**CARRIED**

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**6.3 DISTRICT COUNCIL OF PETERBOROUGH** **NIL**

**6.4 DISTRICT COUNCIL OF ORROROO CARRIETON** **NIL**

## **7. ANNUAL REPORT:**

### **7.1 2014-2015 Annual Report**

The 2014-2015 Annual Report was circulated with the Agenda Report.

**Moved Cr C Nottle, Seconded Cr G Thompson**

**That** the Flinders Regional Development Assessment Panel Annual Report for 2014-2015 be received. **CARRIED**

## **8. OTHER BUSINESS:**

**8.1 THE FLINDERS RANGES COUNCIL** **NIL**

**8.2 DISTRICT COUNCIL OF MOUNT REMARKABLE** **NIL**

**8.3 DISTRICT COUNCIL OF ORROROO CARRIETON** **NIL**

**8.4 DISTRICT COUNCIL OF PETERBOROUGH** **NIL**

Peter McGuinness advised that an application is near to obtaining all the necessary information for an application to be considered before the Flinders Regional Development Assessment Panel at a future meeting but was unable to confirm a timeframe.

### **8.5 REVIEW OF DELEGATED POWER & FUNCTION**

As per Clause 13 of the Terms of Reference for the Flinders Regional Development Assessment Panel, *the constituent councils must review annually the delegated powers and function of the Panel.*

Each Council was requested to send a copy of their Council Minutes to the Public Officer showing that the delegations had been reviewed. **NOTED**

### **8.6 REGISTER OF INTERESTS**

Ordinary and Primary Returns pursuant to the Development Regulations 2008 (Section 116) are required from all panel members. If Members have not already lodged their return with the Public Officer they will need to do so as soon as possible. **NOTED**

**8.7** The Flinders Ranges Council CEO, Colin Davies, advised Panel Members that the Flinders Regional Assessment Panel Annual Report is to be included in their own Council's Annual Report.

**8.8** The Public Officer advised the Panel that the Presiding Member position is due for reappointment.

**9. NEXT MEETING:** No date was set for the next meeting of the Panel.

**10. CLOSURE:** 12.42pm

## 6. APPLICATIONS FOR CONSIDERATION:

### 6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

#### 6.1.1 DA 830/082/15 – District Council of Mount Remarkable – Winter storage pond for treated wastewater

<b>Action</b>	<b>For DECISION</b>
<b>Proponent</b>	<b>Council Officer</b>
<b>Officer</b>	<b>DCMR CEO</b>
<b>Development Application</b>	<b>830/082/15</b>
<b>Associated Reports &amp; Documents</b>	<b>Development Application</b> <b>EPA Report</b> <b>Development Report, Plans</b> <b>Nil Representations</b>

#### Officer's Recommendations:

**That** Development Application 830/082/15 for a winter storage pond for treated wastewater at Section 426, Hundred of Appila, Wilds Road, Wirrabara is not seriously at variance with the District Council of Mount Remarkable's Development Plan, Consolidated 5<sup>th</sup> September 2013.

That Council **Grant** Development Plan Consent to Development Application 830/082/15 for a winter storage pond for treated wastewater at Section 426, Hundred of Appila, Wilds Road, Wirrabara, subject to the following conditions:

1. A Construction Environmental Management Plan must be prepared prior to construction and adhered to during construction activity. The plan must address the mitigation or minimisation of impacts (especially from noise, dust and waste) and prevention of soil, sediment and pollutants leaving the site or entering waters during construction.
2. The lagoon must be constructed so that the contents of the lagoon cannot intersect any underlying seasonal water table.
3. Prior to use of the pond, a 1.5mm HDPE liner must be installed in accordance with manufacturer's directions which includes weld overlap and anchoring.
4. Prior to use of the pond, a leak detection drain must be installed on the edge of the southern pond wall (with inspection pits).
5. A minimum freeboard of 600 mm must be maintained in the lagoon to provide adequate buffer capacity in cases of heavy rainfall events and high inflows.
6. Any chemicals used on site must be stored within a bunded compound/area, which has a capacity of at least 120% of the volume of the largest container (or 133% for flammables e.g. diesel) to be stored within the bund, and which is designed and constructed to prevent the escape of material into surface or underground water resources.  
 Note: EPA Guidelines on Bunding and Spill Management will assist with meeting this condition: [http://www.epa.sa.gov.au/files/47717\\_guide\\_bunding.pdf](http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf)



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7. Landscaping of the site perimeter shall be undertaken to comprise trees and shrubs utilising species which are indigenous to the area, within an at least 3m wide landscape reserve, with plantings to be tended and watered and maintained in a good condition.
8. Natural ground covers and grass growth shall be promoted on earth embankments and disturbed earth surfaces adjacent to the storage pond to improve site amenity and reduce potential for windblown dust and site erosion.

Note - Decision Notification per EPA requirement:

The applicant is reminded of its general environmental duty, as required by Section 25 of the Environment Protection Act, to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.

### **Introduction:**

The Flinders Regional Development Assessment Panel is required to determine the application.

### **Previous Panel Consideration:**

Nil

### **Officer's Report:**

Refer to attached Report by Stewart Payne, Planning Consultancy Services (dated October 2015).

### **Statutory Requirement:**

The District Council of Mount Remarkable Development Plan – consolidated 5<sup>th</sup> September 2013  
Development Act 1993  
Development Regulations 2008

### **Policy/Strategic Implications:**

*The District Council of Mount Remarkable Strategic Management Plan 2008-2020:*

#### ***Strategy Statement:***

With visionary, respected and strong leadership, Council will be in a position to successfully develop constructive partnerships with other levels of government and our communities, to ensure our aspirations are met and our futures are secured.(Reference 1)

#### ***Strategy Objective:***

To not only meet, but to excel in satisfying the requirements of the Local Government Act (Reference 1.7)

#### ***Strategic Outcomes:***

Ensure that Council satisfactorily meets all legislative compliance requirements (Reference 1.7.3)



## FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL

### AGENDA

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### Risk/Liability:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

Legend: E: Extreme risk; immediate action required  
H: High risk; senior management attention needed  
M: Moderate risk; management responsibility must be specified  
L: low risk; manage by routine procedures

### Voting Requirements:

Absolute Majority





# Development Application

Please use BLOCK LETTERS and black or blue ink so photocopies may be made of your application.

**PLEASE ENSURE ALL AREAS OF THIS FORM ARE COMPLETED**

APPLICANT:	D.C. MOUNT REMARKABLE		
Postal Address:	P.O. Box 94		
	MELROSE S.A.	P/Code 5483	
OWNER:	A.C. MOUNT REMARKABLE		
Postal Address:	P.O. Box 94		
	MELROSE S.A.	P/Code 5483	
BUILDER:	NOT APPOINTED.		
Postal Address:			
		P/Code	
CONTACT PERSON:	S PRYNE		
Mobile:	0417824721	Phone:	
Email:	stewart@asse@digpond.com	Fax:	
<b>LOCATION OF PROPOSED DEVELOPMENT:</b>			
House No:	Lot No:	Section: 426	
Street:	WILDS ROAD		
Town:	WARRABARA		
Volume:	6103	Folio:	967
		Hundred:	APPILIA
<b>CONSTRUCTION MATERIALS DETAILS: please complete</b>			
Materials & colour - Walls:	N.A.		
Materials & colour - Roof:			
Materials - Floor:			
Sqm living:	Sqm Non-Living:		

**Application No:**

**8301082 115**

**Assessment No:**

## DESCRIPTION OF PROPOSED DEVELOPMENT

(eg single storey dwelling, carport, etc)

NOTE: Sheds – please ensure to describe its use eg domestic storage, store caravan/boat, Hay, Machinery)

**WINTER STORAGE POND**

## EXISTING USE

**VACANT**

## COST OF DEVELOPMENT

**\$ 4,110,000**

## I WISH TO APPLY FOR:

Planning consent only: ☒  
 Building Consent only: ☐  
 Planning & Building Consent: ☐

Has the Construction Industry Training Levy been paid? (for development over \$15,000).  
 Phone 8172 9500 or levy can be paid at [www.citb.org.au](http://www.citb.org.au).

Yes ☐ No ☒ N/A ☐

## FOR COMMERCIAL OR INDUSTRIAL DEVELOPMENTS ONLY

If Class 5, 6, 7, 8 or 9 is sought state the proposed number of employees: Male \_\_\_\_\_ Female \_\_\_\_\_

If Class 9a is sought state the number of persons for whom accommodation is provided: \_\_\_\_\_

If Class 9b is sought state the proposed number of occupants of the various spaces at the Premises: \_\_\_\_\_

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 1993.

Signature \_\_\_\_\_

Date: **23/09/2015**

District Council of Mount Remarkable ABN 34 847303998

3 Stuart Street, Melrose SA 5483 Postal Address: PO Box 94, Melrose SA 5483

Telephone: 08 8666 2014 Fax: 08 8666 2169 Email [postmaster@mr.sa.gov.au](mailto:postmaster@mr.sa.gov.au)

# Electricity Declaration

**PLEASE ENSURE THIS FORM IS COMPLETED WITH THE DEVELOPMENT APPLICATION OVERLEAF**

## District Council of Mount Remarkable

**Development Regulations 1993**  
Form of Declaration (Schedule 5 Clause 2A)

Date: 15/9/15

To: **District Council of Mount Remarkable**

Location of proposed development: Volume 6103 Folio 967

House No: \_\_\_\_\_ Lot No: \_\_\_\_\_ Section: 426 Hundred: APPILA

Street: WILAS ROAD Town WIRRABARA

Nature of proposed development: *Please circle*

Dwelling      Dwelling Addition      Pergola      Shed      Verandah  
Carport      Garage      Other WINTER STORAGE POND

I WAYNE HART

being the applicant /a person acting on behalf of the applicant (circle applicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of Section 86 of the Electricity Act 1996. I make this declaration under Clause 2A(1) of Schedule 5 of the Development Regulations 1993.

Signed: 

Information brochures "Powerline Clearance Declaration Guide" and "Building Safely near Powerlines" have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from the Office of the Technical Regulator. The brochures and other relevant information can also be found at [www.technicalregulator.sa.gov.au](http://www.technicalregulator.sa.gov.au)



EPA Reference: 33634

23 October 2015

Mr Stewart Payne  
Consultant Planner  
District Council of Mount Remarkable  
PO Box 94  
MELROSE SA 5483

Dear Mr Payne

**ADVICE FOR REGARD - Activity of Environmental Significance**

Development Application No.	830/082/15
Applicant	District Council of Mount Remarkable
Location	S426 HP330100, Hundred Appila, Wilds Road, Wirrabara SA 5481.
Activity of Environmental Significance	Schedule 8 Item 10(b); Schedule 21 Item
Proposal	Winter Storage Pond.

Decision Notification	A copy of the decision notification must be forwarded to: Client Services Officer Environment Protection Authority GPO Box 2607 ADELAIDE SA 5001
-----------------------	--

I refer to the above development application forwarded to the Environment Protection Authority (EPA) in accordance with Section 37 of the *Development Act 1993*. The proposed development involves an activity of environmental significance as described above.

The following response is provided in accordance with Section 37(4)(a)(i) of the *Development Act 1993* and Schedule 8 Item 10(b) of the *Development Regulations 2008*.

In determining this response the EPA had regard to and sought to further the objects of the *Environment Protection Act 1993*, and also had regard to:

- the General Environmental Duty, as defined in Part 4, Section 25 (1) of the Act; and
- relevant Environment Protection Policies made under Part 5 of the Act.

Please direct all queries relating to the contents of this correspondence to Mike Russell on telephone (08) 8204 2098 or facsimile (08) 8124 4673 or email Mike.Russell@epa.sa.gov.au.

## THE PROPOSAL

The proposal is for the construction of a 14.3 Megalitre winter storage pond for the town of Wirrabara. This being the first stage of establishing a Community Wastewater Management Scheme (CWMS). The completed scheme would comprise of the proposed winter storage pond (now a wastewater storage lagoon), a wastewater treatment plant, a recycled water irrigation tank at the Wirrabara oval and associated trenching and pipework.

## SITE DESCRIPTION

The site of the proposed development is a 4.8 hectare parcel of disused farming land on Wilds Road on land 500 metres north of the western boundary of the Wirrabara township. The land is located on Section 426, Hundred of Appila and is registered under Certificate of Title Volume 6103 Folio 967.

## CONSIDERATION

Advice in this letter includes consideration of the location with respect to existing land uses and is aimed at protecting the environment and avoiding potential adverse impacts upon the locality.

## ENVIRONMENTAL ISSUES

### Separation Distances

Following a review of the site via digital maps and aerial photography, it was determined that the proposed development would be approximately 250 metres from the nearest dwelling and approximately 500 metres from the western boundary of the Wirrabara township. The EPA's *Guidelines for Separation Distances 2007* recommends a separation distance of 150 metres for CWMS facultative lagoons with a less than 1000 equivalent person population (and 100 metres for a mechanical/biological/aeration lagoons with a less than 1000 equivalent person population). As the design of the wastewater plant would be submitted as part of a separate development application, it is not known the EPA does not know whether the lagoon would be facultative or aerated. However both designs would meet the EPA recommended separation guidelines.

### Air Quality

The EPA does not anticipate significant odour impact arising from the proposed development provided an adequate separation distance is always maintained between the development and residential properties.

Dust would be generated from the excavation and construction activities and should be controlled through implementation of dust suppression measures, including watering and screening where required. A Construction Environmental Management Plan (CEMP) must be prepared and implemented to address the mitigation or minimisation of impacts during the construction phase. A condition to this effect is advised below.

## Noise

The EPA does not anticipate significant noise impacts arising from the proposed development due to separation distances being suitably maintained between the proposal and residential properties. The implementation of the CEMP advised below would address noise generated at the site during construction.

## Water Quality

The capacity of the lagoon is approximately 14.3 mega litres which is designed to cater for eight months output from the future wastewater treatment plant. The pond base and sides would be sealed with a 1.5 mm thick high density polyethylene (HDPE) liner to prevent leakage. A leakage detection drain is also to be installed along the edge of the southern pond wall with inspection pits at various intervals. This is acceptable to the EPA and conditions are advised below to ensure that this is installed prior to use.

The design and siting features of the proposed lagoon are consistent with the EPA Guideline, *Wastewater and Evaporation Lagoon Construction (2004)*. The proposed lagoon was determined to be a Category 2 (as detailed in the Guideline) and as such a 1.5mm thick HDPE liner and leakage detection drain is sufficient. In accordance with the *Environment Protection (Water Quality) Policy 2003*, a freeboard of 600 mm must be maintained in the lagoon to provide adequate buffer capacity during heavy rainfall events and high inflows. The depth of the pond when full, allowing for a 0.6m freeboard, would be from 2.5 to 3.0 metres at its deepest point. This is acceptable to the EPA and a condition is advised below.

### *Lagoon base separation from groundwater:*

Given that some of the bore holes were drilled in the 1950s, and the variation in standing water level, the actual standing water level of the proposed lagoon base from groundwater is unclear. The nearest boreholes to the proposed lagoon range in depth on average from between one and 20 metres.

The pond base would be approximately 1-1.8 metres below the natural ground level along its east west axis due to the rising nature of the terrain and the pond itself when full at its deepest point would be three metres. The future treated wastewater lagoon would be located above a hard rock layer and due to the rising nature of the terrain, separation from groundwater should not be an issue. This is acceptable to the EPA.

## Bunding

Particularly during construction diesel tanks are required on-site for heavy machinery. Any fuel and other chemicals used on-site must be stored within a bunded compound/area, which has a capacity of at least 120% of the volume of the largest container (or 133% for flammables e.g. diesel) to be stored within the bund, and which is designed and constructed to prevent the escape of material into surface or underground water resources. Further information is available in the EPA *Guidelines on Bunding and Spill Management*, available at: [http://www.epa.sa.gov.au/files/47717\\_guide\\_bunding.pdf](http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf). A condition in regard to bunding is provided below.

## CONCLUSION

The EPA considers the potential risks associated with the proposed development are low provided the construction, operation and future management of the storage pond is to be undertaken in accordance with plans and details provided in the application.

## ADVICE

The planning authority is advised to attach the following conditions to any approval:

1. A Construction Environmental Management Plan must be prepared prior to construction and adhered to during construction activity. The plan must address the mitigation or minimisation of impacts (especially from noise, dust and waste) and prevention of soil, sediment and pollutants leaving the site or entering waters during construction.
2. The lagoon must be constructed so that the contents of the lagoon cannot intersect any underlying seasonal water table.
3. Prior to use of the pond, a 1.5mm HDPE liner must be installed in accordance with manufacturer's directions which includes weld overlap and anchoring.
4. Prior to use of the pond, a leak detection drain must be installed on the edge of the southern pond wall (with inspection pits).
5. A minimum freeboard of 600 mm must be maintained in the lagoon to provide adequate buffer capacity in cases of heavy rainfall events and high inflows.
6. Any chemicals used on site must be stored within a bunded compound/area, which has a capacity of at least 120% of the volume of the largest container (or 133% for flammables e.g. diesel) to be stored within the bund, and which is designed and constructed to prevent the escape of material into surface or underground water resources. Note: EPA *Guidelines on Bunding and Spill Management* will assist with meeting this condition.: [http://www.epa.sa.gov.au/files/47717\\_guide\\_bunding.pdf](http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf)

The following notes provide important information for the benefit of the applicant and are requested to be included in any approval:

- The applicant is reminded of its general environmental duty, as required by *Section 25 of the Environment Protection Act*, to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.
- EPA information sheets, guidelines documents, codes of practice, technical bulletins etc can be accessed on the following web site: <http://www.epa.sa.gov.au>

Yours faithfully

A handwritten signature in black ink, appearing to read 'Hayley Riggs', with a stylized, flowing script.

Hayley Riggs  
Delegate

**ENVIRONMENT PROTECTION AUTHORITY**

## **DEVELOPMENT REPORT**

### **Flinders Regional Development Assessment Panel**

**Development Number:** 830/082/15  
**Application:** Winter Storage Pond for Treated Wastewater  
**Applicant:** District Council of Mount Remarkable  
**Subject Land:** Section 426 Hundred of Appila – Wilds Road Wirrabara  
**Referral:** Environment Protection Authority (Activity of Environmental Significance – approve with conditions)  
**Notification:** Category 3 – no representations received

### **Introduction**

The District Council of Mount Remarkable has made application for the development of a winter storage pond for treated effluent at Section 426 Hundred of Appila (Wilds Road Wirrabara) on land to the north of the Willowie Landfill and Transfer Station site, south east of the town. A wastewater treatment plant is not listed as a type of development which should be referred to the Development Assessment Commission and in this instance, Council is the relevant authority. Due to the nature of the proposal, it is appropriate for the matter to be dealt with by the Regional Development Assessment Panel.

The application has been notified Category 3 with no representations being received.

A wastewater treatment plan is listed under Schedule 21 of the Regulations under the Development Act requiring referral to the Environment Protection Authority (EPA). The Panel must have regard to advice of the EPA in respect to Schedule 21 matters. It has recommended approval subject to relevant conditions and notes. A copy of the report from the EPA is at Attachment 1.

The winter storage lagoon is the first stage of a Community Wastewater Management Scheme (CWMS) for the town of Wirrabara. Further components of the CWMS will be a waste water treatment plan, recycle water irrigation tank at the Wirrabara Oval and associated trenching and water pipes.

Future components of the CWMS will be subject of a separate application once further design details have been obtained.

The current proposal is for the winter storage pond only.

The pond will be used to store up to 14.3 megalitres of treated effluent during winter months for usage for irrigation purposes at the Wirrabara Oval during drier periods.

### **Site and Locality**



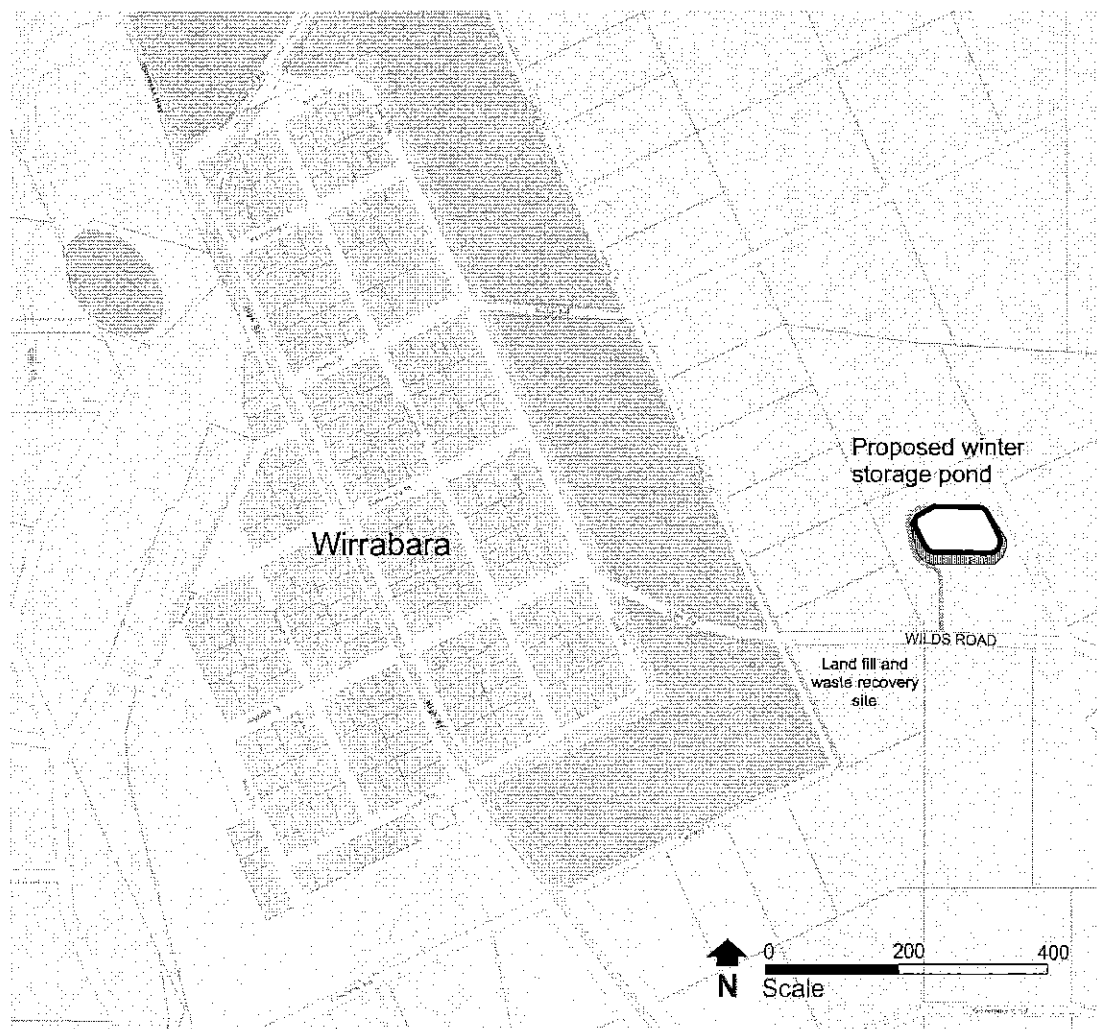
The subject land comprises Section 426, which is a 4.8 hectare parcel of disused farming land on Wilds Road, located approximately 500 metres from the western boundary of the Wirrabara township. The land gently rises to the north and has been cleared for previous agricultural use. Remnant vegetation occurs along the southern boundary of the land with the roadway. An intermittent watercourse runs through this vegetated area into the landfill site before dissipating within the golf course area.

The locality has a pleasant rural amenity with rolling hills containing cropped farmland with some scattered remnant vegetation. Vistas to the Southern Flinders Ranges occur at higher elevations in the immediate area.

The landfill and transfer station immediately adjacent to the subject contains utility buildings and fenced compounds within a cleared area and has the appearance of a public service depot, adding a functional element to the general rural amenity.

The land is within the Township Fringe Policy Area of the Primary Production Zone

### Location Plan



### Description of Development

The pond comprises a structure formed by excavation and placement of fill, having internal dimensions from the top of batters of 104m x 62m approximately and having a flattened rectangular footprint. It will be set back approximately 100 metres from Wilds Road which adjoins the site to the south. An all weather access track is provided on the western side of the pond accessed via a gateway onto Wilds Road.

The pond will be formed with earth berms sourced from excavated material on site. All fill material will be sourced from the site, with approximately 500 m<sup>3</sup> of excess material to be disposed of on the land by flattening exterior embankment grades. The pond base is approximately 1 -1.8m below natural ground level along its east west axis contained within 3.3m high berms battered to a 1:3 profile.

Due to the rising nature of the terrain, the north south axis will involve deeper excavation into the natural ground level, up to 3.7m in some areas. Excavation to the rear of the dam will be continued to create an area with a flattened profile draining away to the north to eliminate surface runoff into the pond. The profile of the land at the rear of the pond is lower towards the north. Excavations will maintain this profile and there will be minimal alteration to the quantity of stormwater runoff to adjoining land.

Along the southern side of the pond, earth walls will extend up to 6.5m in height above natural ground level along the southern wall of the structure. The southern wall extends some 140m running along the east west axis of the site.

Earth walls will all be battered to created a 1:3 profile and will be of a suitable gradient to enable re-vegetation with natural groundcovers and grasses. Over time, vegetation of earth walls will enable them to visually blend in with the surrounding terrain. Screening vegetation will be established on the perimeter of the site.

The depth of the pond when full, allowing for a 0.6m freeboard, will be from 2.5 m to 3.0m at its deepest point, giving a total capacity of approximately 14.3 megalitres. This is designed to cater for 8 months output from the wastewater treatment plant. Signage is indicated at various locations to warn of deep water.

An emergency overflow spillway is proposed on the southern embankment catering for potential overfilling of the dam during significant rainfall events. In the very unlikely event of the pond overflowing, water from the spillway would be dispersed over the site by means of a flow spreader which is located at the foot of the southern wall.

The pond is to be secured with a 1.8m high galvanized chain mesh fence topped with two strands of barb wire giving a total height of 2.1m.

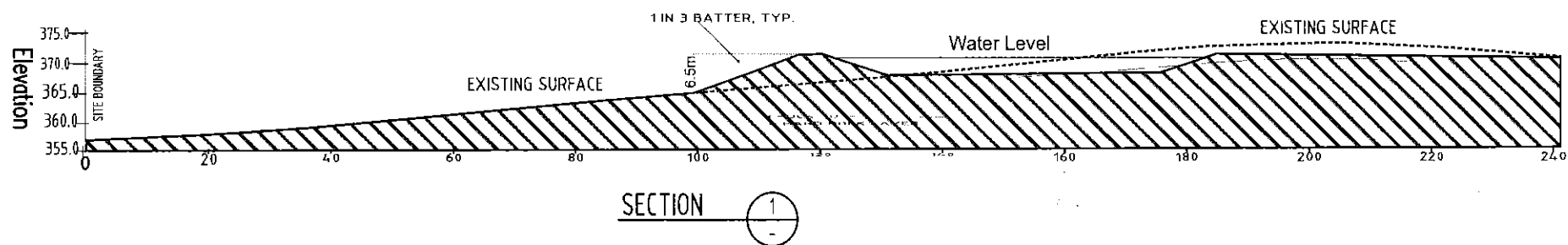
The pond base and sides will be sealed with 1.5mm thick high density polyethylene liner to prevent leakage and infiltration of treated effluent into ground water. A leak detection drain is to be installed along the edge of the southern pond wall with inspection pits at various intervals.

The total footprint of the pond and surrounds is in the order of 16,000m<sup>2</sup> (1.6 hectares) when taking into account the pond area, earth walls and excavation area to the rear of the pond.

## **Site Plan**



## North South Cross Section



## **Development Plan Assessment**

Relevant Development Plan policy is listed below with a commentary as to the consistency or otherwise of the proposal.

### **Primary Production Zone**

#### **Objectives**

- 1 Economically productive, efficient and environmentally sustainable primary production.
- 3 Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.
- 5 Development that contributes to the desired character of the zone.

#### **Desired Character Statement**

It is desirable that the zone continues to maintain a diversity of activities suited to the terrain, rainfall and capability of the land. Retention of agricultural productivity by preserving or increasing rural property holdings will be an important consideration in ensuring that the established rural character is maintained. There is however some opportunity for small scale low impact commercial and industrial development.

#### **Principles of Development Control**

##### **Land Use**

- 1 The following forms of development are envisaged in the zone:
  - bulk handling and storage facility
  - commercial forestry
  - farming
  - horticulture
  - intensive animal keeping
  - tourist accommodation (including through the diversification of existing farming activities and conversion of farm buildings).
  - wind farm and ancillary development
  - wind monitoring and ancillary development.

##### **Form and Character**

- 9 Development should not be undertaken unless it is consistent with the desired character for the zone.

### **Township Fringe Policy Area 1**

#### **Objectives**

- 1 A policy area primarily for low-intensity primary production compatible with the adjoining urban areas.
- 2 Preservation of rural character and scenic features as a backdrop to the town.
- 3 Development that contributes to the desired character of the policy area.

### **Desired Character Statement**

This policy area occurs in a number of locations, and surrounds Melrose, Wilmington, and Wirrabara. It comprises a mixture of small land parcels and broadacre farming accommodating a diversity of development.

The policy area provides a future land bank and establishes a buffer between the township and rural activities. Care will need to be taken to ensure that the nature and intensity of development maintains the existing pleasant rural character and does not prejudice options for future urban development.

There is potential for further rural living development at Wilmington, but this will be limited to the existing 'working-men's' allotments.

The defined country township-rural boundary provides for the economic and convenient provision of services and orderly town development. Rural activities which are not adversely affected by township development will be appropriate, and urban related uses, such as a common effluent lagoon, may be accommodated where required buffers are able to be met.

Future development will prevent ribbon development along main road town approaches so as to maintain built form separation between built-up areas and rural areas.

Some parts of the policy area are noted for the presence of mature trees. Development will retain this vegetation and also avoid impact upon defined watercourses.

### **Land Use**

1 The following forms of development are envisaged in the policy area:

- detached dwelling on large allotment
- farming
- low-intensity primary production.

### **Form and Character**

5 Development should not be undertaken unless it is consistent with the desired character for the policy area.

The proposed winter storage pond is to be constructed within the Primary Production Zone, Township Fringe Policy Area 1.

Generally, the Objectives for the Primary Production Zone seek to promote the ongoing productive and sustainable primary production and enhance the scenic quality of rural landscapes. Various zone provisions reinforce this general intent by seeking to restrict incompatible land uses, fragmentation of rural land and promotion of farming related activities.

The proposed winter storage lagoon is not foreseen as from of development likely to occur within the Primary Production Zone.

A portion of the Primary Production Zone adjacent to the townships of Melrose, Wilmington and Wirrabara has been designated a Township Fringe Policy area which provides a land bank for future township uses and a buffer against activities related to primary production which may create adverse impacts upon townships. The Policy Area also foresees the likelihood for the development of urban related



It is understood that there are no current dwelling applications for land adjoining the subject site. Should applications for dwellings on adjoining land be received, siting would have to ensure that the 100m buffer was maintained. Dwelling siting constraints impact upon Sections 263 and 264, affecting about 25% of the site area in each case. Other affected allotments are only impacted marginally.

Consequently, while the proposal is not a primary production activity and can not meet relevant provisions in the Development Plan which seek to promote this activity, it is a form of development which is foreseen per the Desired Character Statement for the Township Fringe Policy Area 1 within the Primary Production Zone. It therefore meets the Principle 5 above which requires that development should be consistent with the desired character for the policy area.

As the incursion of the buffer does not remove development opportunities which currently exist upon adjoining land, except to influence the siting of dwellings, the proposed pond will meet siting requirements set out in the Desired Character Statement.

### Hazards

#### **Objectives**

2 Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.

3 Critical community facilities such as hospitals, emergency control centres, major service infrastructure facilities, and emergency service facilities located where they are not exposed to natural hazard risks.

10 Minimisation of harm to life, property and the environment through appropriate location of development and appropriate storage, containment and handling of hazardous materials.

#### **Principles of Development Control**

1 Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.

2 Development located on land subject to hazards as shown on the *Overlay Maps – Development Constraints* should not occur unless it is sited, designed and undertaken with appropriate precautions being taken against the relevant hazards.

#### **Flooding**

6 Development, including earthworks associated with development, should not do any of the following:

- (a) impede the flow of floodwaters through the land or other surrounding land
- (b) increase the potential hazard risk to public safety of persons during a flood event
- (c) aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood
- (d) cause any adverse effect on the floodway function
- (e) increase the risk of flooding of other land
- (f) obstruct a watercourse.



## **Bushfire**

7 The following bushfire protection principles of development control apply to development of land identified as General, Medium and High bushfire risk areas as shown on the *Bushfire Protection Area BPA Maps - Bushfire Risk*.

8 Development in a Bushfire Protection Area should be in accordance with those provisions of the *Minister's Code: Undertaking development in Bushfire Protection Areas* that are designated as mandatory for Development Plan Consent purposes.

The proposed pond is not in an area which is vulnerable to natural hazards. It is located on the side of a hill, well elevated from an intermittent water course running adjacent to the roadway along the southern boundary of the site. It is to be engineered so that it may withstand high intensity rainfall events. The nature of the structure and its purpose as a water storage will ensure that no additional risk will occur in the event of bushfire.

The proposed development is therefore seen to be consistent with provisions related to hazard mitigation.

## **Infrastructure**

### **Objectives**

1 Infrastructure provided in an economical and environmentally sensitive manner.

4 The visual impact of infrastructure facilities minimised.

### **Principles of Development Control**

12 Development in proximity to infrastructure facilities should be sited and be of a scale to ensure adequate separation to protect people and property.

Buffer distances meet EPA requirements. The proposed pond will be economically provided and will not harm the environment. The visual impact of the facility is minimal comprising a relatively low profile earth walled structure which will visually blend in with the surrounding topography once grass cover on earth embankments becomes established. Additionally, landscaping is intended on the site perimeter to further mitigate visual impact.

The proposal is therefore consistent with policy related to Infrastructure.

## **Interface between Land Uses**

### **Objectives**

1 Development located and designed to prevent adverse impact and conflict between land uses.

2 Protect community health and amenity and support the operation of all desired land uses.

### **Principles of Development Control**

1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:

- (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants
- (b) noise
- (c) vibration
- (d) electrical interference
- (e) light spill
- (f) glare
- (g) hours of operation
- (h) traffic impacts.

2 Development should be sited and designed to minimise negative impact on existing and potential future land uses considered appropriate in the locality.

The proposed winter storage pond is to be located suitably so as not to impact upon adjoining properties and can meet EPA separation buffers of 100m.

The pond is to be used for the storage of treated effluent rather than being a part of the wastewater treatment process. Therefore, odour is unlikely to be an issue. The EPA has noted that it does not anticipate a significant odour impact arising from the proposed development provided an adequate separation distance is always maintained between the development and residential properties.

It notes that dust generation during construction may become an issue and recommends that suitable dust suppression methods such as watering and screening should be implemented as required. It has recommended that a Construction Environment Management Plan be prepared to address mitigation and minimisation of impacts including dust and noise during the construction phase. This is included as a condition of consent.

No other impacts are envisaged as a result of operation of the storage pond.

### Landscaping, Fences and Walls

#### **Objectives**

- 1 The amenity of land and development enhanced with appropriate planting and other landscaping works, using locally indigenous plant species where possible.
- 2 Functional fences and walls that enhance the attractiveness of development.

#### **Principles of Development Control**

1 Development should incorporate open space and landscaping and minimise hard paved surfaces in order to:

- (a) complement built form and reduce the visual impact of larger buildings (eg taller and broader plantings against taller and bulkier building components)
- (b) enhance the appearance of road frontages

2 Landscaping should:

- (a) include the planting of locally indigenous species where appropriate
- (b) be oriented towards the street frontage

4 Fences and walls, including retaining walls, should:

(b) be compatible with the associated development and with existing predominant, attractive fences and walls in the locality

5 Fencing should be open in form to allow cross ventilation and access to sunlight.

Landscaping has not been indicated on site plans, however, the applicant has noted landscaping of the site perimeter is intended to provide screening and improve amenity of the development. Suitable conditions to require the preparation of a landscape plan and its implementation meeting relevant Development Plan requirements are proposed.

Open mesh fencing is proposed to provide security around the pond area comprising 1.8m chain mesh with 2 strands of barbed wire giving a total fencing height of 2.1m. While this does not particularly enhance the attractiveness of the development, its open style will reduce its visual impact and is in keeping with the functional and utilitarian nature of the storage pond.

The proposed development can comply with relevant provisions concerning landscaping with the inclusion of conditions of consent. While fencing does not particularly enhance the development and this may be seen as a departure from Objective 2 above, the fencing serves a functional purpose as required in the Objective and the departure is only minor. It is not appropriate to require the construction an alternative fencing style in this case given the locality, on a lightly trafficked rural road and well away from residences.

## Natural Resources

### **Objectives**

2 Protection of the quality and quantity of South Australia's surface waters, including inland, marine and estuarine and underground waters.

4 Natural hydrological systems and environmental flows reinstated, and maintained and enhanced.

### **Principles of Development Control**

1 Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.

### **Water Sensitive Design**

5 Development should be designed to maximise conservation, minimise consumption and encourage reuse of water resources.

8 Water discharged from a development site should:

(a) be of a physical, chemical and biological condition equivalent to or better than its pre-developed state

(b) not exceed the rate of discharge from the site as it existed in pre-development conditions.

9 Development should include stormwater management systems to protect it from damage during a minimum of a 1-in-100 year average return interval flood.

### **Water Catchment Areas**

17 Development should ensure watercourses and their beds, banks, wetlands and floodplains are not damaged or modified and are retained in their natural state, except where modification is required for essential access or maintenance purposes.

### **Biodiversity and Native Vegetation**

26 Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species.

The proposed winter storage pond meets relevant policy concerning natural resources.

Excavation of 1 – 1.8m below natural ground level will be required during the construction of the pond. The EPA has noted that the storage pond would be located above a hard rock layer, and due to the rising nature of the terrain, separation from groundwater should not be an issue. It has noted that potential impact upon groundwater is acceptable to the EPA. Safeguards, such as the installation of an high density polyethylene liner in the base and walls of the pond and a leak detection drain on the edge of the southern pond wall will further reduce potential impact upon groundwater.

Consequently, provisions requiring the protection of underground waters, the maintenance of natural hydrological systems and minimal impact upon the natural environment can be met by the proposal.

Principle 5 above requiring the conservation and reuse of water resources is met by the proposal in that it forms part of a future scheme to allow for the collection of effluent, its treatment and re-use for the broader benefit of the community. The installation of the CWMS will result in the removal of multiple point sources of effluent which currently are likely to impact upon groundwater.

In respect to Principle 8 above, which requires that discharge water from the site be in an equivalent or better condition and rate that prior to development, it is noted that the proposed storage pond is unlikely to impact upon runoff except that a portion of existing site runoff will be collected by the pond due to its positioning on the site.

Overall, then stormwater runoff from the site will be reduced. As the form of the site will be modified by excavation and the construction of mounds, some erosion of fill material might be expected before embankments become stabilized with vegetation cover. Any fill material likely to eroded from earth walls is likely to be arrested on site and not create off site impacts. Stormwater is diverted around the pond so there is no overland flow that would result in overtopping during a storm event. The EPA require a 600mm freeboard which is more than adequate to cater for a rise in pond water level which may occur during a significant storm event.

The site of the storage pond is well elevated and will not be impacted by localised flooding which may be caused by a storm events.

The pond is designed with a spillway to control overtopping in the extremely rare event that it did overflow. This provides a controlled point of overflow to prevent wall break or erosion during an overtopping event and is installed to maintain the integrity of the pond walls.

Given that the inlet flow to the pond is in the order of 4 litres per second, and there is a relatively small catchment for direct rainfall inflow to the pond, any overflow event would be minor in nature.

A flow spreader is indicated at the base of the overflow spillway to sheet the water across the lower portion of the site so as to minimise any erosion caused by channelised flow. If the flow did leave the site, it would make its way to the road and be incorporated into Council's stormwater drainage network. The volume of flow generated from such an event would be negligible in relation to the stormwater flow generated from a high rainfall event in the rest of the local stormwater catchment.

Given that this will be a monitored system, Council will be aware of the level within the pond and will have management procedures in place to control water levels. Should capacity issue be experienced, then Council would utilise its reuse network to irrigate the oval and other areas to lower the water level in the lagoon.

Consequently, the proposal meets relevant Development Policy in respect to management of stormwater.

### Orderly and Sustainable Development

#### **Objectives**

- 1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.
- 2 Development occurring in an orderly sequence and in a compact form to enable the efficient provision of public services and facilities.
- 3 Development that does not jeopardise the continuance of adjoining authorised land uses.
- 4 Development that does not prejudice the achievement of the provisions of the Development Plan.
- 6 Urban development located only in zones designated for such development.

#### **Principles of Development Control**

- 1 Development should not prejudice the development of a zone for its intended purpose.
- 2 Land outside of townships and settlements should primarily be used for primary production and conservation purposes.

The proposal represents the development of a component of a CWMS for the town of Wirrabara by the DC Mount Remarkable. Introduction of the overall scheme will improve the amenity of the town thereby contributing to a safe convenient and pleasant environment. The site of the winter storage lagoon within the Primary Production Zone, Township Fringe Policy Area is appropriate in terms of the usage, which is foreseen in the Desired Character Statement for the Policy Area, and suitable in the context of adjoining land uses, enabling them to continue without nuisance or untenable impact. The use, being ancillary to urban development is appropriately located on the outskirts of the Wirrabara town adjacent to other public facilities and suitably buffered from residential land uses.

The proposal can meet relevant policy Development Plan policy and therefore does not prejudice the achievement of the provisions of the plan.

Accordingly, the proposed winter storage pond development is seen to be orderly and sustainable development.

### Siting and Visibility

#### **Objectives**

1 Protection of scenically attractive areas, particularly natural, rural and coastal landscapes.

#### **Principles of Development Control**

1 Development should be sited and designed to minimise its visual impact on:  
(a) the natural, rural or heritage character of the area  
(c) views from the coast, near-shore waters, public reserves, tourist routes and walking trails

The Development Plan requires that scenically attractive areas should be protected and that siting should be undertaken to minimise visual impact upon an area's rural character. Also development should minimise impact upon tourist routes and walking trails.

The proposed pond has a footprint of approximately 6000 m<sup>2</sup> although the total area of the site likely to be affected with excavation and fill is closer to double that area when battered embankments the area of excavation at the rear of the site is taken into consideration.

The most prominent visual element of the development is the southern earth wall which extends for approximately 140m across the site. This wall is generally 6.5m above natural ground level for the majority of its length.

The earth walls of the pond are also built up on the western and eastern sides, although these are around 80m in length in both cases. Elevation ranges from approximately 6m above natural ground level in the south to 2m for the western wall, while the eastern bank finishes below current natural ground level.

The structure will appear most prominent from the roadway on the southern boundary of the property; Wilds Road.

The visual impact of the pond structure is confined to the immediate locality. Users of Wilds Road will notice the structure from the roadway initially until grass cover becomes established, at which time the earth embankment will blend with surrounding topography. A diagram showing the north-south cross section of the pond has been provided above. This indicates the position and height of earth embankments above natural ground level. (It should be noted that cross section drawings included with engineering plans have a 5:1 vertical exaggeration indicating an apparently much taller and visually intrusive structure.) The 1:3 batter on earth walls will enable grasses to become established, thereby softening the impact and resulting, after perhaps a season or two, in the structure conforming with the general terrain of the site.

Some vegetation exists along the south east corner of the site which will partially obscure the view of the site from the roadway. Additional landscaping along the southern and western boundaries of the site will assist in screening the development from adjoining land and the roadway.

While the structure will have a visual impact locally which will soften over time with the establishment of grass cover land landscaping, this is an inevitable consequence of the development of this facility on the site. While a flatter site would lessen the visual impact, land in close proximity to the town, available for Council to purchase and suitably located for engineering reasons is required for the facility. Therefore some visual impact confined to the immediate locality is inevitable.

While there is a level of visual impact in the immediate locality, the development can not be said to impact significantly upon the open rural character of the area. Once an observer moves away from the immediate site, view of the land is obscured by the topography and remnant vegetation. The site is not visible from Horrocks Highway when approaching the town. It is also not visible from dwellings along East Terrace nor from other locations within Wirrabara.

Consequently, the proposed pond is suitable sited to avoid visual impact upon the rural character of the area generally and from public reserves, tourist routes or walking trails.

The proposed pond can therefore be considered to be suitably sited to minimise potential visual impact and consequently consistent with Development Plan guidelines.

#### Sloping land

##### **Objectives**

- 1 Development on sloping land designed to minimise environmental and visual impacts and protect soil stability and water quality.

##### **Principles of Development Control**

- 1 Development and associated driveways and access tracks should be sited and designed to integrate with the natural topography of the land and minimise the need for earthworks.
- 2 Development and associated driveways and access tracks, including related earthworks, should be sited, designed and undertaken in a manner that:
  - (a) minimises their visual impact
  - (b) reduces the bulk of the buildings and structures
  - (c) minimises the extent of cut and/or fill
  - (d) minimises the need for, and the height of, retaining walls
  - (e) does not cause or contribute to instability of any embankment or cutting
  - (f) avoids the silting of watercourses
  - (g) protects development and its surrounds from erosion caused by water run-off.

The development will occur on gently sloping land. Impacts related to this are similar to those discussed above and previously in this report. The proposal is seen to be generally consistent with relevant Plan provisions concerning sloping land.

## Waste

### **Objectives**

2 Development that includes the treatment and management of solid and liquid waste to prevent undesired impacts on the environment including, soil, plant and animal biodiversity, human health and the amenity of the locality.

### **Wastewater**

8 Wastewater lagoons should not be sited in any of the following areas:

- (a) within land subject to a 1-in-100 year average return interval flood event
- (b) within 50 metres of the top of the bank of a watercourse
- (d) where the base of the lagoon would be below any seasonal water table.

### **Waste Treatment Systems**

11 The methods for, and siting of, effluent and waste storage, treatment and disposal systems should minimise the potential for environmental harm and adverse impacts on:

- (a) the quality of surface and groundwater resources
- (b) public health
- (c) the amenity of a locality
- (d) sensitive land uses.

12 Waste treatment should only occur where the capacity of the treatment facility is sufficient to accommodate likely maximum daily demands including a contingency for unexpected high flows and breakdowns.

The subject site is not impacted by flooding being well elevated and distant from the small intermittent water course on the southern boundary of the site. It is more than 50m from the top bank of the watercourse.

The base of the pond will not intersect with a seasonable water table as it is to be constructed above an existing rock layer. The EPA has noted that it has no concerns in respect to potential groundwater impact.

The pond will form part of a CWMS which has been planned to meet the requirements of the town. The pond is engineered to cater for high flows with an overflow spillway incorporated into the design. It is noted that the likelihood of an overflow is extremely low given the water level to be maintained within the pond allowing for a 600mm freeboard and minimal stormwater flows into the pond. Thus the proposal is consistent with Principle 12 above.

Eight months of storage is to be catered for on site. In the rare event that flow may exceed the capacity of the pond, overflow water will be generally contained on site or make its way into the stormwater drainage system. As noted above, these flows will be negligible in relation to stormwater flows generated in the rest of the stormwater catchment.

As previously noted, the pond is to be located so that it will not impact upon public health, the amenity of the locality or sensitive land uses.



## Conclusion and Recommendation

The proposed winter storage pond is generally consistent with relevant Development Plan provisions being public infrastructure suitably located within a township fringe area incorporating suitable buffers and meeting environmental requirements. The visual impact of the facility is confined to the immediate locality. This impact may be ameliorated over time with the establishment of perimeter landscaping and ground covers plantings on earth embankments.

The facility will improve benefit the environment generally of the town of Wirrabara and as a component in a broader Community Waste Water Scheme, enable the collection, treatment and reuse of effluent to the broader benefit of the local community.

Approval is therefore recommended, subject to the following conditions:

### Conditions of the Environment Protection Authority:

1. A Construction Environmental Management Plan must be prepared prior to construction and adhered to during construction activity. The plan must address the mitigation or minimisation of impacts (especially from noise, dust and waste) and prevention of soil, sediment and pollutants leaving the site or entering waters during construction.
2. The lagoon must be constructed so that the contents of the lagoon cannot intersect any underlying seasonal water table.
3. Prior to use of the pond, a 1.5mm HDPE liner must be installed in accordance with manufacturer's directions which includes weld overlap and anchoring.
4. Prior to use of the pond, a leak detection drain must be installed on the edge of the southern pond wall (with inspection pits).
5. A minimum freeboard of 600 mm must be maintained in the lagoon to provide adequate buffer capacity in cases of heavy rainfall events and high inflows.
6. Any chemicals used on site must be stored within a bunded compound/area, which has a capacity of at least 120% of the volume of the largest container (or 133% for flammables e.g. diesel) to be stored within the bund, and which is designed and constructed to prevent the escape of material into surface or underground water resources. Note: EPA *Guidelines on Bunding and Spill Management* will assist with meeting this condition.:  
[http://www.epa.sa.gov.au/files/47717\\_guide\\_bunding.pdf](http://www.epa.sa.gov.au/files/47717_guide_bunding.pdf)

### Additional Conditions:

7. Landscaping of the site perimeter shall be undertaken to comprise trees and shrubs utilising species which are indigenous to the area, within an at least 3m wide landscape reserve, with plantings to be tended and watered and maintained in a good condition.

8. Natural ground covers and grass growth shall be promoted on earth embankments and disturbed earth surfaces adjacent to the storage pond to improve site amenity and reduce potential for windblown dust and site erosion.

Note to be included with Decision Notification per EPA requirement:

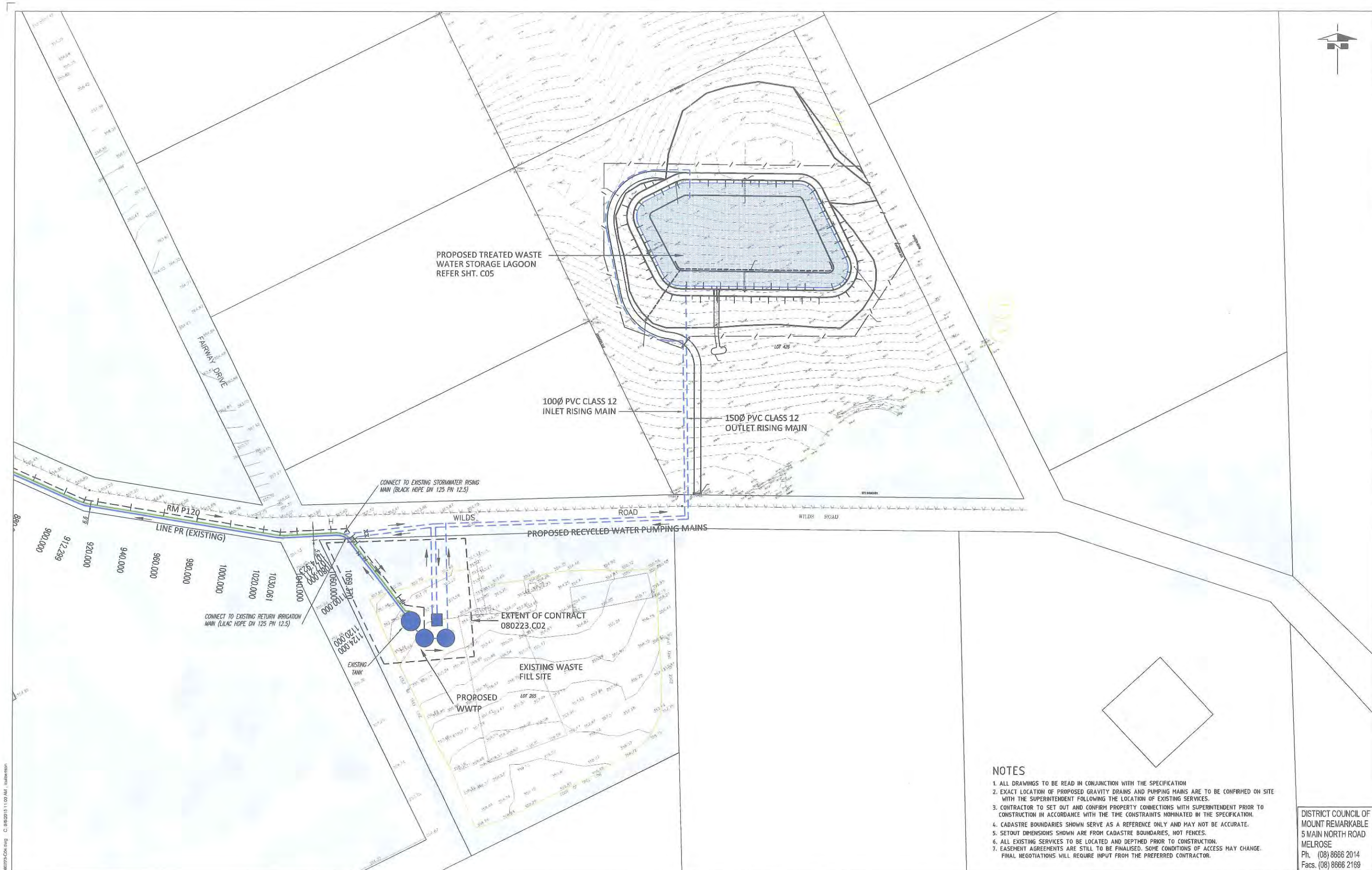
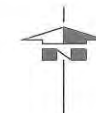
The applicant is reminded of its general environmental duty, as required by *Section 25 of the Environment Protection Act*, to take all reasonable and practicable measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.

A handwritten signature in black ink, appearing to read 'Stewart Payne', with a stylized, flowing script.

**Stewart Payne**  
BA Planning MPIA  
*Certified Practising Planner*

Attachments:

1. EPA Response



# NOTES

1. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE SPECIFICATION
2. EXACT LOCATION OF PROPOSED GRAVITY DRAINS AND PUMPING MAINS ARE TO BE CONFIRMED ON SITE WITH THE SUPERINTENDENT FOLLOWING THE LOCATION OF EXISTING SERVICES.
3. CONTRACTOR TO SET OUT AND CONFIRM PROPERTY CONNECTIONS WITH SUPERINTENDENT PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE TIME CONSTRAINTS NOMINATED IN THE SPECIFICATION.
4. CADASTRE BOUNDARIES SHOWN SERVE AS A REFERENCE ONLY AND MAY NOT BE ACCURATE.
5. SETOUT DIMENSIONS SHOWN ARE FROM CADASTRE BOUNDARIES, NOT FENCES.
6. ALL EXISTING SERVICES TO BE LOCATED AND DEPTHEED PRIOR TO CONSTRUCTION.
7. EASEMENT AGREEMENTS ARE STILL TO BE FINALISED. SOME CONDITIONS OF ACCESS MAY CHANGE. FINAL NEGOTIATIONS WILL REQUIRE INPUT FROM THE PREFERRED CONTRACTOR.

DISTRICT COUNCIL OF  
MOUNT REMARKABLE  
5 MAIN NORTH ROAD  
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## LEGEND

	PROPOSED GRAVITY SEWER		EXISTING RECYCLED WATER RISING MAIN		EXISTING UNDERGROUND ELECTRICAL
	PROPOSED MAINTENANCE HOLE		EXISTING STORMWATER RISING MAIN		EXISTING ELECTRICAL STOBIE POLE
	PROPOSED MAINTENANCE SHAFT, T.M.S.		PROPOSED RECYCLED WATER RISING MAIN		EXISTING UNDERGROUND STORMWATER
	PROPOSED SEWER PROPERTY CONNECTION		PROPOSED SEWAGE RISING MAIN		EXISTING UNDERGROUND TELSTRA
	PROPERTY CONNECTION EXISTING SURFACE		PROPOSED SEWAGE PUMPING STATION		EXISTING UNDERGROUND WATER
	PROPERTY CONNECTION PROPOSED INVERT		PROPOSED MAINTENANCE HOLE CHAINAGE		EXISTING WATER COURSE
	PS1		PROPOSED MAINTENANCE SHAFT CHAINAGE		AMALGAMATED ALLOTMENTS
	MH 3.92				
	MS 25.39				

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TENDER ISSUE  
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REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHKD
A	13.03.2012	PRELIMINARY ISSUE	JPF	AL	NS
B	29.05.2015	FOR REVIEW ISSUE	JPF	LC	NS
C	09.06.2015	TENDER ISSUE	L.H.	LC	NS

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WIRRABARA CWMS  
DISTRICT COUNCIL OF MOUNT REMARKABLE  
WIRRABARA, SOUTH AUSTRALIA  
SEWER LAYOUT - 4 OF 4

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Drawn JPF  
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Job Number  
Sheet No.  
Rev.  
C080223 C04 C

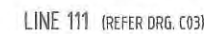












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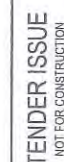
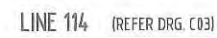
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B	09.06.2015	TENDER ISSUE	CJA	LC	NB

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<b>WIRRABARA CWMS</b> <b>DISTRICT COUNCIL OF MOUNT REMARKABLE</b> <b>WIRRABARA, SOUTH AUSTRALIA</b> <b>SEWER LONG SECTION - SHT. 1 OF 7</b>			
<b>A1</b>	<b>DRAWING NUMBER</b> Job Number:	Sheet No.	Rev.
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WIRRABARA, SOUTH AUSTRALIA  
**SEWER LONG SECTION - SHT. 2 OF 7**

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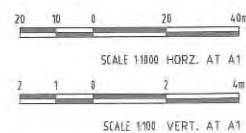
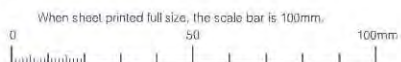
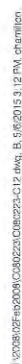
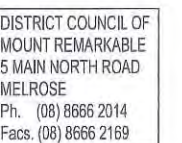
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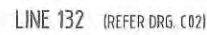





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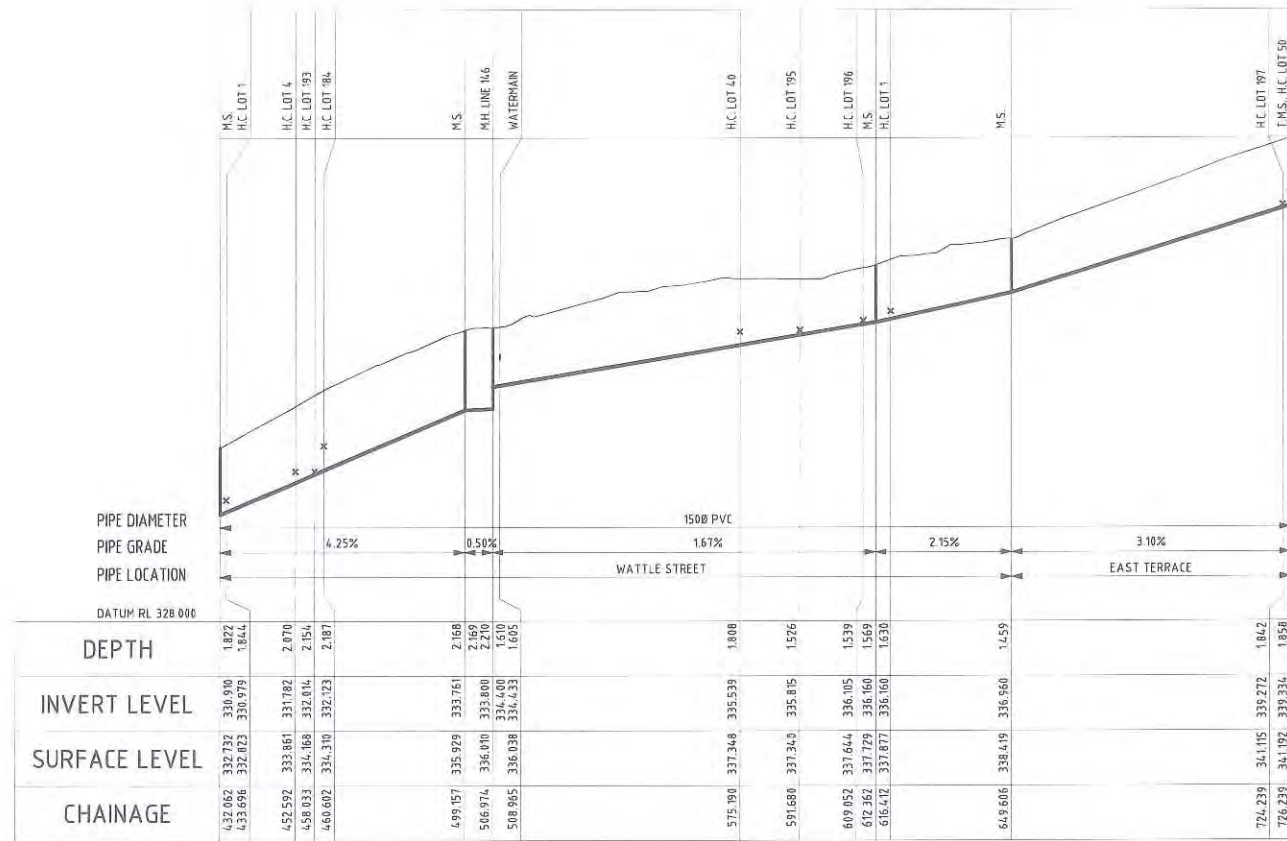
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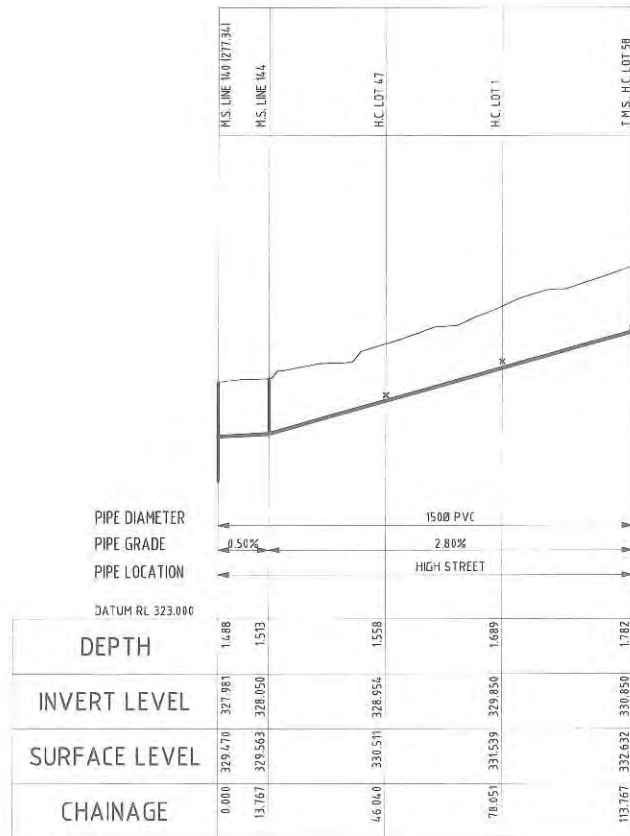
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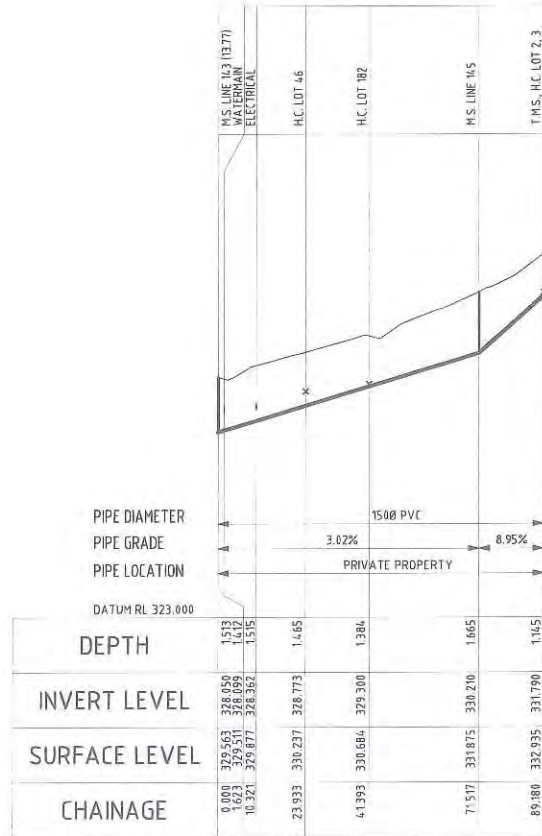
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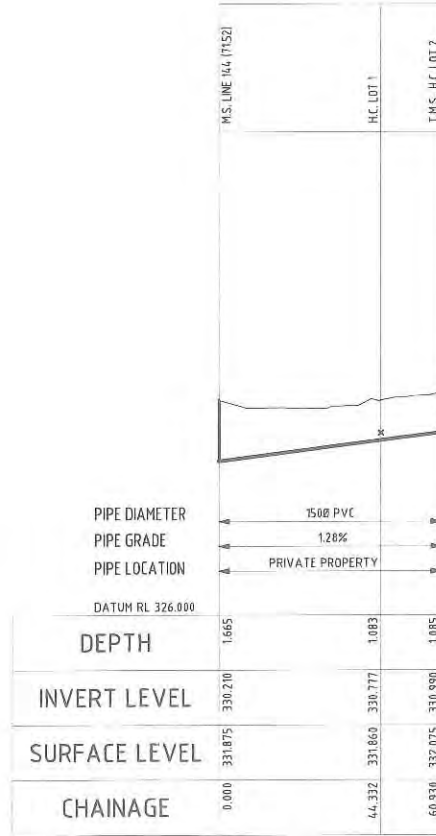
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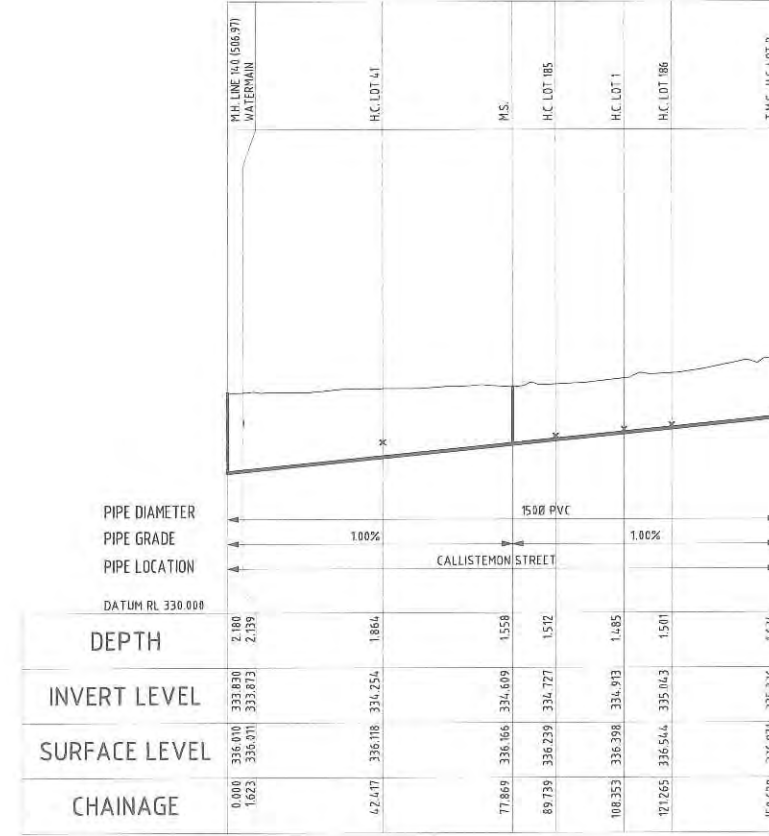
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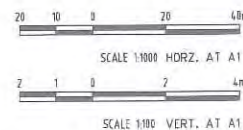
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LINE 145 (REFER DRG. C02)



LINE 146 (REFER DRG. C01/C02)



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**WIRABARA CWMS**  
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**SEWER LONG SECTION - SHT. 5 OF 7**

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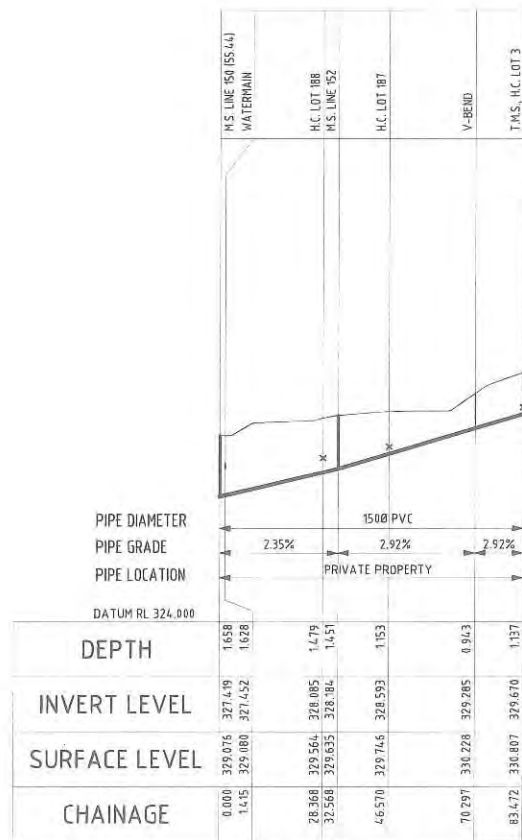
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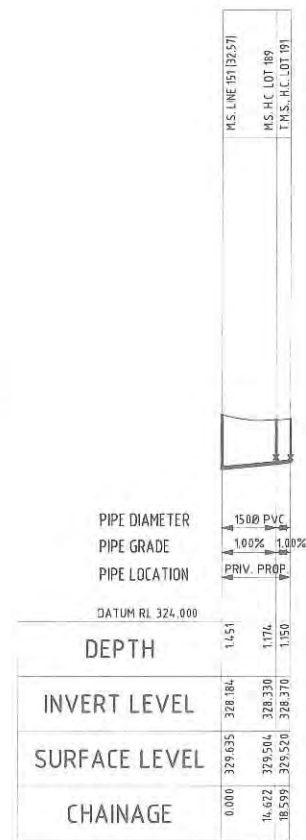
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B	09.06.2015	TENDER ISSUE	CJH	LC	NS

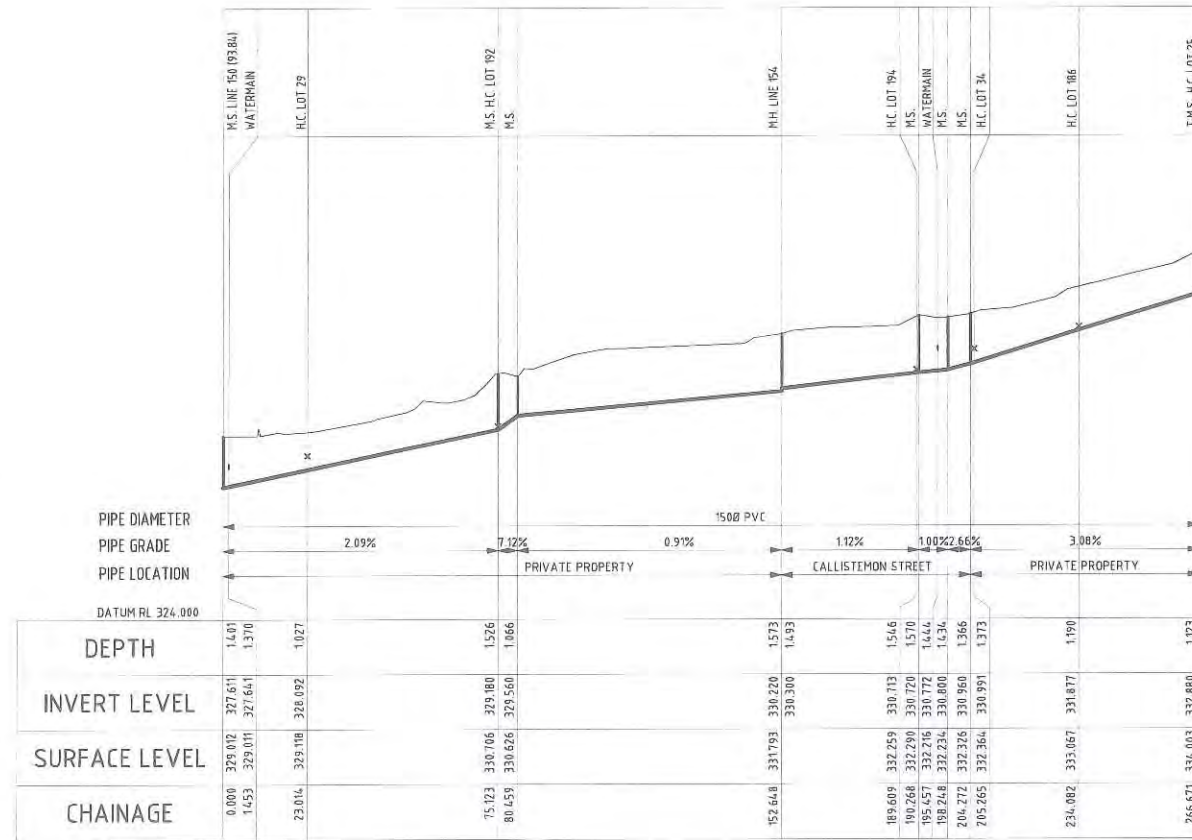
<b>W&amp;G</b> WALLBRIDGE & GILBERT Consulting Engineers 60 Wyatt Street Adelaide, South Australia 5000 Telephone (08) 8223 7433 Facsimile (08) 8232 0987 Email adel@wageng.com		<b>WIRABARA CWMS</b> DISTRICT COUNCIL OF MOUNT REMARKABLE WIRABARA, SOUTH AUSTRALIA <b>SEWER LONG SECTION - SHT. 6 OF 7</b>	
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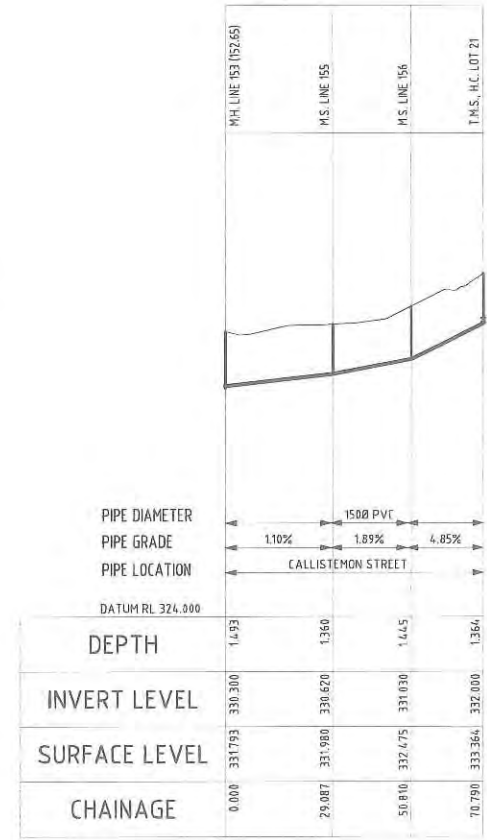
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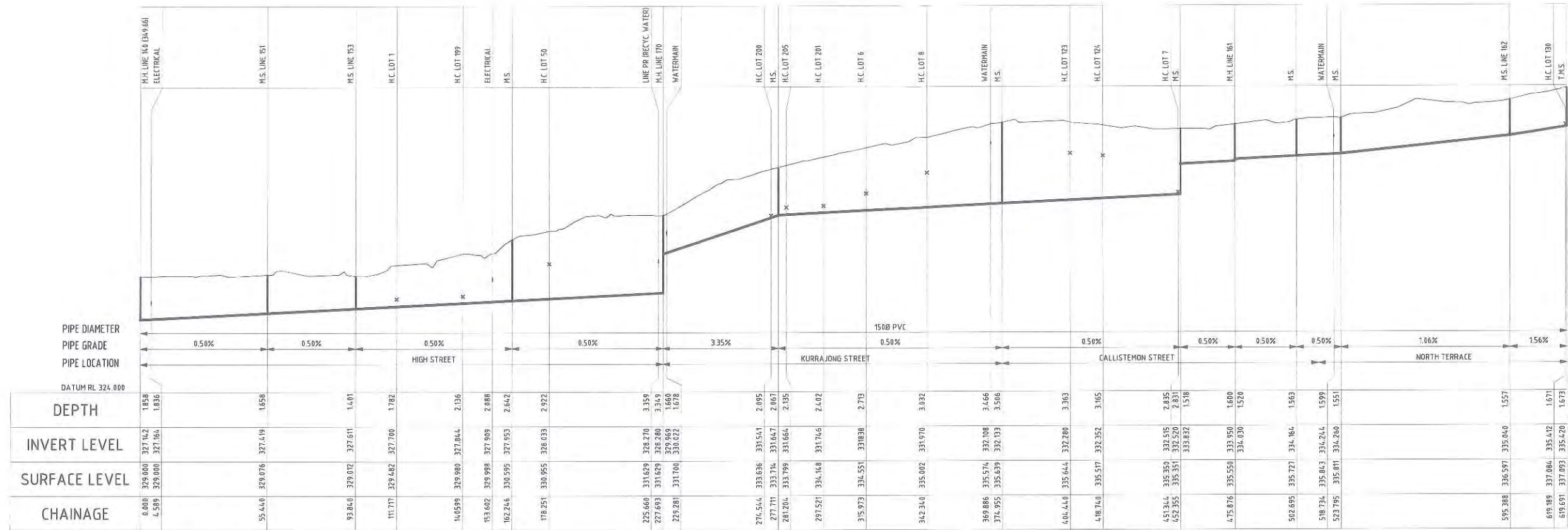


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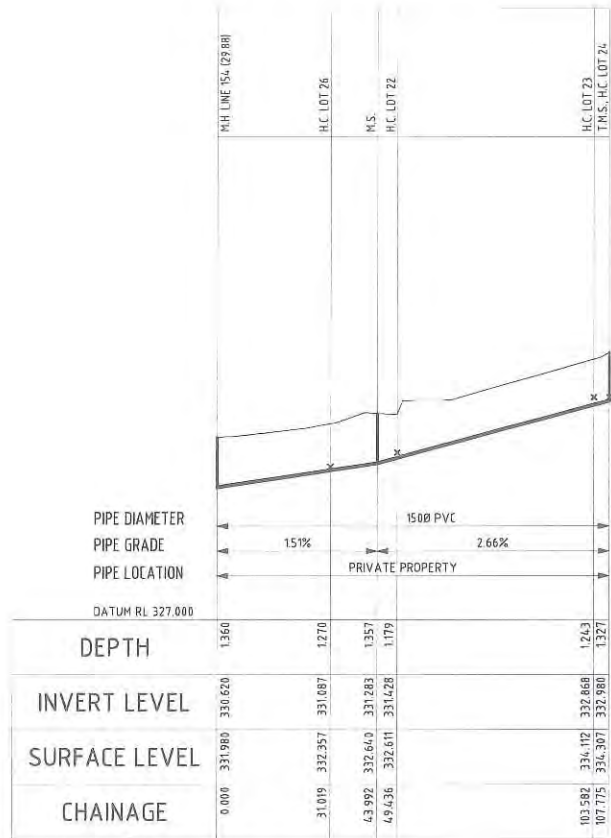


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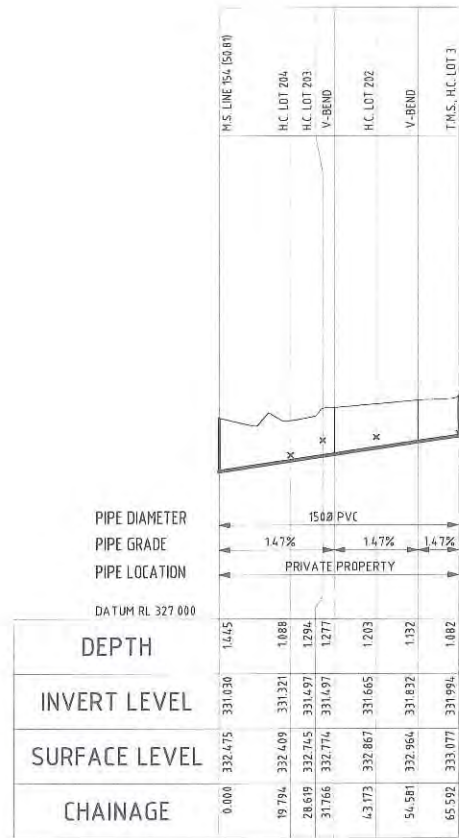
DISTRICT COUNCIL OF  
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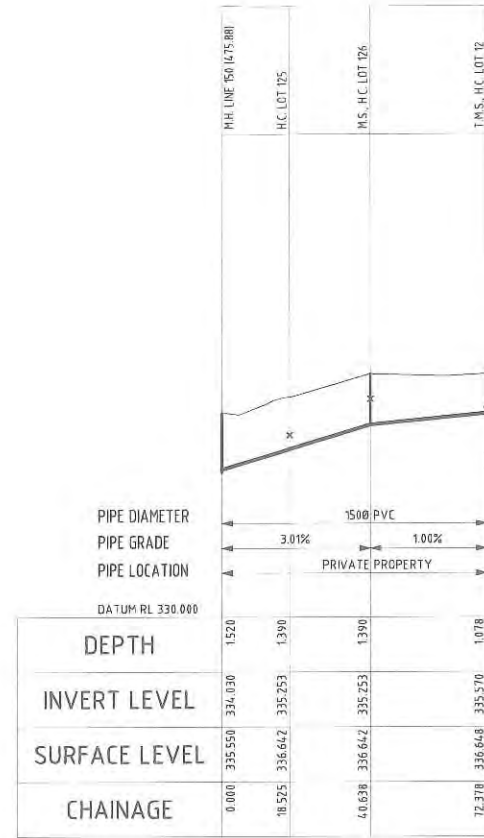
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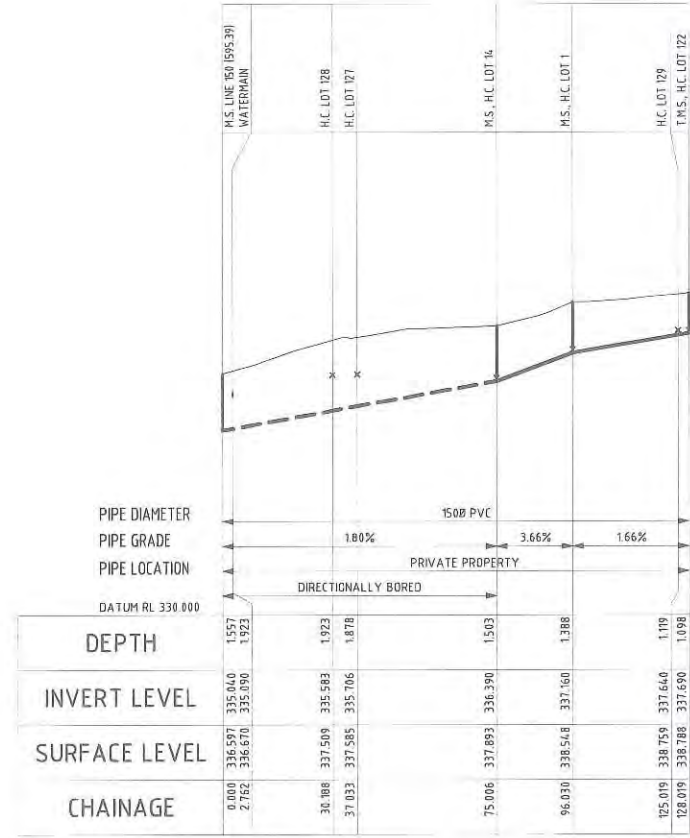
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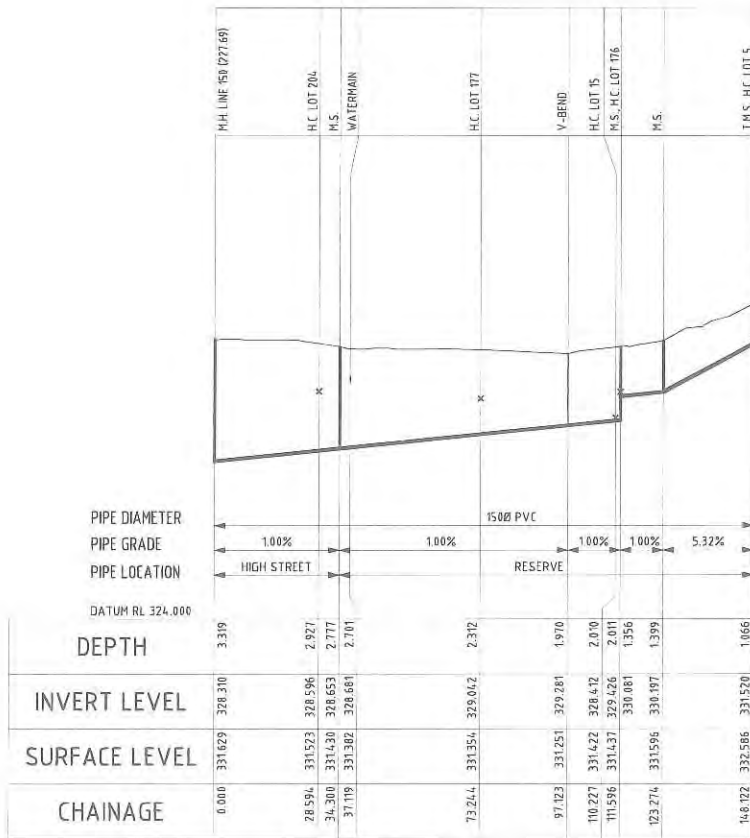
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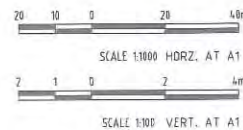
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LINE 162 (REFER DRG. C01)



LINE 170 (REFER DRG. C01)



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A	29.05.2015	FOR REVIEW ISSUE	JPF	LC	NS
B	09.06.2015	TENDER ISSUE	LC	LC	NS

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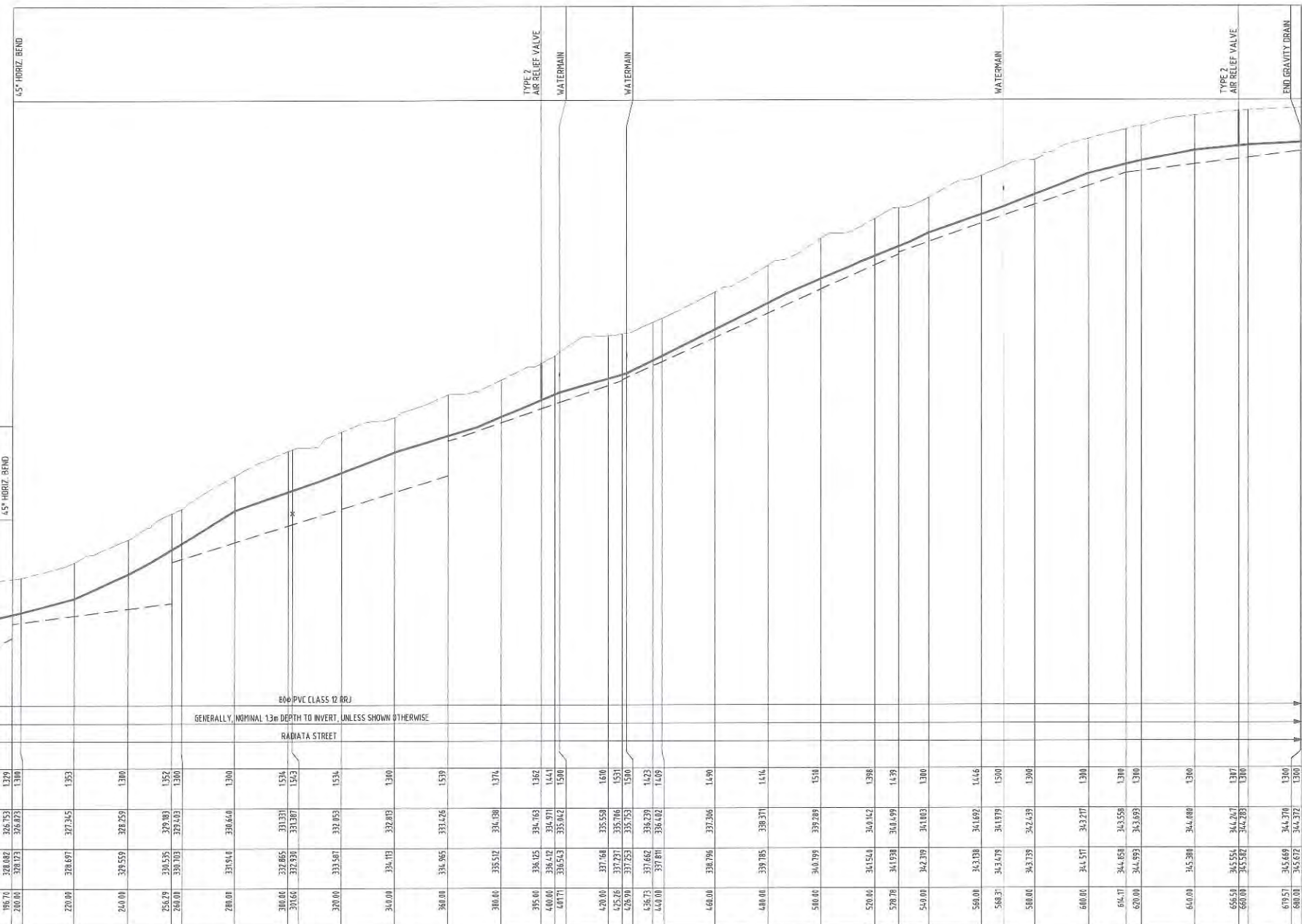
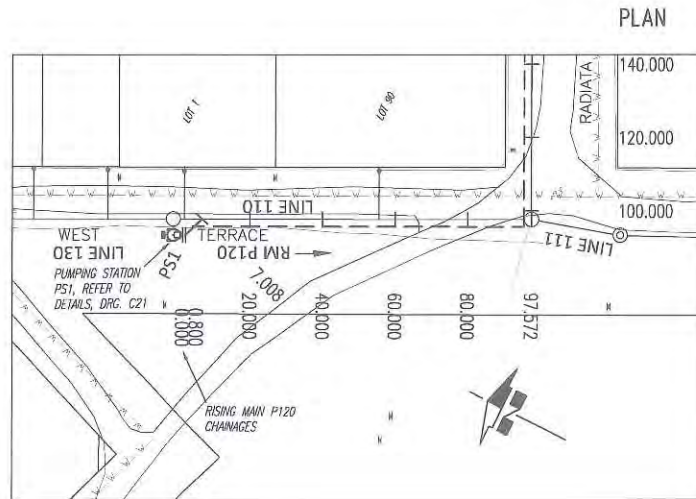
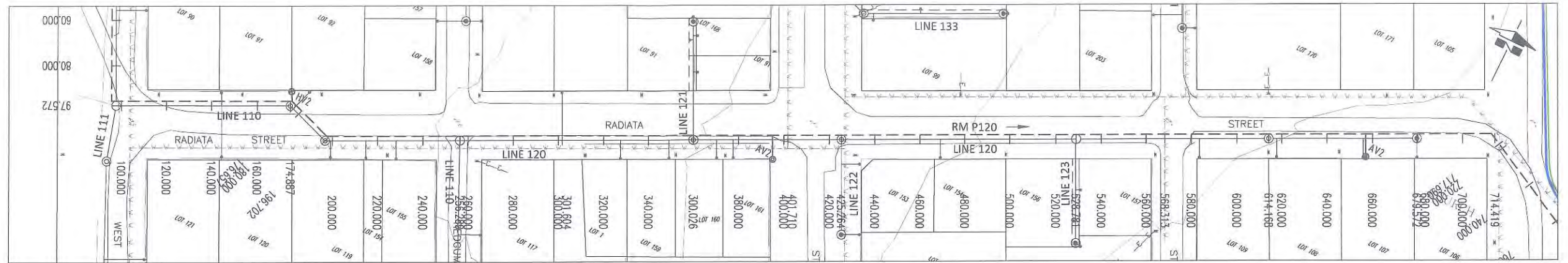
**WIRRABARA CWMS**  
DISTRICT COUNCIL OF MOUNT REMARKABLE  
WIRRABARA, SOUTH AUSTRALIA  
**SEWER LONG SECTION - SHT. 7 OF 7**

**A1**  
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**DRAWING NUMBER**  
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**C080223 C16 B**

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Facs. (08) 8666 2169



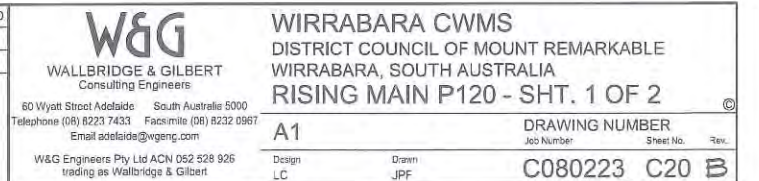
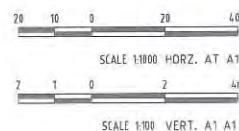


LEGEND			
	SEWAGE GRAVITY DRAIN		EXISTING SURFACE LEVEL, A.H.D.
	PROPOSED RISING MAIN		EXISTING UNDERGROUND ELECTRICAL
	HYDRANT VALVE, GVATE VALVE, AIR RELIEF VALVE		EXISTING ELECTRICAL STOBIE POLE
	EXISTING RECYCLED WATER RISING MAIN		EXISTING UNDERGROUND STORMWATER
	EXISTING STORMWATER RISING MAIN		EXISTING UNDERGROUND TELSTRA
			EXISTING UNDERGROUND WATER
			EXISTING WATER COURSE

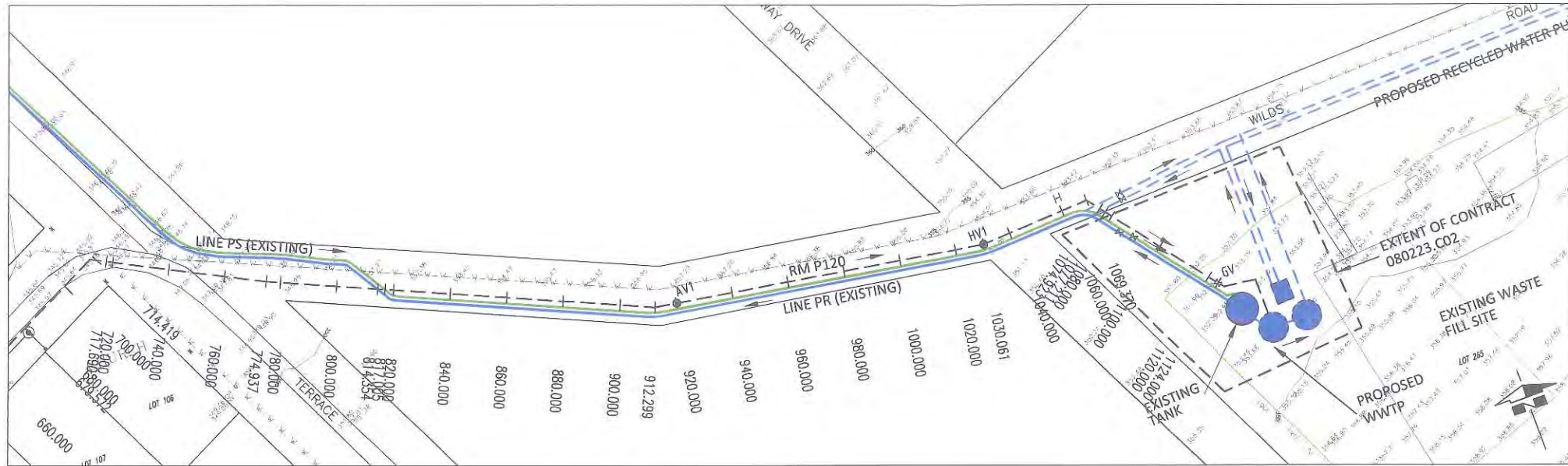
## NOTES

- DEPTH OF ALL SERVICE CROSSINGS SHOWN INDICATIVELY. ALL EXISTING SERVICES TO BE LOCATED & DEPTED PRIOR TO CONSTRUCTION. ADJUST RISING MAIN DEPTH IF REQUIRED TO MAINTAIN MINIMUM CLEARANCES AS PER BELOW
 

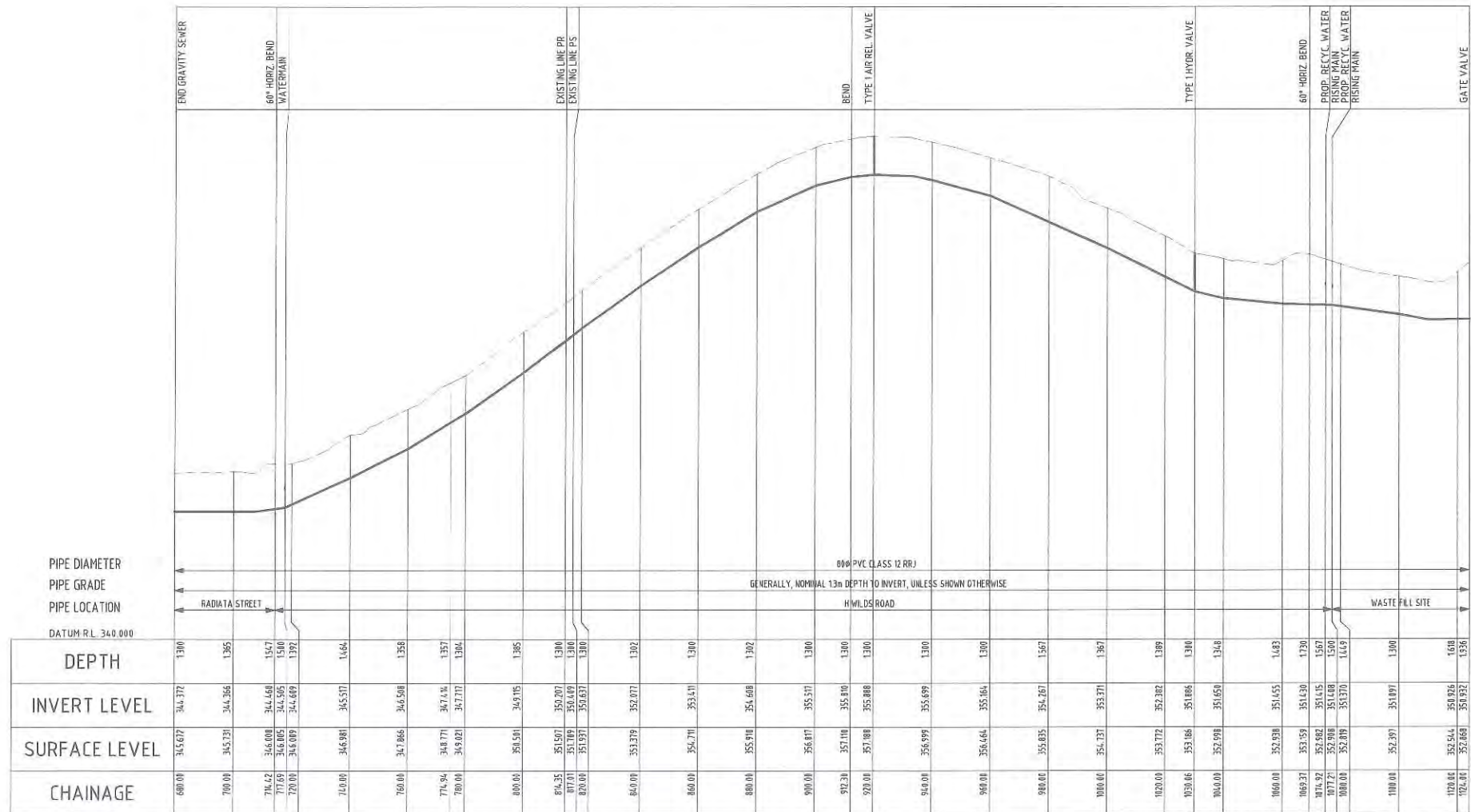
EXISTING SEWERS	150mm
TELSTRA	150mm
ELECTRICAL CONDUITS	225mm
STORMWATER	150mm
WATERMANS	500mm
- RISING MAINS TO BE LAID IN SAME TRENCH AS GRAVITY SEWERS SHOWN SEPARATED ON PLAN FOR CLARITY.
- REFER TO DRAWINGS C02-119 FOR GRAVITY MAIN LAYOUT PLANS







PLAN  
1:1000



LINE P120 CONTINUED (REFER DRG. C02)

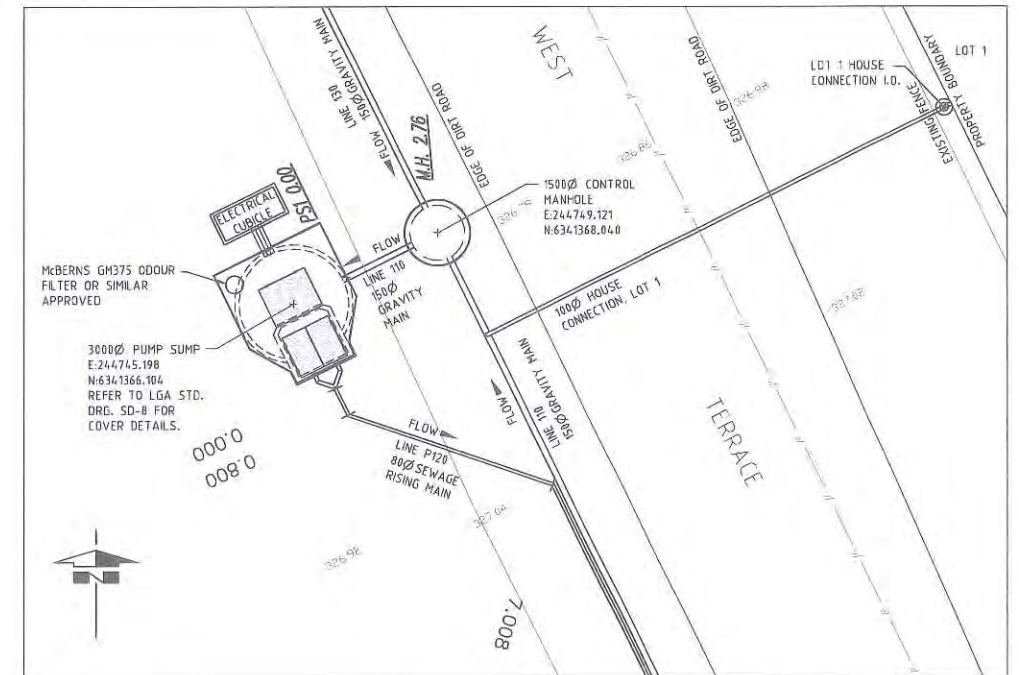
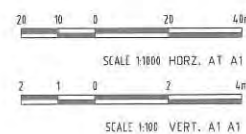
**LEGEND**

	SEWAGE GRAVITY DRAIN		EXISTING SURFACE LEVEL, A.H.D.
	PROPOSED RISING MAIN		EXISTING UNDERGROUND ELECTRICAL
	HYDRANT VALVE, GATE VALVE, AIR RELIEF VALVE		EXISTING ELECTRICAL STOBIE POLE
	EXISTING RECYCLED WATER RISING MAIN		EXISTING UNDERGROUND STORMWATER
	EXISTING STORMWATER RISING MAIN		EXISTING UNDERGROUND TELSTRA
			EXISTING UNDERGROUND WATER
			EXISTING WATER COURSE

**NOTES**

- DEPTH OF ALL SERVICE CROSSINGS SHOWN INDICATIVELY. ALL EXISTING SERVICES TO BE LOCATED & DEPTED PRIOR TO CONSTRUCTION. ADJUST RISING MAIN DEPTH IF REQUIRED TO MAINTAIN MINIMUM CLEARANCES AS PER BELOW.
- RISING MAINS TO BE LAID IN SAME TRENCH AS GRAVITY SEWERS, SHOWN SEPARATED ON PLAN FOR CLARITY.
- REFER TO DRAWINGS C02-C19 FOR GRAVITY MAIN LAYOUT PLANS

EXISTING SEWERS	150mm
TELSTRA	150mm
ELECTRICAL CONDUITS	225mm
STORMWATER	150mm
WATERMANS	500mm



PUMP STATION PS1 - PLAN DETAIL  
1:100

**PUMP STATION PS1 - SCHEDULE**

PUMP STATION NAME	PS1
CHAMBER SIZE	3.00m $\phi$
TOP OF TANK	327.10m
NATURAL SURFACE	326.90m
INLET PIPE INVERT	323.24m
CHAMBER INVERT	322.00m
NO. OF EMERGENCY STORAGE CHAMBERS	0
HIGH LEVEL ALARM	323.50m
PUMP DUTY	2.0 l/s at 32m
PUMP MODEL (FLYGT PRODUCT)	MP3102.170 H1261 Imp 4.4kW
PUMP ON	323.30m
PUMP OFF	323.10m
EMERGENCY STORAGE LEVEL	325.40m

DISTRICT COUNCIL OF  
MOUNT REMARKABLE  
5 MAIN NORTH ROAD  
MELROSE  
Ph. (08) 8666 2014  
Facs. (08) 8666 2169

TENDER ISSUE  
NOT FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	DRAFT	ENG.	CHKD
A	29.05.2015	FOR REVIEW ISSUE	JPF	LC	NS
B	09.06.2015	TENDER ISSUE	C.H	LC	NS

**W&G**  
WALLBRIDGE & GILBERT  
Consulting Engineers  
60 Wyatt Street Adelaide South Australia 5000  
Telephone (08) 8223 7433 Facsimile (08) 8232 0957  
Email adelaide@wng.com  
W&G Engineers Pty Ltd ACN 052 528 928  
Trading as Wallbridge & Gilbert

**WIRRAWARA CWMS**  
DISTRICT COUNCIL OF MOUNT REMARKABLE  
WIRRAWARA, SOUTH AUSTRALIA  
**RISING MAIN P120 - SHT. 2 OF 2**

<b>A1</b>	<b>DRAWING NUMBER</b>
Design LC	Job Number C080223
Drawn JPF	Sheet No. C21
	Rev. B







## 6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

### 6.1.2 DA 830/044/15 – Trevor & Evelyn Bertrand – Change of land use, dwelling to shop (bakery/café)

<b>Action</b>	<b>For DECISION</b>
<b>Proponent</b>	<b>Council Officer</b>
<b>Officer</b>	<b>DCMR CEO</b>
<b>Development Application</b>	<b>830/044/15</b>
<b>Associated Reports &amp; Documents</b>	<b>Development Report</b> <b>Development Application</b> <b>DPTI Report</b> <b>Nil Representations</b>

#### Officer's Recommendations:

**That** Development Application 830/044/15 for a change of land use – dwelling to shop (bakery/café) at Allotment 70, 25 High Street, Wirrabara, SA 5481 is not seriously at variance with the provisions of the District Council of Mount Remarkable's Development Plan, Consolidated 5<sup>th</sup> September 2013.

That Council **Grant** Development Plan Consent to Development Application 830/044/15 for a change of land use, dwelling to shop (bakery/café) at Allotment 70, 25 High Street, Wirrabara, SA 5481, subject to the following conditions:

1. That except where minor amendments may be required by other relevant Acts, or by conditions imposed on this consent, the development shall proceed in accordance with the details and plans submitted with and forming part of development application number 830/044/15.
2. The hours of operation shall not exceed 8.30am to 5.30pm on any day.
3. Delivery vehicles that serve the premises, shall be restricted to between 8.30am to 5.30pm Monday to Friday.

#### Advisory Notes:

The applicant is advised that the signage has been excluded from this application and this component of the development will be the subject of a further application to Council under the Development Act 1993.

#### Introduction:

The Flinders Regional Development Assessment Panel is required to determine the application.

#### Previous Panel Consideration:

Nil

### Officer's Report:

Refer to attached Report by Tom Hateley, Access Planning (dated 10<sup>th</sup> November 2015).

### Statutory Requirement:

The District Council of Mount Remarkable Development Plan – consolidated 5<sup>th</sup> September 2013  
 Development Act 1993  
 Development Regulations 2008

### Policy/Strategic Implications:

*The District Council of Mount Remarkable Strategic Management Plan 2008-2020:*

#### *Strategy Statement:*

With visionary, respected and strong leadership, Council will be in a position to successfully develop constructive partnerships with other levels of government and our communities, to ensure our aspirations are met and our futures are secured.(Reference 1)

#### *Strategy Objective:*

To not only meet, but to excel in satisfying the requirements of the Local Government Act (Reference 1.7)

#### *Strategic Outcomes:*

Ensure that Council satisfactorily meets all legislative compliance requirements (Reference 1.7.3)

### Risk/Liability:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

Legend: E: Extreme risk; immediate action required  
 H: High risk; senior management attention needed  
 M: Moderate risk; management responsibility must be specified  
 L: low risk; manage by routine procedures

### Voting Requirements:

Absolute Majority

10 November 2015

Ref: 6504 DAP Report

Chief Executive Officer  
District Council of Mount Remarkable  
PO Box 94  
MELROSE, SA 5483

Access Planning (SA) Pty Ltd  
ABN 57 089 702 741

2751 Henley Beach Road  
Torrensville SA 5031

Telephone 08 8130 7222  
Facsimile 08 8130 7299  
admin@accessplanning.com.au  
www.accessplanning.com.au

**ATTENTION:** Tammy Bastian

Dear Tammy,

**RE: PROPOSED CHANGE OF USE DWELLING TO SERVICE INDUSTRY  
(BAKERY/CAFE) 25 HIGH STREET, WIRRABARA  
DA 830/044/15**

As instructed, the following is a planning assessment of the abovementioned development application.

In preparing this report I have reviewed the Council file on the application and familiarised myself with the subject land and relevant provisions of the Development Plan.

## **1.0 DEVELOPMENT DETAILS**

Proposed Development:	Change of Use - Dwelling to a Service Industry (Bakery/Café)
Development Application Number:	830/044/15
Location:	25 High Street, Wirrabara
Certificate of Title:	Volume 5837 Folio 734
Applicant:	Trevor & Evelyn Bertrand
Owner:	Bertrand Waste Management Pty Ltd
Zone:	Township Zone
Public Notification:	Cat 3 (merit)
Lodgement Date:	11 June 2015
Authorised Development Plan:	5 September 2013

## 2.0 SUBJECT LAND AND LOCALITY

The subject land consists of a regular shaped allotment comprising an area of 2023 square metres located within the Township zone of Wirrabarra.

The land has frontages of approximately 32 metres to High Street to the east and 64 metres to Second Street to the north.

High Street is identified as a Secondary Arterial Road.

The subject land contains a single storey detached dwelling sited towards the front of the site. The land also contains an associated outbuilding sited to the south west of the dwelling.

Vegetation on the property is limited to a number of small trees and shrubs, principally surrounding the dwelling and along the property boundaries. The land has a gently fall from High Street to the rear (western) boundary.

Vehicle access is provided via two access points from High Street, one adjacent the northern boundary and one adjacent the southern boundary. It appears that the access adjacent the northern boundary is the primary access point as it leads to the existing carport via a formed driveway.

No access to the land is currently taken from Second Street and there are a number of street trees located along Second Street adjacent the site which currently restricts access to the land from this road.

As a result of its relatively wide road reserve on street parking is available on High Street in front of the site.

The subject land is adjoined by Township zoned land and the locality comprises a mixture of land uses which principally consists of residential development to south, east and west and shops and commercial uses to the north on the properties fronting High Street.

The subject land and locality are more particularly depicted below in figures 1 and 2.

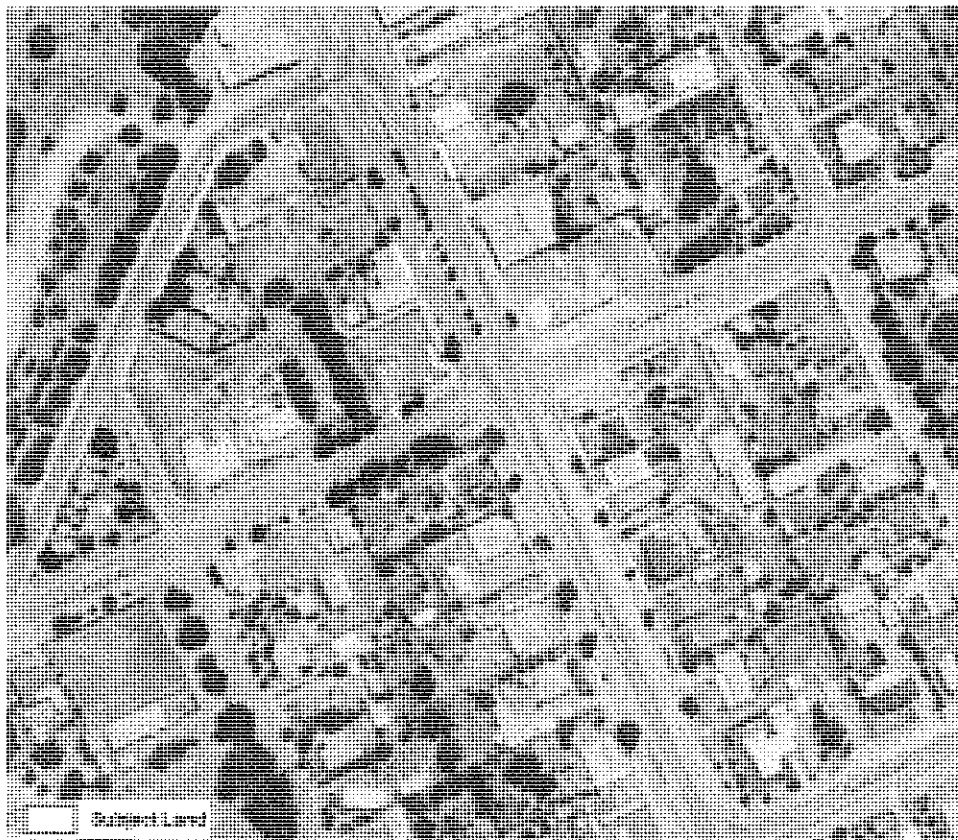


Figure 1: Subject Land and Locality

Source: Property Location Browser ([www.maps.sa.gov.au](http://www.maps.sa.gov.au))

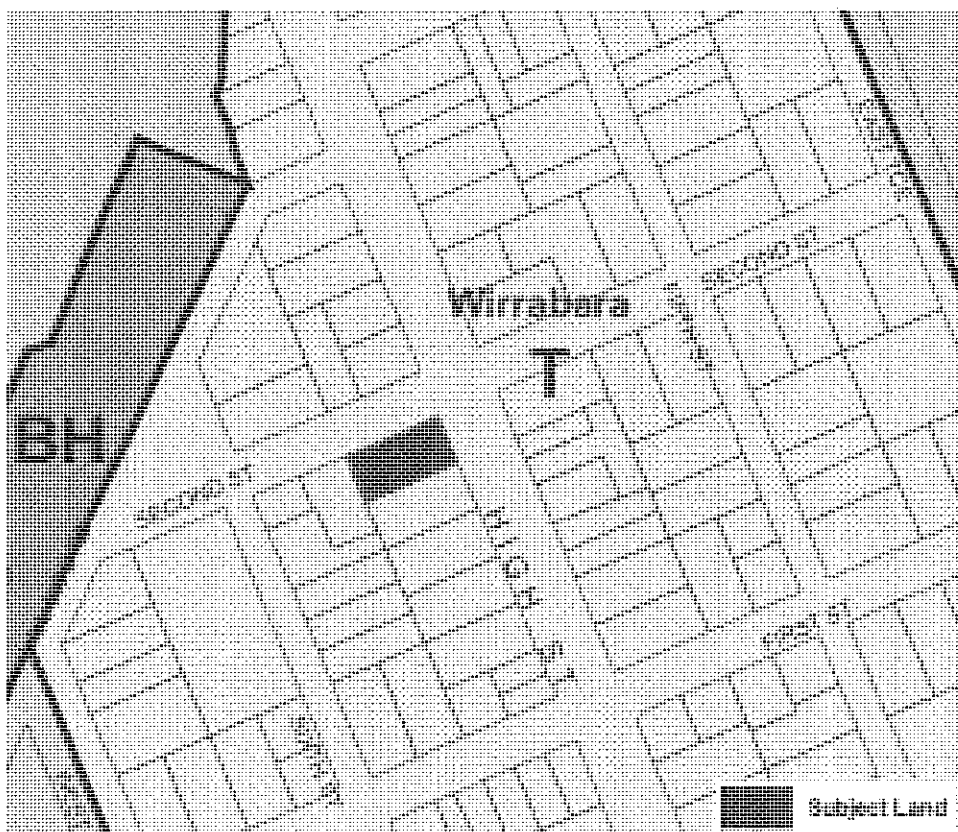


Figure 2: Zoning

Source: Zone Map MtR/21 of DC Mt Remarkable Development Plan

### 3.0 PROPOSED DEVELOPMENT

The proposal seeks to convert the existing dwelling on the property to a bakery and cafe.

Products will be baked onsite and goods to be sold will include pies, pasties, cakes, coffee and cold drinks.

Seating for 20 people is to be provided within the front two rooms of the building.

Works to the existing building will be limited to internal alterations.

The business is to employ two people and opening hours are to be 8.30am -5.30pm Sunday-Friday. Baking will only occur during opening hours (i.e. no baking overnight).

The business is to generate 1-2 deliveries per week which are to occur between 2pm and 3pm on Fridays.

It is proposed that larger vehicles (trucks) will unload goods on the street adjacent the site, whilst goods delivered by smaller vehicles (car or ute) will be unloaded within the existing driveway.

Signage is shown on the site plan, however, at the time of writing this report specific details for the signs had not been provided. In order to expedite the assessment of the application this component of the development has been excluded from the assessment.

As a result of the above, if the application is approved, it is recommended that an advisory note be included on the consent advising the applicant that any associated signage will require a further application.

The proposed development is more particularly illustrated in the submitted plans and associated documents.

### 4.0 AGENCY REFERRALS

Pursuant to Schedule 8 of the Development Regulations 2008, the application was referred to the transport division of the Department of Planning, Transport and Infrastructure (DPTI).

DPTI's comments are summarised as follows:

- High Street is a Primary Freight and Tourist Route and is gazetted for 26m B-Double vehicles
- High Street currently accommodates 650 vehicles per day (12.5% commercial vehicles) and has a posted speed limit of 60km/h
- Recommends that all vehicle access taken from Casuarina (Second) Street and that the existing High Street accesses be closed
- Recommended onsite carparking be provided at a rate that accords with Council's Development Plan.
- Advised that any signage associated with the development shall comply with the various design principles

### Conclusion

*Whilst DPTI is generally supportive of the proposed land use, DPTI does not support the application in its current form. It is recommended that amended plans addressing the matters relating to access and car parking be submitted to Council and thence DPTI for further review and comment.*

## 5.0 PUBLIC NOTIFICATION

Pursuant to Schedule 9 of the Development Regulations 2008 the proposed development represents a Category 3 form of development for the purposes of public notification. The application therefore underwent full public notification.

No representations were received during the notification period.

## 6.0 NATURE OF DEVELOPMENT

Pursuant to Regulation 16 of the Development Regulations 2008 the relevant authority must determine the nature of the development.

With regard to the definitions provided in Schedule 1 of the Regulations it is my opinion that the proposed development is most appropriately defined as service industry (refer to definition below).

*service industry means a light industry in which—*

*(a) goods manufactured on the site (but not any other goods) are sold or offered for sale to the public from the site;*

*and the site occupied for such sale, service, repair or restoration (but not manufacture) does not exceed 200 square metres;*

With respect to the above, goods are to be baked on site and offered for sale, also these activities are to occur from within the existing dwelling (the site) which is approximately 150m<sup>2</sup>.

It is noted that the proposed development will also sell coffee and cold drinks from the site which is inconsistent with the above definition which excludes the sale of any other goods, however, this aspect of the development is considered to be ancillary and in association with the primary purpose of the development which is to produce and sell baked goods on the site.

Whilst defined as a service industry, it is noted that the retail component of the development is akin to a shop.

## 7.0 DEVELOPMENT ASSESSMENT

The subject land is located within the Township Zone as indicated on Zone Map MtR/21 of the Mount Remarkable (DC) Development Plan, Consolidated 5 September 2013.

The following Objectives and Principles of the Mount Remarkable (DC) Development Plan are considered relevant to the assessment of this application;

### Township Zone Objectives

- 1 Services and facilities grouped together to serve the local community and the visiting public.
- 3 Conservation and enhancement of the main road streetscape and scenic rural setting of the township.
- 5 Development that contributes to the desired character of the zone.

#### **Desired Character**

*It is preferable for development to occur through in-fill on land suited to such development. It is expected that shops, offices and community facilities will continue to be concentrated adjacent to West Terrace and North High Street, while the north and northwest of the town are the preferred areas for recreation development. Commercial development is envisaged to the southeast of the town.*

#### **Principles**

- 1 The following forms of development are envisaged in the zone:
  - shop or group of shops
  - small scale light and service industry development
- 4 Business and commercial development should be of a scale and function consistent with the role of the township as a local service centre supplying a range of goods and services to the local community, the surrounding district and visitors to the area.
- 6 Development should not be undertaken unless it is consistent with the desired character for the zone.
- 8 Development of a business, commercial or industrial nature should be consolidated with existing facilities to establish identifiable service centres.

A service industry is an envisaged use in the zone as outlined in Principle 1.

The desired character for the zone envisages a range of land uses in various parts of the town and whilst a service industry is not specifically mentioned, the proposed development is consistent with other retail and commercial development located on either side of High Street to the north of the site.

As a result, the proposed development will be positioned within the main street of the town and adjacent other commercial uses which is consistent with the intent of Zone Objective 1 and Principle 8.

The proposed development consists of a scale and type of use that would be expected to be found within a township and will provide a range of goods which will service the local community and visitors to the area. The proposal is therefore consistent with Principle 4.

The proposal seeks to utilise an existing dwelling and whilst a change of land use will occur, the associated works to the dwelling will principally be internal and thus the proposed development will assist to retain the existing main road streetscape of Wirrabarra in accordance with Zone Objective 3.

Having regard to the above, the proposed development is considered to largely accord with the above-mentioned provisions and overall intent of the Zone.

#### **Interface between Lands Uses**

##### **Objectives**

- 1 Development located and designed to prevent adverse impact and conflict between land uses.

##### **Principles**

- 1 Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:
  - (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants
  - (b) noise
  - (c) vibration



- (d) electrical interference
- (e) light spill
- (f) glare
- (g) hours of operation
- (h) traffic impacts.

- 2 Development should be sited and designed to minimise negative impact on existing and potential future land uses considered appropriate in the locality.**

The proposed development seeks to convert the existing dwelling to a non-residential use which has the potential to create interface issues with the existing dwellings on the adjoining properties.

Notwithstanding the above, it is not anticipated that the proposed development will result in any adverse impacts to the amenity of the locality, particularly considering the proposed operating hours and scale and nature of the business.

In addition, the proposed development will be consistent with the existing arrangement of land uses within the locality, particularly on the properties fronting High Street, which comprises a mixture of commercial and retail uses being sited adjacent residential development.

It would be expected that potential noise impacts associated with the development would be limited to staff and customers visiting the site and the parking and unloading of deliveries vehicles. The proposed business is to be operated six days a week during standard business hours and deliveries are to occur only 1-2 times a week. This arrangement will assist to minimise any potential noise impacts to adjoining properties.

Another potential impact relates to odour as a result of baking to occur on the site. However, this is not likely to be an issue given the small scale nature of the operation which includes a relatively modest, domestic sized kitchen.

Once again, given the scale of the development it is not expected traffic and parking generated by the development will be at a level which will adversely impact the amenity of the locality. I note that this issue will be further discussed below.

#### **Transportation and Access Objectives**

- 2 Development that:**

- (c) provides off street parking

#### **Principles**

- 13 Development should make sufficient provision on site for the loading, unloading and turning of all traffic likely to be generated.**
- 23 Development should be provided with safe and convenient access which:**
- (a) avoids unreasonable interference with the flow of traffic on adjoining roads
  - (b) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision
  - (c) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.
- 31 Development should provide off-street vehicle parking and specifically marked disabled car parking places to meet anticipated demand in accordance with Table M1R/1 - Off Street Vehicle Parking Requirements.**

It is noted that DPTI do not support the application in its current form and recommended that amendments be made in order to address access and parking issues.

Pursuant to Schedule 8 of the Regulations, it is noted that the relevant authority is only required to have regard to the comments provided by DPTI as part of the assessment.

Whilst the comments from DPTI are acknowledged, the recommendations are not considered to be warranted as the proposed development in its current form is unlikely to result in any adverse traffic and parking impacts in the locality.

The above opinion is based on the scale and nature of the proposed development and considering the characteristics of the existing road network, particularly High Street.

High Street accommodates 650 traffic movements a day which is extremely low for an arterial road; in fact, the numbers currently accommodated on the road are well under the capacity of what would be accommodated on a typical local road.

High Street is wide straight road with excellent sightlines and is controlled by a 50km/h speed limit (not 60km/h as stated by DPTI).

DPTI advised that the existing northern access point does not meet the relevant Australia Standard with respect to its setback from the intersection and therefore recommended that this access point be closed. Whilst this issue is noted, the existing access to the site is a longstanding arrangement and will only likely to be used by staff (2 people) to park within the existing carport and the occasional delivery vehicles.

Based on the characteristic of road discussed above, the existing access arrangement is not likely to create any adverse safety and/or traffic impacts.

No customer parking spaces are proposed on the site which is not supported by DPTI.

In accordance with Table Mt/R 1 the proposed development is required to provide 1 onsite parking space, based on the rate which is applied for a service industry.

Whilst the proposed development technically satisfies the relevant parking requirements within the Development Plan as parking can be provided within the existing carport, it is noted that the development has the potential to generate a greater parking demand due to the retail component.

The design of High Street allows for on street parking adjacent the site which is consistent with the parking arrangements for the majority of other shops and commercial premises within the township fronting High Street.

It is estimated that there is enough space for six parking spaces (90 degree or angle parks) directly in front of the site, which would likely be sufficient to accommodate peak parking demand.

As discussed, staff parking can be accommodated on the site within the existing carport and driveway and thus on street parking would be for customers only.

DPTI has recommended that parking be provided onsite to the rear of the existing dwelling which would result in access being taken from Second Street.

Currently the land does not take access from Second Street and it is noted that any new access point from this road would likely require the removal on an existing street tree.

In addition, notwithstanding a change in land use is proposed, the establishment of a car park at the rear of the site will likely further erode the existing residential character of the subject land and impact the Second Street streetscape.

## 8.0 CONCLUSION

Having regard to the above assessment of the proposed development against the relevant provisions of the Mount Remarkable (DC) Development Plan, on balance, I consider that the proposal is an appropriate form of development, due to the following;

- The proposed development is an envisaged form of development within the zone.
- The proposed development is consistent with other forms of commercial/retail development fronting High Street
- The proposal will not adversely impact the amenity of the existing and future residents within the locality
- The proposed development will unlikely generate any adverse traffic and parking impacts

## 9.0 RECOMMENDATION

That Development Application 830/044/15 is not seriously at variance with the provisions of the District Council of Mount Remarkable Development Plan, consolidated 5 September 2013.

That Development Application 830/044/15 seeking a change of use of a dwelling to a service industry (bakery/cafe) at 25 High Street, Wirrabara be **granted** Development Plan Consent, subject to the following conditions:

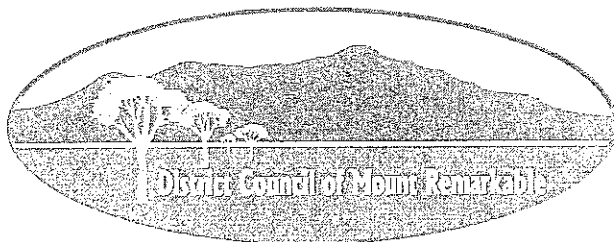
1. That except where minor amendments may be required by other relevant Acts, or by the conditions imposed on this consent, the development shall proceed in accordance with the plans and details submitted with and forming part of Development Application No. 830/044/15.
2. The hours of operation shall not exceed 8.30 am to 5.30pm on any day.
3. Delivery vehicles that serve the premises, shall be restricted to between 8.30am to 5.30pm Monday to Friday.

## Advisory Notes

The applicant is advised that the signage has been excluded from this application and this component of the development will be the subject of a further application to Council under the Development Act 1993.

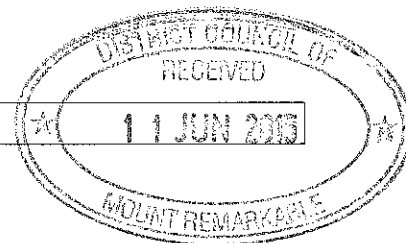
Tom Hateley MPIA  
ACCESS PLANNING (SA) PTY LTD

A21533



PO Box 94  
 MELROSE SA 5483  
 Phone: 08 8666 2014 Freecall: 1300 726 252  
 Fax: 08 8666 2169  
 Email: [postmaster@mntr.sa.gov.au](mailto:postmaster@mntr.sa.gov.au)  
 Website: [www.mtr.sa.gov.au](http://www.mtr.sa.gov.au)

## DEVELOPMENT APPLICATION FORM



CONSENT TYPE APPLYING FOR (Please tick appropriate box)

- ☐ Development Plan Consent (Planning Only)
- ☐ Building Rules Consent (Building Only)
- ☐ Full Development Approval (Both Planning and Building Consent)

Office Use Only

Development No: 830/\_\_\_\_/\_\_\_\_

Assessment No: A\_\_\_\_\_

File Reference: \_\_\_\_\_

Please use BLOCK LETTERS and Black or Blue ink.

APPLICANT: BERTRAND TREVOR EDEEN  
 Postal Address: 22 SOUTH TCE WIRABARA Post Code: 5481  
 Phone: (08) 86684272 Mobile: 0417187002 Fax: \_\_\_\_\_  
 Email: T.BERTLAND1@BIGPOND.COM  
 Please refer to attached Information Sheet 2 "Information Required with an Application"

OWNER: BERTRAND WASTE MANAGEMENT PTY LTD  
 Postal Address: 22 SOUTH TCE WIRABARA Post Code: 5481  
 Phone: (08) 86684272 Mobile: 0417187002 Fax: \_\_\_\_\_  
 Email: T.BERTLAND1@BIGPOND.COM  
 ARE YOU GOING TO BE AN OWNER BUILDER? YES ☒ NO ☐

BUILDER: \_\_\_\_\_  
 Postal Address: \_\_\_\_\_ Post Code: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Mobile: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Email: \_\_\_\_\_ Building Licence No: \_\_\_\_\_

### CONTACT PERSON FOR FURTHER INFORMATION:

Name: T. BERTRAND  
 Phone: 86684272 Mobile: 0417187002 Fax: \_\_\_\_\_  
 Email: T.BERTLAND1@BIGPOND.COM

NATURE OF PROPOSED DEVELOPMENT: BAKERY - CAFE

EXISTING LAND USE: RESIDENTIAL

AREA (m<sup>2</sup>) OF PROPOSED DEVELOPMENT: 2046 SM

LOCATION OF PROPOSED DEVELOPMENT:

House No: 15 Street: HIGH ST Town: WILLABARA  
 Lot No: 70 Section: \_\_\_\_\_ Hundred: APPILA  
 Certificate of Title(s) Volume: (CT5837/734) 5837 Folio: 734  
 Please attach a copy of Certificate of Title(s) TO FOLLOW

BUILDING RULES CLASSIFICATION SOUGHT: \_\_\_\_\_ Present Classification: \_\_\_\_\_

If Class 5, 6, 7, 8 or 9 classification is sought, state the proposed number of employees: Male: \_\_\_\_\_ Female: \_\_\_\_\_

If Class 9a classification is sought, state the number of persons for whom accommodation is provided: \_\_\_\_\_

If Class 9b classification is sought, state the proposed number of occupants of the various space at the premises: \_\_\_\_\_

DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATION 1993 APPLY? YES ☒ NO

HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY BEEN PAID? YES ☒ NO  
 (Only required if development value is greater than \$15,000)

HAS THE HOME OWNERS WARRANTY INSURANCE CERTIFICATE BEEN OBTAINED? YES ☒ NO  
 (Only required for residential building work valued is greater than \$12,000)

IS THIS DEVELOPMENT APPLICATION CLASS 1 TO 9 YES ☒ NO  
 IF YES, an electronic copy of your development application is required to be emailed or sent by USB  
 (A hard copy is still required)

DEVELOPMENT COST (do not include any fit out costs): \$ 1214

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 2008 and where public notification is required may be made available on Council's website. Details provided by the applicant, written representation and other technical reports from part of the reports attached to Council's Development Assessment Panel agendas.

SIGNED: Trevor Bertrand Dated: 07/06/15  
 NAME (Printed): TREVOR BERTRAND EVIEYN BERTRAND

25 HIGH ST  
WILBARA 5481

DRIVEWAY

VERANDA

5M  
↓  
↑

DRIVEWAY

17m

CARPORT

TANK  
STAND

SHED

TANK

TANK

PORCH

SHED

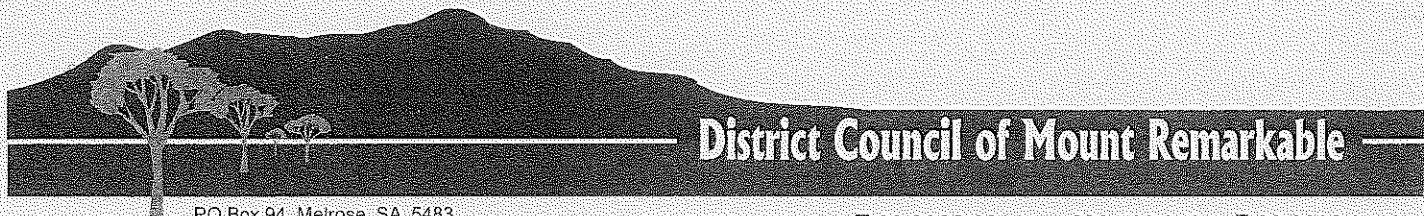
SIDE FENCE

LAND  
2046 SM

BACK FENCE LINE

W

SIDE FENCE



PO Box 94, Melrose SA 5483

## District Council of Mount Remarkable

T 08 8666 2014 1300 726 252 F 08 8666 2169  
E [postmaster@mtr.sa.gov.au](mailto:postmaster@mtr.sa.gov.au) W [www.mtr.sa.gov.au](http://www.mtr.sa.gov.au)

Bertrand Waste Management Pty Ltd  
22 South Terrace  
WIRRABARA SA 5481

31<sup>st</sup> July 2015

Development No. 830/044/15  
Applicant: Trevor & Evelyn Bertrand  
Proposal: CHANGE OF USE - HOUSE TO BAKERY / CAFE

Subject Land: Hundred WIRRABARA Lot 70

Further to the above application recently lodged with Council, you are advised that additional information regarding the proposal is required pursuant to Section 39(2) of the Development Act 1993 "the Act". This information is necessary so that a proper assessment of the development can be made.

The following details should therefore be supplied as soon as possible to enable planning consent to be issued:-

- On site car parking provisions
- Disabled access provisions in accordance with AS2870
- Floor plans indicating dimensions and proposed use for each area/room. Including exit locations as well as fire extinguisher locations.
- Proposed staff members
- Proposed hours of operation
- Proposed/existing toilet
- Detailed description of the business operations. Example:
  - Products sold
  - Is baking to be undertaken on site etc.
- Floor plan with showing counter and all dining tables (if any).

Please be aware, *should Planning Consent be issued, the following further information will also be required for a proper assessment of the Building Rules:*

- Disability Access (for both employees and customers)
- Toilet provisions (Table F2.3 BCA)
- Exit locations
- Door hardware (D2.210 BCA)
- Fire extinguisher type and locations (E1.6 BCA). (note: this will depend on number of employees)
- Dine in customer numbers (more than 20 will require toilets as per table F2.3 BCA), size and use of each room (location and distance to exist etc.)



- Areas which may need access upgrades.
- Energy efficiency details. E.g. Will areas of the building be air conditioned and does the existing house have roof insulation etc.

It is pointed out that this information must be received within three (3) months from the date of this request otherwise Council is entitled to refuse the application after that period has elapsed, pursuant to Section 39(3)(b) of the Act.

Accordingly, your cooperation in providing the required information would be appreciated. Once received, the application will be processed further.

Please feel free to contact the Council office if you require clarification as to what is required.

Yours sincerely



**MATT CHRISTOPHERSEN**  
**BUILDING AND DEVELOPMENT OFFICER**



DEVELOPMENT NO 830/044/15

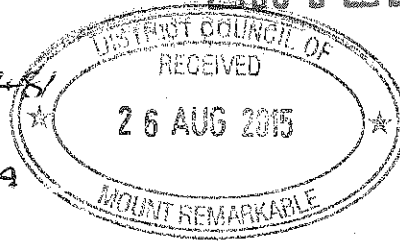
BEATRAN WASTE MGT PTY LTD

22 SOUTH TCE

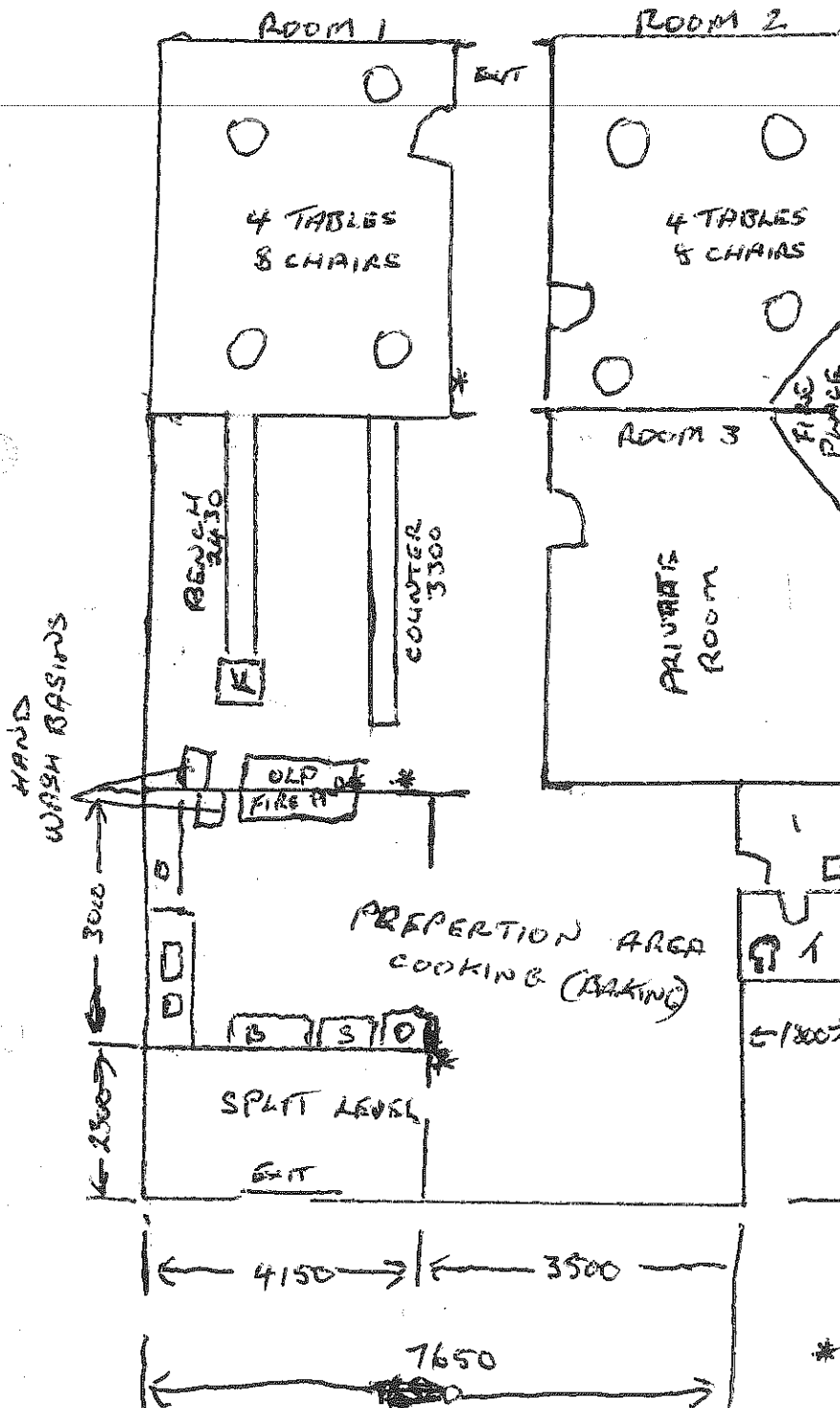
WIRRALARA SA 5481

LOT 70 HIGH ST WIRRALARA

ENTERED



File Ref:	830/044/15
Agenda item:	
Meeting:	
Copy to:	
X-ref:	830/044/15 DA20043



ROOM 1 EXIT 1100

ROOM 2 EXIT 3100

ROOM 3 EXIT 5300

ROOMS 1,2,3. DIMENSION

3700 x 4200

COUNTER ROOM DIMENSION

5250 x 4200

HALLWAY

1570 x 4200

TOILET HAS TWO BOOKS  
INTO TOILET AREA

\* FIRE EXTINGUISHERS

THESE PLACES MAY CHANGE  
DUE TO REGULATIONS

# Bertrand Waste Management PTY LTD

22 South Terrace,  
Wirrabara, SA 5481  
Phone: (08) 86684272

Mt Remarkable Council

Development No 830/044/15

20/08/15

Know on site car parking at this time

Disabled access will be meet

Floor plans included

Two staff members (as business grows more will be needed)

Hours 9am to 5pm 6 days a week

Toilet as per plan (no toilet for customers at this time but will be as business grows)

Products to be sold pies pasties cakes coffee cold drinks ect

Baking will be on site

As per plan 4 tables per room

Please contact me if you need clarification on anything

Regards



Trevor Bertrand  
Director



The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



Registrar-General

## Certificate of Title - Volume 5837 Folio 734

Parent Title(s) CT 227/96  
Dealing(s) CONVERTED TITLE  
Creating Title  
Title Issued 12/02/2001  
Edition 5  
Edition Issued 03/07/2015 [Previous Edition]  
Diagram Reference 0227096

REAL PROPERTY ACT, 1886



South Australia

### Estate Type

FEE SIMPLE

### Registered Proprietor

BERTRAND WASTE MANAGEMENT PTY. LTD. (ACN: 123 473 665)  
OF 22 SOUTH TERRACE WIRRABARA SA 5481

### Description of Land

ALLOTMENT 70 TOWN OF WIRRABARA  
HUNDRED OF APPILA

### Easements

NIL

### Schedule of Dealings

Dealing Number	Description
12336668	MORTGAGE TO AUSTRALIA & NEW ZEALAND BANKING GROUP LTD. (ACN: 005 357 522)

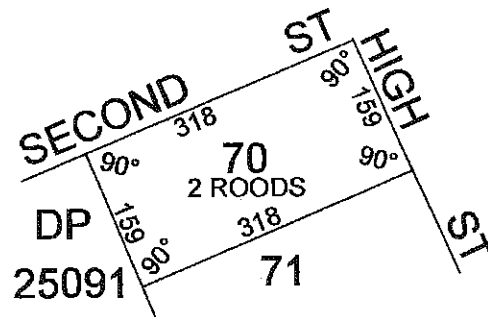
### Notations

#### Dealings Affecting Title

NIL

#### Priority Notices

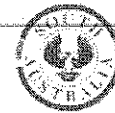
NIL



LINKS 100 50 0 1 2 3 4 CHAINS

**FOR METRIC CONVERSIONS**  
1 LINK = 0.201168 METRES  
1 CHAIN = 100 LINKS  
1 ACRE = 0.404686 HECTARES  
1 ROOD = 1011.7 m<sup>2</sup>  
1 PERCH = 25.29 m<sup>2</sup>

In reply please quote 2015/00146/01, Process ID: 365273  
Enquiries to Vittorio Varricchio  
Telephone (08) 8226 8383  
Facsimile (08) 8226 8330  
E-mail dpti.luc@sa.gov.au



Government of South Australia

Department of Planning,  
Transport and Infrastructure

30/10/2015

Mr Wayne Hart  
Chief Executive Officer  
District Council of Mount Remarkable  
PO Box 94  
MELROSE SA 5483

**SAFETY AND SERVICE –  
Traffic Operations**

GPO Box 1533  
Adelaide SA 5001

Telephone: 61 8 8226 8222  
Facsimile: 61 8 8226 8330

ABN 92 366 288 135

Dear Mr Hart,

### **SCHEDULE 8 - REFERRAL RESPONSE**

<b>Development No.</b>	830/044/15
<b>Applicant</b>	Trevor & Evelyn Bertrand
<b>Location</b>	25 High Street, Wirrabara
<b>Proposal</b>	Change of use of a dwelling to a shop (bakery/cafe)

I refer to the above development application forwarded to the Safety and Service Division of the Department of Planning, Transport and Infrastructure (DPTI) in accordance with Section 37 of the *Development Act 1993*. The proposed development involves development adjacent a main road as described above.

The following response is provided in accordance with Section 37(4)(b) of the *Development Act 1993* and Schedule 8 of the *Development Regulations 2008*.

### **CONSIDERATION**

The application proposes to change the use of a dwelling to a shop (bakery/cafe).

The subject site abuts High Street which is identified as a Primary Freight Route and a Tourist Route under DPTI's *A Functional Hierarchy for South Australia's Land Transport Network* and is gazetted for 26.0 metre B-Double vehicles. At this location High Street has an AADT of 650 vehicles per day (12.5% commercial vehicles) and a posted speed limit of 60 km/h.

The application does not propose any alterations to the existing access arrangements serving the site. DPTI notes that there are two existing access points to/from High Street to serving the site. The northern access does not comply with AS/NZS 2890.1:2004, Fig. 3.1 'Prohibited Locations of Access Driveways' and should be permanently closed. Additionally, it is DPTI policy to minimise access points to/from arterial roads in the interests of road safety and utilise local roads when available. Given that the site has secondary frontage to Casuarina Street and that vehicles cannot enter and exit the site in a forward direction, it is DPTI's strong preference that all vehicular access be gained via Casuarina Street, with the existing High Street accesses being closed.

It is further noted that no on-site car parking is shown on the plans. Whilst there is currently informal roadside parking available along High Street and Casuarina Street, DPTI does not generally support development that relies solely upon on-street car parking. It is therefore recommended that an on-site car park be provided (or at least provision be made for a car park) that accords with the rates provided in Council's development plan. The car park should be to the rear of the existing building and accessed via Casuarina Street.

9879608

### Signage

It is noted that no new signage is proposed as part of this development. Consequently, DPTI provides the following design principles that should be adhered to in the final design of any signage associated with the development:

- Signage may use LED lighting for internal illumination of a light box only;
- No element of LED or LCD display is to be included in the design;
- Any illuminated signage is to be limited to a low level of illumination so as to minimise distraction to motorists;
- Signage associated with the development shall not contain any element that flashes scrolls, moves or changes;
- Non illuminated signage on the site shall be finished in a material of low reflectivity to minimise the risk of sun and headlamp glare for motorists.

It is further advised that the utilisation of Trailer Mounted Variable Message Displays for advertising purposes should not be permitted on or adjacent to the subject land.

### CONCLUSION

Whilst DPTI is generally supportive of the proposed land use, DPTI does not support the application in its current form. It is recommended that amended plans addressing the matters relating to access and car parking be submitted to Council and thence DPTI for further review and comment.

Yours sincerely,



A/GENERAL MANAGER, OPERATIONAL SERVICES

For COMMISSIONER OF HIGHWAYS

A copy of the decision notification form should be forwarded to [dpti.developmentapplications@sa.gov.au](mailto:dpti.developmentapplications@sa.gov.au)

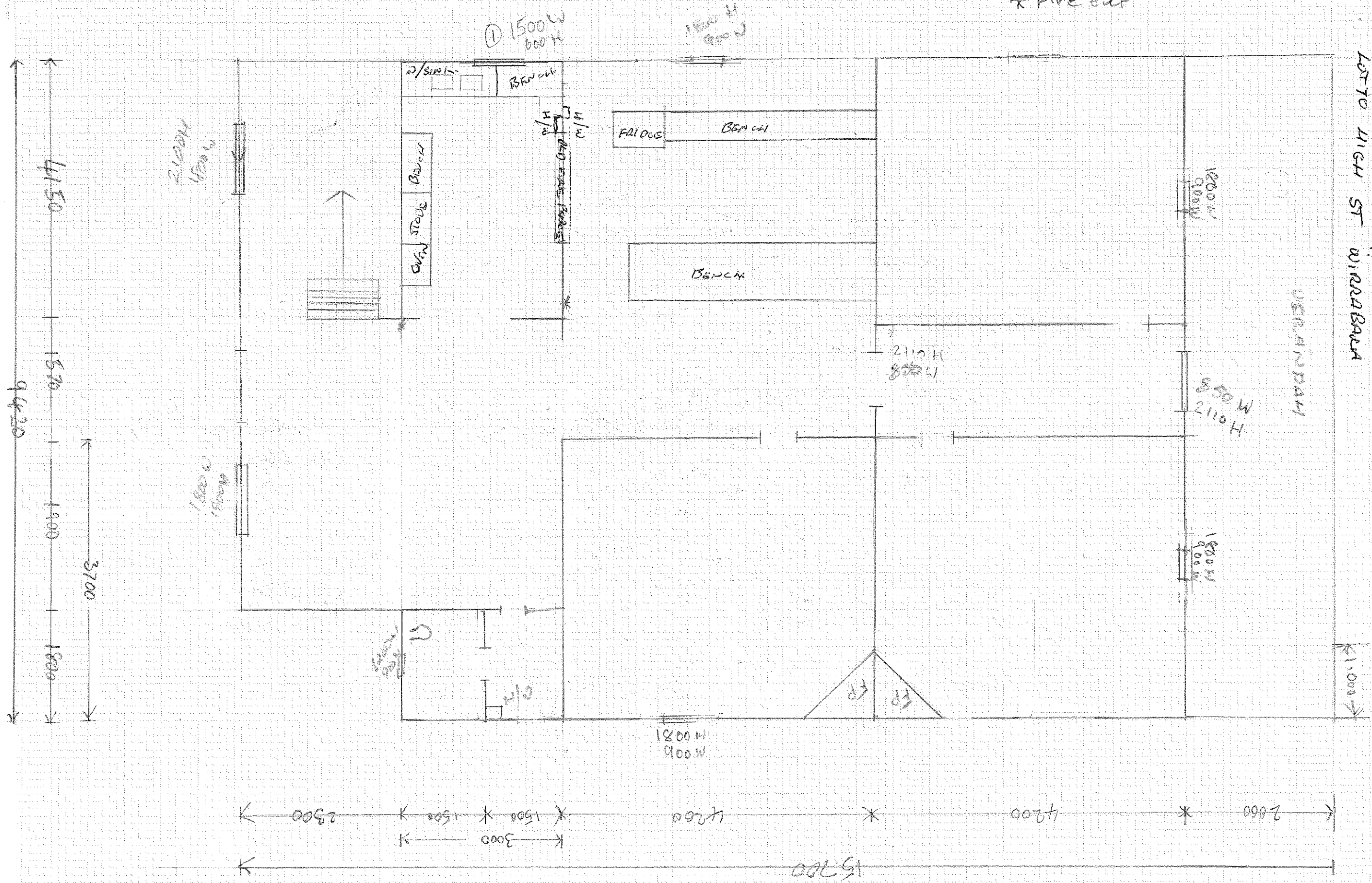
DEVELOPMENT NO 830/04/13  
BEDDARD WASTE MTD  
22 SOUTH TCE  
WIRARABA SA  
5081

LOT TO HIGH ST WIRARABA

UNCRANPAM

\* Fire exit

Scale



DEVELOPMENT No 830/644/15  
BERKLAND WASTE MTY LTD  
22 SOUTH TOWNS  
WIRRAWARRA SA  
5481

LOT 70 HIGH ST WIRRAWARRA

SCALE

1:500

14000

5000

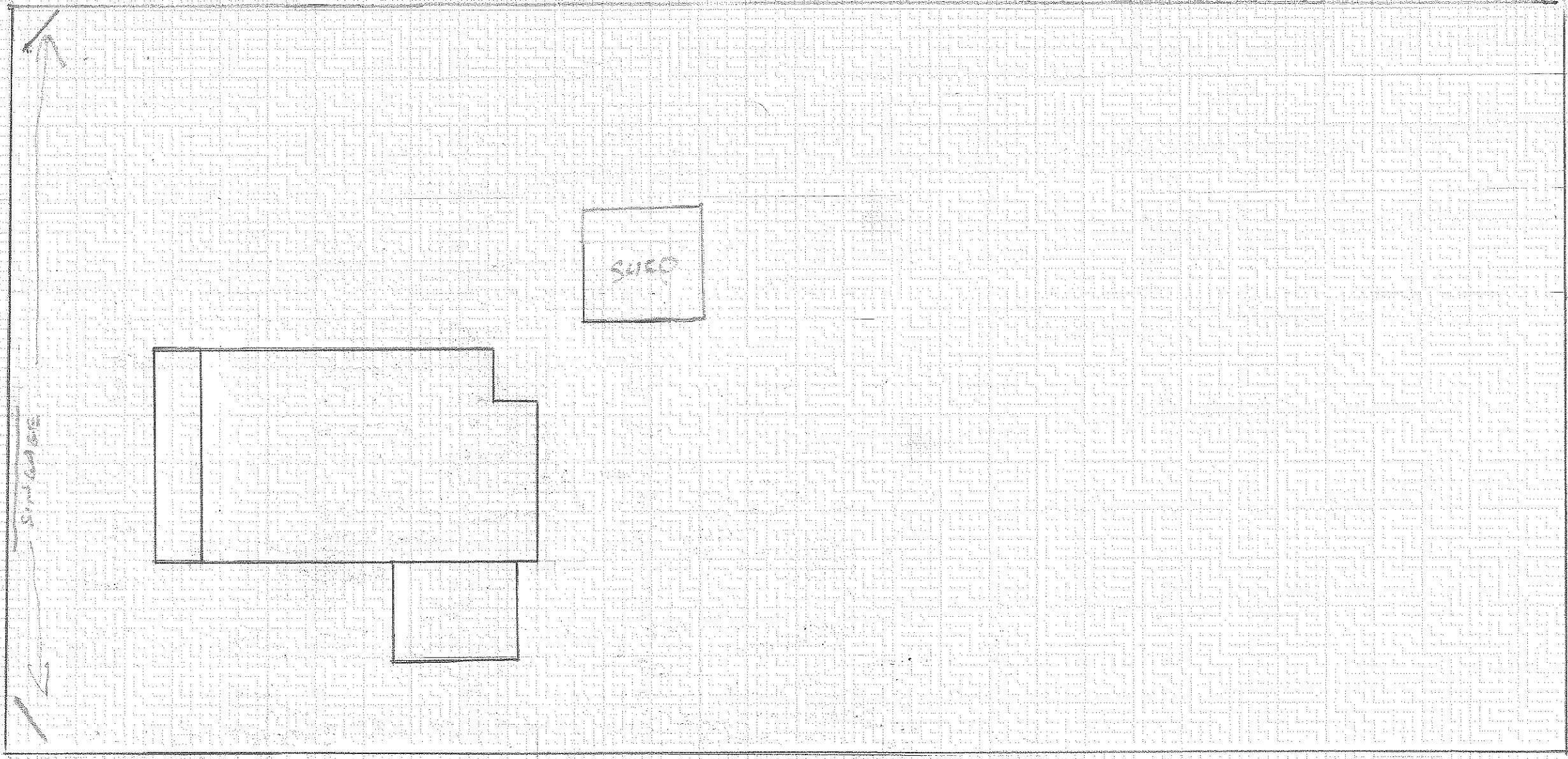
6005  
4000

5000

5000  
31320

42000

65000





## 6.1 THE DISTRICT COUNCIL OF MOUNT REMARKABLE

### 6.1.3 DA 830/081/15 – Aurecon Australia Pty Ltd – NBN fixed wireless telecommunication facility

<b>Action</b>	<b>For DECISION</b>
<b>Proponent</b>	<b>Council Officer</b>
<b>Officer</b>	<b>DCMR CEO</b>
<b>Development Application</b>	<b>830/081/15</b>
<b>Associated Reports &amp; Documents</b>	<b>Development Application / Planning Report, inc proposed plans, EPBC Act Protected Matters Report and ARPANSA Environmental EME Report</b>  <b>Nil Representations</b>  <b>Planning Consultant Report</b>

#### Officer's Recommendations:

**That** Development Application 830/081/15 for a fixed wireless telecommunications facility comprising a 40 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at 41 Crew Road, Wirrabara is not seriously at variance with the provisions of the District Council of Mount Remarkable's Development Plan, Consolidated 5<sup>th</sup> September 2013.

That Council **Grant** Development Plan Consent to Development Application 830/081/15 for a fixed wireless telecommunications facility comprising a 40 metre high monopole with a circular headframe, antennas and associated infrastructure and fencing at 41 Crew Road, Wirrabara, subject to the following conditions:

1. The development shall proceed in accordance with the plans and details submitted with and forming part of Development Application No 830/081/15.
2. The antennas affixed to the monopole shall be painted or otherwise finished in a dull, flat grey colour such as cadet grey or similar.
3. All construction work is to be carried out to the satisfaction of Council at all times.

#### Introduction:

The Flinders Regional Development Assessment Panel is required to determine the application.

#### Previous Panel Consideration:

Nil

#### Officer's Report:

Refer to attached Report by Tom Hateley, Access Planning (dated 20<sup>th</sup> October 2015).

### Statutory Requirement:

The District Council of Mount Remarkable Development Plan – consolidated 5<sup>th</sup> September 2013  
 Development Act 1993  
 Development Regulations 2008

### Policy/Strategic Implications:

*The District Council of Mount Remarkable Strategic Management Plan 2008-2020:*

#### *Strategy Statement:*

With visionary, respected and strong leadership, Council will be in a position to successfully develop constructive partnerships with other levels of government and our communities, to ensure our aspirations are met and our futures are secured.(Reference 1)

#### *Strategy Objective:*

To not only meet, but to excel in satisfying the requirements of the Local Government Act (Reference 1.7)

#### *Strategic Outcomes:*

Ensure that Council satisfactorily meets all legislative compliance requirements (Reference 1.7.3)

### Risk/Liability:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

*Legend:*     E: Extreme risk; immediate action required  
                   H: High risk; senior management attention needed  
                   M: Moderate risk; management responsibility must be specified  
                   L: low risk; manage by routine procedures

### Voting Requirements:

Absolute Majority

A21911

Aurecon Australasia Pty Ltd  
ABN 54 005 139 873  
55 Grenfell Street  
Adelaide SA 5000  
Australia

T +61 8 8237 9777  
F +61 8 8237 9778  
E [adelaide@aurecongroup.com](mailto:adelaide@aurecongroup.com)  
W [aurecongroup.com](http://aurecongroup.com)

**aurecon**

28 August 2015



Wayne Hart  
Chief Executive Officer  
District Council of Mount Remarkable  
PO Box 94  
MELROSE SA 5483

ENTERED

**NBNCo**

Mail Item:	0A2015-86
File Ref:	830/08/15
Agenda Item:	
Meeting:	
Copy to:	

Dear Wayne

**Development Application for a Proposed NBN Fixed Wireless (Telecommunications) Facility at 41 Crew Road, Wirrabara, SA 5481**

NBN Co has engaged Ericsson as the equipment vendor and project manager to establish the infrastructure required to facilitate the fixed wireless component of the National Broadband Network (NBN). Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The NBN is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To enable the provision of these services to the local community, NBN Co has undertaken a thorough analysis of potential site alternatives and during this process has attempted to select the most appropriate site. Factors such as the ability to meet the required coverage and technical objectives, opportunities for co-location, the surrounding landscape and community needs have all been carefully considered as part of this selection process.

Based on this assessment, NBN Co determined that the above address would be the most appropriate location to establish a facility so as to provide high speed wireless broadband coverage to the Wirrabara area. This would also serve as a key communications anchor point for other NBN Fixed Wireless facilities in the wider region.

Prior to lodgement of this development application, NBN Co has undertaken consultation to gauge feedback from the Cummins community. The consultation was undertaken in the form of a Community Information Session that was held on Thursday 19<sup>th</sup> March 2015 at the Wirrabara Institute from 3:00pm to 6:00pm. The session provided the community with an opportunity to consider the proposal and the broader benefits of the National Broadband Network. The session was attended by approximately 24 community members with a strong message to locate the proposed Fixed Wireless facility on Council owned property.

Please find enclosed an application for Development Plan Consent and supporting information for a proposed telecommunications facility comprising a 40 metre high monopole along with ancillary components at the above address which will form part the NBN fixed wireless infrastructure.

The application is accompanied by:

- Completed Development Application form;

- Completed Electricity Declaration form;
- Planning Report detailing compliance with the Mount Remarkable Council Development Plan (Consolidated 5 September 2013);
- A recent copy of the Certificate of Title;
- Preliminary Drawing pack;
- EPBC Act Protected Matters Report; and
- ARPANSA Environmental EME Report.

We trust that you have all the necessary information to commence your assessment of this application. Should you require any additional information regarding this application, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at [adam.pfitzner@aurecongroup.com](mailto:adam.pfitzner@aurecongroup.com)

Yours faithfully

A handwritten signature in black ink, appearing to read 'Adam Pfitzner'.

Adam Pfitzner  
Planner  
Aurecon Australasia Pty Ltd  
On behalf of **NBN Co Limited**



# Planning Report Proposed Fixed Wireless Facility

41 Crew Road  
Wirrabara SA 5481

## NBN Site Reference NBN-5PTZ-5PIR-5109 - Wirrabara

*The contents of this document reflect NBN Co's current position on the subject matter of this document. It is provided solely to explain information relevant to NBN Co's planning proposal. The contents of this document should not be relied upon as representing NBN Co's final position on the subject matter, except where stated otherwise. Any dates provided are indicative only, are subject to change and are dependent upon a number of factors.*

Prepared on behalf of NBN Co Limited  
By Aurecon Australasia Pty Ltd  
28 August 2015

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## Executive Summary

<b>Proposal</b>	<p>NBN Co propose to install a new fixed wireless facility at 41 Crew Road, Wirrabara SA 5481 comprising the following:</p> <ul style="list-style-type: none"> <li>▪ A new 40m high galvanised steel monopole;</li> <li>▪ Three (3) 1077mm long panel antennas at a centreline height of 40m;</li> <li>▪ Three (3) 500mm long remote radio units (RRUs), mounted behind the panel antennas (1 per antenna);</li> <li>▪ One (1) 900mm diameter parabolic antenna at a centreline height of 37m;</li> <li>▪ One (1) GPS unit;</li> <li>▪ Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and</li> <li>▪ 2.4m high security fencing and associated ancillary equipment.</li> </ul>
<b>Purposes</b>	The proposed facility will provide fixed wireless internet services to Wirrabara.
<b>Property Details</b>	<p><i>Description of Land:</i> Section 391, Hundred of Appila, in the area named Wirrabara</p> <p><i>Street Address:</i> 41 Crew Road, Wirrabara SA 5481</p> <p><i>Overall Site Area:</i> 6 Acres (approx. 2.4 Ha)</p> <p><i>Property Owner:</i> The District Council of Mount Remarkable</p>
<b>Development Plan</b>	<p><i>Council:</i> District Council of Mount Remarkable</p> <p><i>Zone:</i> Primary Production Zone</p> <p><i>Policy Area:</i> Township Fringe Policy Area 1</p> <p><i>Maps:</i> MtR/21</p>
<b>Application</b>	Construction of a Fixed Wireless Telecommunications Facility comprising a galvanised steel monopole, antennas, fencing and associated ancillary equipment.
<b>Applicant</b>	<p>NBN Co Limited (NBN Co)</p> <p>c/- Aurecon Australasia Pty Ltd</p> <p>Level 10, 55 Grenfell Street</p> <p>Adelaide SA 5000</p> <p>Contact: Adam Pfitzner</p> <p>(08) 8237 9989</p> <p><a href="mailto:adam.pfitzner@aurecongroup.com">adam.pfitzner@aurecongroup.com</a></p>



# 1 INTRODUCTION

NBN Co has engaged Ericsson as the equipment vendor and project manager to establish the infrastructure required to facilitate the fixed wireless component of the National Broadband Network (NBN). Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The NBN is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To support the Fixed Wireless component of this network, NBN Co requires a fixed wireless site to serve as a key communications anchor point for other NBN Fixed Wireless facilities in the wider region that surrounds the site.

An in-depth site selection process was undertaken in the area prior to confirming the site as the preferred location. This process matched potential candidates against four key factors, specifically:

- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact);
- The ability of the site to provide connection to other sites within the region;
- Construction feasibility; and
- The ability for NBN Co to secure a lease agreement with the landowner.

This application seeks planning consent for:

- A new 40m high galvanised steel monopole;
- Three (3) 1077mm long panel antennas at a centreline height of 40m;
- three (3) 500mm long remote radio units (RRUs), mounted behind the panel antennas (1 per antenna);
- One (1) 900mm diameter parabolic antenna at a centreline height of 37m;
- One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

This submission will provide assessment in respect of the relevant planning guidelines, and demonstrates site selection on the basis of:

- The site is designed so as to be appropriately located & sited so as to minimise visual impact on the immediate & surrounding area;
- The proposal is designed to comply with the relevant Commonwealth, State and Local Legislation;
- The site is designed to achieve the required coverage objectives for the area;

- 
- The proposal is designed to operate within the regulatory framework of Commonwealth, State and Local Government; and
  - The facility is designed to operate within all current and relevant standards and is regulated by the Australian Communications and Media Authority (ACMA).

---

## 2 BACKGROUND

### 2.1 NBN Co and the National Broadband Network

NBN Co is the organisation responsible for overseeing the upgrade of Australia's existing telecommunications network and for providing wholesale services to retail service providers. The NBN is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

The NBN's fixed wireless network will use cellular technology to transmit signals to and from a small antenna fixed on the outside of a home or business, which is pointed directly towards the fixed wireless facility.

NBN Co's fixed wireless network is designed to offer service providers with wholesale access speeds of up to 25Mbps for downloads and 5Mbps for uploads.<sup>1</sup>

### 2.2 What is Fixed Wireless and how is it different to Mobile Broadband?

The NBN's fixed wireless network, which uses advanced technology commonly referred to as LTE or 4G, is engineered to deliver services to a fixed number of premises within each coverage area.

This means that the bandwidth per household is designed to be more consistent than mobile wireless, even in peak times of use.

Unlike a mobile wireless service where speeds can be affected by the number of people moving into and out of the area, the speed available in a fixed wireless network is designed to remain relatively steady.

### 2.3 The Fixed Wireless Network – Interdependencies

Although fixed wireless facilities are submitted to Council as standalone developments from a planning perspective, they are highly interdependent from a technical perspective. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the 'transmission network'.

The transmission network requires line of sight from facility to facility until it reaches the fibre network. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.

A typical fixed wireless facility will include three antennas mounted above the surrounding area. Each antenna is designed to cover a set area to maximize signal strength. These network

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<sup>1</sup> NBN Co is designing the NBN to provide these speeds to our wholesale customers, telephone and internet service providers. End user experience including the speeds actually achieved over the NBN depends on some factors outside NBN Co's control like equipment quality, software, broadband plans and how the end user's service provider designs its network.

antennas communicate to a small antenna installed on the roof of each customer's home or business.

Each NBN Co Fixed Wireless facility has been designed to heights that allow the panel antennas to have a clear line of sight to the surrounding premises (radio coverage), and also ensure that the radio transmission dish has a clear line of sight to the adjoining network facility to link the sites back into the broader network.



The character of the Fixed Wireless network is visually demonstrated through Figure 1 below.

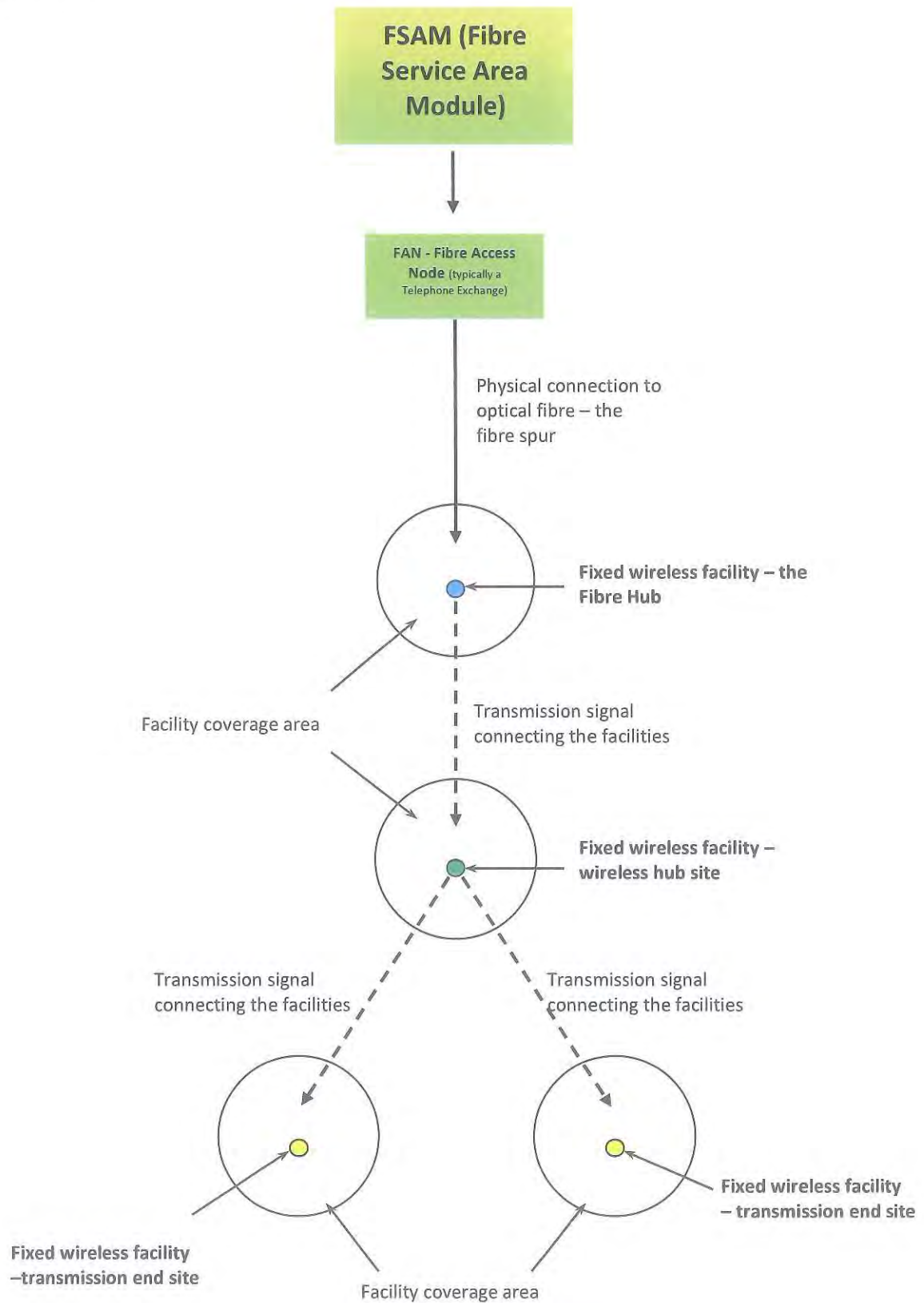


Figure 1: The fixed wireless network

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## 3 SITE SELECTION

Planning for a new fixed wireless broadband facility is a complex process. NBN Co conducts a rigorous multi-stage scoping process, as outlined below.

### 3.1 Identification of areas requiring a Fixed Wireless facility

NBN Co's Fixed Wireless locations are determined by a number of factors including the availability of both the NBN Co Fibre transit network and the availability of Point of Interconnect (POI) facilities to allow for the installation of NBN Co fibre equipment. NBN Co uses a number of methods to identify those parts of Australia that require Fixed Wireless coverage. When an area is identified as requiring Fixed Wireless coverage, investigations are undertaken to determine the measures required to provide this coverage.

NBN Co has identified a requirement to provide a Fixed Wireless facility in Wirrabara to provide fixed wireless internet services to the community and serve as a key communications link for a proposed NBN Fixed Wireless facility near Beetaloo.

### 3.2 Site Selection Parameters

NBN Co generally identifies a 'search area' where a fixed wireless facility would work reliably and provide fixed wireless internet coverage to the community. A preliminary investigation of the area is then generally undertaken, in conjunction with planning and property consultants, radiofrequency engineers and designers in order to identify possible locations to establish a facility.

Generally speaking, new sites must be located within, or immediately adjacent to, the identified search area in order to be technically feasible. However, while the operational and geographical aspects of deploying new facilities are primary factors, there are also many other issues that influence network design, which have to be resolved in parallel.

Some of the issues that may be considered include visual amenity, potential co-location opportunities, the availability and suitability of land as well as a willing site provider, occupational health and safety, construction issues (including structural and loading feasibility and access for maintenance purposes), topographical constraints affecting network line of sight, legislative policy constraints, environmental impacts, and cost implications.

The number, type and height of facilities required to complete the Fixed Wireless network are largely determined by the above operational, geographical and other factors discussed that influence final network design. These compounding factors often severely restrict the available search area within which a facility can be established to provide Fixed Wireless internet services to a local community.

### 3.3 Co-Location Opportunities

During the preliminary scoping visit, analysis of existing facilities was undertaken to determine if any co-location options were available in order to attach the NBN equipment to an existing tower. One telecommunications facility exists within proximity of the Wirrabara Township, detailed as followed:



- Optus Facility located at Hillside Road, Wirrabara: 60 metre high steel lattice tower with Optus and Telstra equipment

Co-location on this facility is not technically feasible. The location of the Optus facility may result in a poor fixed wireless service signal caused by the proximity of the silos and the available height for NBN equipment on the tower.

### 3.4 Candidate Sites

Following the identification of the search area, a number of candidate sites were examined. Each candidate was assessed based on the ability to meet the transmission objectives and site considerations detailed above. A total of three (3) candidates were selected for in-depth investigation, as per Figure 2 below. The most feasible site for the proposed development is Candidate A (refer to Figure 2).

NBN Co endeavours to avoid locating search areas in proximity to residential localities and potentially sensitive land uses, where practicable. The search area is located to the western side of the Wirrabara Township and is generally characterised by a mixture of open space, residential and light industrial land uses.



Figure 2 – NBN Co Candidate Sites (Image Source: Bing Maps)



A summary of the candidates that were proposed is set out in the table on the following page, including a description of the opportunities and constraints resulting from detailed evaluation:

Candidate	Address and Lot Number	Facility Type	Description
<b>A</b>	27 High Street, Wirrabara SA 5481  CT 5349/631	New 40m monopole and associated equipment.	<p>This candidate is located in the centre of Wirrabara, adjacent the main street. The land is located within the Town Centre Zone and currently used for storage purposes and is otherwise vacant.</p> <p>This candidate was not selected as the preferred candidate due to the proximity to residential development, visual impact and feedback received during community consultation.</p>
<b>B</b>	41 Crew Road, Wirrabara SA 5481  CT 5714/834	New 40m monopole and associated equipment.	This location was selected as the preferred candidate and is detailed in subsequent sections of this report.
<b>C</b>	4-16 Forest Road, Wirrabara SA 5481  CT 6152/295	Co-location of NBN equipment on existing 60m Optus Facility	<p>This candidate is an existing Optus tower located on land used by Viterra for grain storage within the Bulk Handling Zone.</p> <p>The candidate was not selected as the preferred candidate as available heights on the facility are insufficient to provide adequate coverage (which must clear existing silos) and the facility is highly likely to be at maximum structural capacity.</p>

### 3.5 Preferred Site Selection

The reasons for selecting this site are summarised as follows:

- The proposed site has been particularly targeted as it can provide good fixed wireless coverage to Wirrabara and achieves line-of-sight at an appropriate height as required by NBN Co for connecting this facility to a proposed facility named Beetaloo North which is crucial for the functioning of the network;
- This site is within the Primary Production Zone which is an appropriate non-residential zone and is located on land which is utilised for recreational purposes; and
- The location is separated from residential uses and the main street of Wirrabara to minimise visual impact on the township.

The proposed development is sited in a location which has a minimal impact on the amenity of the locality whilst being able to provide fixed wireless services to the community in Wirrabara and enabling crucial transmission links for other proposed NBN Fixed Wireless facilities in the region.

## 4 SUBJECT LAND & SURROUNDS

The telecommunications facility is proposed to be located at 41 Crew Road, Wirrabara SA 5481 (the subject land). The land is formally described as Section 391, Hundred of Appila, in the area named Wirrabara. Refer to **Appendix A** for a copy of the Certificate of Title.

The subject land is a large, irregular shaped allotment which is situated on the north-western fringe of the Wirrabara Township, approximately 235 metres west of the main street (Horrocks Highway). The land is currently used for recreation purposes and contains tennis courts and associated buildings.

The proposed telecommunications facility and associated lease area is to be located near the existing building/shelter adjacent to the northern edge of the tennis courts on the subject land and occupies an area of 8 metres by 10 metres.

The subject land is zoned Primary Production Zone in accordance with the Mount Remarkable Council Development Plan (Consolidated 5 September 2013).

Refer to **Figures 3 and 4** for images which depict the subject land and surrounding locality.

The proposed facility will be accessed from Crew Road.

The surrounding locality is characterised by large parcels of agricultural land to the north-east, west and north. A mix of residential, light industrial and commercial land uses are located to the east and south of the subject land, within the Township Zone. The nearest residential land use to the proposed telecommunications facility is located approximately 290 metres to the east of the proposed facility.



Figure 3: Subject site and surrounding locality (boundaries approximate)





Image 1: Looking north towards subject site, through existing tennis courts



Image 2: Looking North towards Subject site, from Crew Road.

Figure 4: Images of the subject land and surrounding locality

## 5 PROPOSED DEVELOPMENT

### 5.1 Facility and Equipment Details

#### 5.1.1 Equipment to be installed

Approval is sought for the development of a fixed wireless telecommunications facility, comprising the following equipment:

- A new 40m high galvanised steel monopole;
- Three (3) 1077mm long panel antennas at a centreline height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas (1 behind each antenna);
- One (1) 900mm diameter parabolic antenna at a centreline height of 37m;
- One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

The monopole will be constructed of galvanised steel which will fade to a light grey colour within approximately twelve (12) months from construction. The dull colour of the galvanised finish is considered to be the most appropriate finish to mitigate visual impact within the surrounding locality, and is consistent with the existing lighting at the tennis courts. Associated equipment and cabinets will be a pre-finished light grey colour.

Please refer to **Appendix B – Proposed Plans** for further details.

#### 5.1.2 Access and Parking Details

The proposed NBN compound will be accessed via an existing unsealed dirt track (Crew Road) off Horrocks Highway. Access to the proposed facility will be along the fence line as required. This access arrangement is considered to be safe and convenient for the proposed development.

NBN Co considers the site access to be appropriate given the NBN Co facility will not be a significant generator of traffic. During the construction phase, it is planned that a truck will be used to deliver the equipment and a crane will be utilised to lift most of the equipment into place. Any traffic impacts associated with construction are expected to be of a short-term duration and are not anticipated to adversely impact on the surrounding road network.

A total construction period of approximately ten weeks (including civil works and network integration and equipment commissioning) is anticipated. Construction activities will involve four basic stages:

- Stage 1 (Week 1) – Site preparation works, including field testing, excavation and construction of foundations;
- Stage 2 (Weeks 2, 3 and 4) – Construction of the mast;
- Stage 3 (Weeks 5 and 6) – Construction of the equipment shelter and fences;

- 
- Stage 4 (Weeks 7 – 10) – Installation of antennas and radio equipment, as well as equipment testing.

Once operational, the facility is designed to function on a continuous, unstaffed basis and will typically only require maintenance works once a year, for approximately one day per year.

### 5.1.3 Construction and Noise

Noise and vibration emissions associated with the proposed facility are expected to be limited to the construction phase outlined above. Noise generated during the construction phase is anticipated to be of short duration and will be within the standards outlined in the relevant EPA guidelines. Construction works are planned only to occur between the hours of 7.00am and 6.00pm.

There is expected to be some low level noise from the ongoing operation of air conditioning equipment associated with the equipment cabinets, once installed. Noise emanating from the air conditioning equipment is expected to be at a comparable level to a domestic air conditioning installation, and should generally accord with the background noise levels prescribed by relevant guidelines.



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## 6 CURRENT PLANNING CONTROLS

### 6.1 Commonwealth Legislation – The Telecommunications Act

The Commonwealth's Telecommunications Act 1997 (the Act) sets the statutory framework for telecommunications carriers to follow. The Commonwealth Department of Broadband, Communications and the Digital Economy are responsible for administering the provisions of the Act. The Act is supported by several other documents of statutory standing, in particular the Telecommunications (Low-Impact Facilities) Determination 1997 as well as the Telecommunications Code of Practice 1997.

When a proposed facility is compliant with the Telecommunications (Low-Impact Facilities) Determination 1997, the Act exempts carriers from State planning legislation. However when a facility is non-compliant with the Telecommunications (Low-Impact Facilities) Determination 1997, the relevant State and Territory planning legislation must be adhered to by the relevant carrier for a proposed facility.

### 6.2 State Policy and Legislation

Under the *Telecommunications (Low-Impact Facilities) Determination 1997*, the proposed facility is not defined as 'low-impact', due to the proposal involving the construction of a facility that exceeds the maximum requirements that are allowed under the provisions set out by the determination. Therefore the proposed facility is subject to the Development Act 1993 and the Development Regulations 2008.

### 6.3 The Telecommunications Code of Practice

Under Section 2.11 of the Telecommunications Code of Practice 1997, carriers are required to ensure that the design, planning and installation of their facilities are in accordance with what the industry considers to be 'best practice'.

Section 2.11.3 requires carriers to:

*"...minimize the potential degradation of the environment and the visual amenity associated with the facilities."*

In order to achieve 'Best Practice', carriers must comply with any relevant industry code or standard, which has been registered by the Australian Communications and Media Authority, under Part 6 of the Telecommunications Act 1997. The planning and siting of the current proposal has regard to Section 3 of the Australian Standard, Siting of Radio-Communications Facilities (AS:3516.2).

## 7 DEVELOPMENT PLAN ASSESSMENT

### 7.1 Nature of Development

The subject land is located within the Primary Production Zone, Township Fringe Policy Area 1, in accordance with the provisions of the Mount Remarkable Council Development Plan (Consolidated 5 September 2013).

In accordance with the provisions of the Primary Production Zone we are of the opinion that the proposed development should be assessed on merit.

### 7.2 Public Notification

In accordance with Section 38 (2) (c) of the Development Act 1993, we are of the opinion that the proposed telecommunications facility should be assigned Category 3 for Public Notification purposes, as the facility exceeds 40 metres in height and therefore does not meet the requirements under Schedule 9, Part 2 Section 26 (1) of the Development Regulations 2008 within the Primary Production Zone.

### 7.3 Development Plan Provisions

The following Objectives and Principles of Development Control (PDC) of the Mount Remarkable Council Development Plan (Consolidated 5 September 2013) are considered to be relevant in the assessment of the proposed development.

Council Wide		
Design and Appearance	Objectives	1
	Principles of Development Control	6, 19
Infrastructure	Objectives	1, 2, 4, 5
	Principles of Development Control	11
Interface between land uses	Objectives	1, 2
	Principles of Development Control	1, 2, 3, 5, 6, 7
Telecommunications Facilities	Objectives	1, 2
	Principles of Development Control	1, 2, 3, 4
Transportation and Access	Objectives	2
	Principles of Development Control	8, 13, 22, 23
Zone Specific		
Primary Production Zone	Objectives	1, 2, 3, 5
	Principles of Development Control	1, 6



## 7.4 Development Plan Assessment

### 7.4.1 Design and Appearance

The proposed NBN fixed wireless telecommunications facility has been design and sited to provide optimal fixed wireless telecommunications coverage, achieve line-of-sight to other facilities in the region for connection to the wider NBN network and to minimise visual impact where possible.

The proposed lease area is on a large parcel of land within the Primary Production Zone which is used for recreational purposes.

The proposed lease area has been sited adjacent the existing building/shelter on the northern boundary of the tennis courts in consultation with Council to ensure recreational activities can continue unaffected.

The monopole structure will be constructed of galvanised steel which will fade to a light grey colour within approximately twelve (12) months from the construction of the facility. This finish is considered to be more sympathetic when compared to painted finishes. Associated equipment for the proposed facility is to be of a light grey colour to mitigate potential visual impact with the surrounding locality.

The proposed facility is to be setback appropriate distances from nearby road networks and residential land uses. The facility is proposed to be located approximately 280 metres west of Horrocks Highway and approximately 290 metres west of the nearest residential dwelling. These distances, accompanied with the existing mature vegetation on and surrounding the subject land, assists in minimising the proposal's visual impact when viewed from areas of high visitation within Wirrabara (such as the main street and residential properties).

The height of the proposed facility strikes a balance between the need to minimise visual impact on the surrounding locality and technical constraints required for the function of the proposed antennas to provide internet services to Wirrabara and connect to the wider NBN network.

We are of the opinion that the proposed development is consistent with the following provisions:

#### ***Form of Development***

##### **OBJECTIVES**

- 1. Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form.*

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

- 6. The external walls and roofs of buildings should not incorporate highly reflective materials which will result in glare.*

- 19. Except where specified in a particular zone, policy area, or precinct, buildings and structures should be set back from road boundaries having regard to the requirements set out in Table Mtr/2 – Building Setbacks from Road Boundaries.*

### 7.4.2 Interface between land uses

The proposed Fixed Wireless facility is located towards the northern boundary of the subject land. The facility is located approximately 290 metres from the nearest dwelling located to the east of the proposed location separated by open space and vegetation.

The proposed development is unlikely to cause adverse impacts to the existing land uses in the surrounding locality. This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. This standard is set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

During operation, the only noise emitted by this facility is the small cooling system located within the door of the outdoor equipment cabinets. This emits a noise level similar to that of a domestic air conditioner and is unlikely to be noticeable beyond the subject land.

The proposed development is considered to be consistent with the following provisions:

*Interface between land uses*

OBJECTIVES

1. Development located and designed to prevent adverse impact and conflict between land uses.
2. Protect community health and amenity and support the operation of all desired land uses.

PRINCIPLES OF DEVELOPMENT CONTROL

1. Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:
  - (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants
  - (b) noise
  - (c) vibration
  - (d) electrical interference
  - (e) light spill
  - (f) glare
  - (g) hours of operation
  - (h) traffic impacts.
2. Development should be sited and designed to minimise negative impact on existing and potential future land uses considered appropriate in the locality.
3. Development adjacent to a Township Zone should be designed to minimise overlooking and overshadowing of nearby residential properties.
5. Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses considered appropriate for the zone should not be developed or should be designed to minimise negative impacts.
6. Development should be sited, designed and constructed to minimise negative impacts of noise and to avoid unreasonable interference.
7. Development should be consistent with the relevant provisions in the current Environment Protection (Noise) Policy.

#### **7.4.3 Telecommunications Facilities and Infrastructure**

The proposed facility will provide fast fixed wireless internet services to Wirrabara and dwellings in the surrounding locality.

The NBN will enable high speed broadband to be delivered to all Australian households, businesses and enterprises through a combination of fixed line, fixed wireless and satellite technology. The proposed telecommunications facility is part of the National Broadband Network, and will provide fixed wireless services to the community and will have significant benefits for the residents and businesses throughout the Mid North region.

Access to the NBN will provide a wide range of services to meet the need of the community and local businesses in the Mid North region, such as:

- High Speed Internet Services
- Upgraded Telephone Services
- Teleworking Opportunities (working from home)
- Distance Education Services
- Online Health Services
- Online Business Services

During the preliminary scoping visit, analysis of existing facilities was undertaken to determine if any co-location options were available for NBN equipment. The existing Optus facility located on Hillside Road was considered for the co-location of NBN equipment but it is not considered technically feasible. The existing tower currently has both Optus and Telstra equipment and is likely to be at structural capacity. In addition, the available height on the facility is assessed as being too low to ensure clearance of the existing silos located on the same land parcel and provide necessary coverage to the township.

The proposed facility is appropriately sited and designed to minimise the visual impact and amenity of the surrounding locality as much as practicable. The facility has been located with separation from sensitive land uses adjacent a recreation oval within a (non-residential) Primary Production Zone as advised in Principle of Development Control 1 (Telecommunications Facilities).

The design of the proposed facility balances the need to provide an appropriate standard of fixed wireless services and achieve line of site to adjacent facilities in the network, whilst minimising visual impact on the surrounding locality as much as practicable. The 40 metre height of the monopole structure allows the antennas to operate effectively.

The proposed development is therefore considered to be consistent with the following provisions:

#### ***Telecommunications Facilities***

##### **OBJECTIVES**

***1: Telecommunications facilities provided to meet the needs of the community.***

***2: Telecommunications facilities located and designed to minimise visual impact on the amenity of the local environment.***

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

***1: Telecommunications facilities should:***

- (a) be located in a co-ordinated manner to deliver communication services efficiently*
- (b) use materials and finishes that minimise visual impact*
- (c) have antennae located as close as practical to the support structure*
- (d) be located primarily in industrial, commercial, business, office, centre and rural zones*
- (e) where technically feasible, be co-located with other telecommunications facilities*



- (f) incorporate landscaping to screen the development, particularly equipment shelters and huts
- (g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.

3. Telecommunications facilities should be located in residential zones only if sited and designed to minimise visual impact by:

- (a) using existing buildings and vegetation for screening
- (b) incorporating the facility within an existing structure that may serve another purpose
- (c) taking into account the size, scale, context and characteristics of existing structures, landforms and vegetation so as to complement the local environment.

4. Telecommunications facilities should not have a direct or significant effect on the amenity, character and settings of Historic (Conservation) Zones or Policy Areas, local heritage places, State heritage places or State Heritage Areas.

#### **Infrastructure**

##### **OBJECTIVES**

1. Infrastructure provided in an economical and environmentally sensitive manner.
2. Infrastructure, including social infrastructure, provided in advance of need.
4. The visual impact of infrastructure facilities minimised.
5. The efficient and cost-effective use of existing infrastructure.

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

11. Utility buildings and structures should be grouped with non-residential development where possible.

#### **7.4.4 Transportation and Access**

The proposed development will utilise a new access point to avoid interfering with the existing recreational land uses which occur on the subject land.

Given the design and location of the proposed facility on the subject land, vehicles will be able to enter and exit the site in a forward direction as there is sufficient manoeuvring space. This access arrangement is considered safe and convenient for the proposed development and will not interfere with the free flow of traffic along the road which is a low traffic environment.

Following construction, traffic generated by this facility will be minimal, with access typically being on a twelve (12) monthly basis for maintenance purposes.

The proposed development is therefore considered to be consistent with the following provisions:

#### **Transportation and Access**

##### **OBJECTIVES**

2. Development that:
  - (a) provides safe and efficient movement for all motorised and non-motorised transport modes
  - (b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles
  - (c) provides off street parking
  - (d) is appropriately

#### PRINCIPLES OF DEVELOPMENT CONTROL

*8. Development should provide safe and convenient access for all anticipated modes of transport including cycling, walking, public and community transport, and motor vehicles.*

*13. Development should make sufficient provision on site for the loading, unloading and turning of all traffic likely to be generated.*

*22. Development should have direct access from an all weather public road.*

*23. Development should be provided with safe and convenient access which:*

*(a) avoids unreasonable interference with the flow of traffic on adjoining roads*

*(b) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision*

*(c) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.*

#### **7.4.5 Primary Production Zone (Township Fringe Policy Area 1)**

The Primary Production Zone envisages a diversity of physical features and agricultural, pastoral and rural related activities on a wide range of allotment sites and landscape types.

The Township Fringe Policy Area comprises a mixture of small land parcels and broadacre farming accommodating a diversity of development. The policy area envisages the zone as a future land bank and establishes a buffer between the township and rural activities.

Although the proposed development is not specifically an envisaged land use for the zone, the proposed facility is considered to provide an essential service for Wirrabara, supporting businesses and enterprises in the area and serving as a key part of the NBN network for the wider District Council of Mount Remarkable region. In addition, Council Wide objectives advise Telecommunications Facilities should be primarily within commercial, industrial or rural zones.

The proposed facility is considered to be broadly consistent with key objectives of Primary Production Zone as:

- The subject site is located in an area selected in consultation with Council to ensure the existing recreation activities are not adversely affected;
- The subject land is surrounded by open space and established vegetation which assist in screening the facility;
- The location is set back from residential properties and other sensitive land uses; and
- The location avoids obstructing views from the main street of Wirrabara.

The proposed telecommunications facility is not considered to impair the amenity of the locality, nor is it considered to be in conflict with the envisaged forms of development for the Primary Production Zone on the subject land or within the locality. In summary we are of the opinion that the proposed development is considered to be consistent with provisions as outlined below:

#### ***Primary Production Zone***

##### OBJECTIVES

*1. Economically productive, efficient and environmentally sustainable primary production.*

*2. Allotments of a size and configuration that promote the efficient use of land for primary production.*

3. Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.

5. Development that contributes to the desired character of the zone.

#### PRINCIPLES OF DEVELOPMENT CONTROL

1. The following forms of development are envisaged in the zone:

- bulk handling and storage facility
- commercial forestry
- farming
- horticulture
- intensive animal keeping
- tourist accommodation (including through the diversification of existing farming activities and conversion of farm buildings).
- wind farm and ancillary development
- wind monitoring and ancillary development.

2. Development listed as non-complying is generally inappropriate.

6. Buildings should primarily be limited to farm buildings, a detached dwelling associated with primary production on the allotment and residential outbuildings that are:

- (a) grouped together on the allotment and set back from allotment boundaries to minimise the visual impact of buildings on the landscape as viewed from public roads
- (b) screened from public roads and adjacent land by existing vegetation or landscaped buffers.

9. Development should not be undertaken unless it is consistent with the desired character for the zone.

#### **Township Fringe Policy Area 1**

##### OBJECTIVES

1. A policy area primarily for low-intensity primary production compatible with the adjoining urban areas.
2. Preservation of rural character and scenic features as a backdrop to the town.
3. Development that contributes to the desired character of the policy area.

#### PRINCIPLES OF DEVELOPMENT CONTROL

1 The following forms of development are envisaged in the policy area:

- detached dwelling on large allotment
- farming
- low-intensity primary production.

2. Development listed as non-complying is generally inappropriate.

#### *Form and Character*

5. Development should not be undertaken unless it is consistent with the desired character for the policy area.



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## 8 OTHER ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

### 8.1 Heritage

In order to determine any possible natural or cultural values of state or national significance associated with the site, a search was conducted through the relevant Heritage Registers. There are no known items of cultural, historical or environmental heritage significance located in the direct vicinity of the proposal site.

There are no listed items Aboriginal heritage identified within the subject land; however, if any artefacts are found, the construction of this facility will be undertaken pursuant to Section 23 of the Aboriginal Heritage Act of 1998, in order to ensure that no damage is made to the historical artefacts.

### 8.2 Electrical Interference and Grounding of the Facility

The NBN fixed wireless network is licensed by the Australian Communications and Media Authority (ACMA) for the use of the LTE2300 frequency band. As NBN Co is a licensee of this sub-band, emissions from NBN Co equipment within the frequency band should not cause interference.

Filters will also help to ensure that each facility meets the ACMA specifications for emission of spurious signals outside the NBN Co frequency allocations. NBN Co intends to promptly investigate any interference issues that are reported.

The facility is also designed to be grounded to the relevant Australian Standards – that is, the facility will be ‘earthed’.

### 8.3 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will be detailed in construction plans and will be designed to comply with the Building Code of Australia and local Council standards. In addition, NBN Co contractors will be informed that they must comply with the ‘NBN Construction Specification’ that requires contractors to undertake the necessary erosion and sediment control measures in order to protect the surrounding environment. On completion of the installation, NBN Co intends to restore and reinstate the site to an appropriate standard. No waste which requires collection or disposal should be generated by the operation of the facility.

### 8.4 Flora and Fauna and Endangered Species Study

In order to determine any possible natural Flora, Fauna and Endangered Species significance associated with the site, a search was conducted through the relevant environmental searches.

It was identified that there are ten (10) ‘Listed Threatened Species’ that may occur within a 500 metre radius of the site.



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Given that the footprint of the site is relatively small (10m by 8m); the proposed installation is considered to be of low impact to flora and fauna. Precautions will be taken in order to minimise the removal or damage to any native species that may be present in the area of the proposed site. The siting of the facility ensures no vegetation will be removed or damaged<sup>2</sup>.

Please refer to the Protected Matters Search Report in **Appendix C** for further details.

## 8.5 Social and Economic Impacts

Access to fast internet is an essential service in contemporary society. Initially, small to medium business customers accounted for a significant part of the demand for broadband technology, but internet services have now been embraced by the general public. Usage of internet services continues to widen as new technologies become progressively more affordable and accessible for the wider community.

The proposed development will enable fast fixed wireless internet coverage to be provided in the District Council of Mount Remarkable region by enabling proposed NBN fixed wireless facilities to be connected to the wider NBN network.

The new NBN is designed to provide the community with access to fast and reliable internet services. A reliable internet service is important to help promote the economic growth of communities, and the facility is anticipated to have significant social and economic benefits for the local community.

## 8.6 Public Safety

### 8.6.1 Radiofrequency Emissions

In relation to public safety and specifically Electromagnetic Emissions (EME) and public health, NBN Co operates within the operational standards set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA is a Federal Government agency incorporated under the Health and Ageing portfolio and is charged with the responsibility for protecting the health and safety of both people and the environment from the harmful effects of radiation (ionising and non-ionising).

All NBN Co installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the NBN Co facility does not result in any increase in the level of risk to the public.

This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. The EME Report associated with this site is currently unavailable, but will be forwarded to Council as soon as possible. The maximum EME levels are expected to be substantially less than 1% of the maximum allowable exposure limit.

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<sup>2</sup> Whilst all care is taken in the siting of the facility, some native vegetation may be required to be cleared as part of the construction process. If required, a separate application will be submitted to the Native Vegetation Council for the clearing of the native vegetation.

Moreover, all NBN Co equipment has the following features, all of which help to minimise the amounts of energy used and emitted:

- Dynamic/Adaptive Power Control is a network feature that automatically adjusts the power and hence minimises EME from the facility.
- Varying the facility's transmit power to the minimal required level, minimising EME from the network, and
- Discontinuous transmission, a feature that reduces EME emissions by automatically switching the transmitter off when no data is being sent.

#### 8.6.2 Access

The proposed facility will have restrictions aimed at preventing public access, including a secured compound fence with a locked gate and warning signs placed around the facility.

### 8.7 The Public Interest and Benefits of Telecommunications

The proposed NBN Co facility is expected to have significant benefit for residents in the Wirrabara area. NBN Co believes that the public interest would be served by approval of the proposal, given benefits for enhanced internet coverage in the area. The facility is expected to have benefits for local residents and businesses within the district.

There are numerous other benefits of telecommunications connectivity, as follows:<sup>3</sup>

- There are many potential educational benefits justifying the implementation of the NBN. Curriculum and data sharing, increased availability and accessibility of research materials, and virtual classroom environments are good examples. Such elements are particularly beneficial within a tertiary education context.
- Businesses can, through internet usage, increase efficiency through time, resource and monetary savings. Improved internet services effectively remove physical distance and travel time as a barrier to business.
- Improvements to internet services may also be of benefit for local employees, by enabling telecommuting and home business. The telecommuting trend is heavily reliant on access to fast internet services, and is anticipated to continually increase in popularity.

The public benefits of access to fast internet services have been widely acknowledged for many years. Reliable internet access is now more than ever an integral component of daily life, so much so that its absence is considered a social disadvantage.

---

<sup>3</sup> End user experience including the speeds actually achieved over the NBN depends on some factors outside NBN Co's control like the end user's equipment quality, software, broadband plans and how the end user's service providers designs its network.

---

## 9 CONCLUSION

NBN Co considers that the proposed facility, comprising of a 40 metre high monopole with attached antennas, outdoor cabinets and associated ancillary equipment has been situated in the most appropriate location whilst ensuring adequate coverage to Wirrabara and surrounding areas is achieved.

The facility has been strategically sited and designed to minimise visibility within the surrounding environment as much as practicable. In this regard NBN Co considers that the proposal satisfies the requirements of the Mount Remarkable Council Development Plan, whilst also addressing internet service deficiencies within the Wirrabara area. The location of the facility provides an important ongoing benefit to the District Council of Mount Remarkable region.

NBN Co considers that the proposal is also consistent with the stated objectives and principles of development control within the Mount Remarkable Council Development Plan (Consolidated 5 September 2013). The proposal also considers the Telecommunications Act 1997 and the Telecommunications Code of Practice 1997.

In this regard, the proposal satisfies the provisions of the Mount Remarkable Council Development Plan and we are of the opinion that the proposal has sufficient merit to warrant Development Plan Consent.



---

## 10 APPENDIX

### 10.1 Appendix A – Certificate of Title





# Title Register Search

## LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

REGISTER SEARCH OF CERTIFICATE OF TITLE \* VOLUME 5714 FOLIO 834 \*

COST : \$25.75 (GST exempt )	PARENT TITLE : CT 1164/2
REGION : EMAIL	AUTHORITY : CONVERTED TITLE
AGENT : PHPL BOX NO : 000	DATE OF ISSUE : 30/11/1999
SEARCHED ON : 18/06/2014 AT : 14:09:06	EDITION : 1
CLIENT REF N-WIRRABARA	

### REGISTERED PROPRIETOR IN FEE SIMPLE

THE DISTRICT COUNCIL OF MOUNT REMARKABLE OF PO BOX 94 MELROSE SA 5483

### DESCRIPTION OF LAND

SECTION 391  
HUNDRED OF APPILA  
IN THE AREA NAMED WIRRABARA

### EASEMENTS

NIL

### SCHEDULE OF ENDORSEMENTS

NIL

### NOTATIONS

DOCUMENTS AFFECTING THIS TITLE

NIL

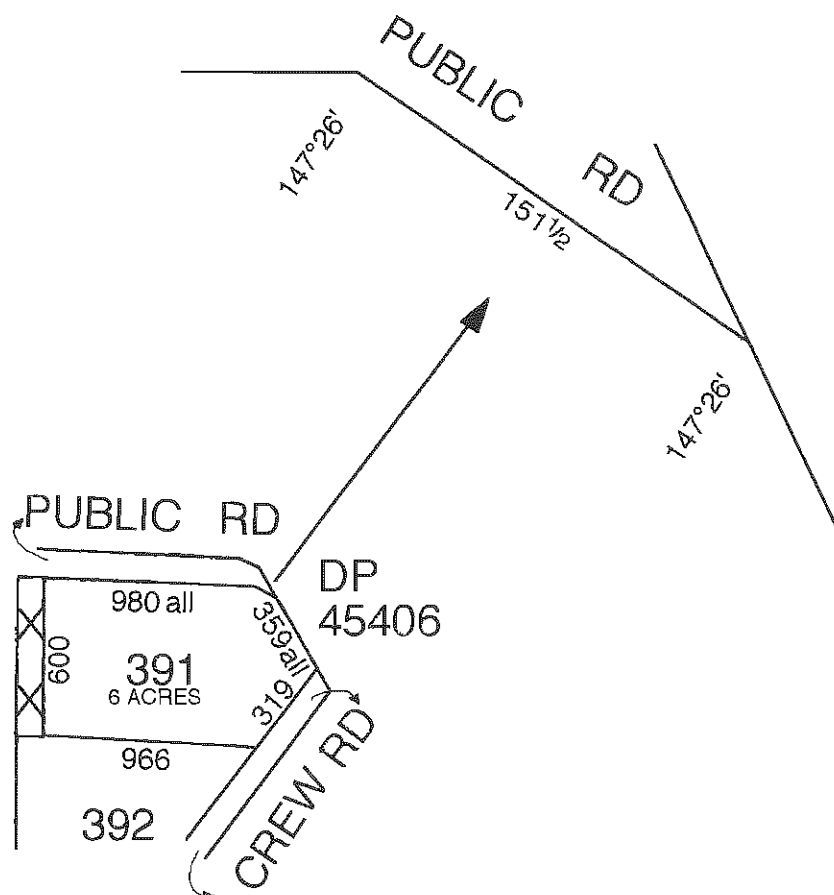
### REGISTRAR-GENERAL'S NOTES

CONVERTED TITLE-WITH NEXT DEALING LODGE CT 1164/2

END OF TEXT.



LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA  
DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5714 FOLIO 834  
SEARCH DATE : 18/06/2014 TIME: 14:09:06



0 10 20 CHS

DISTANCES ARE IN LINKS  
FOR METRIC CONVERSION  
1 LINK = 0.201168 METRES  
1 CHAIN = 100 LINKS

---

## 10.2 Appendix B – Proposed Plans

DATE OF ISSUE

DRAWING PACKAGE VERSION

05.08.15	10.08.15	07.09.15				
1	2	3				

## GENERAL

5PIR-51-09-WIRR-T1	COVER SHEET	01	02	03			
5PIR-51-09-WIRR-C1	SITE SPECIFIC NOTES	01	02	03			
5PIR-51-09-WIRR-C2	OVERALL SITE PLAN	01	02	03			
5PIR-51-09-WIRR-C3	SITE SETOUT PLAN	01	02	03			
5PIR-51-09-WIRR-C4	SITE ELEVATION AND DETAILS	01	02	03			

## STRUCTURAL

## ELECTRICAL

## ANTENNA DETAILS

5PIR-51-09-WIRR-A1	ANTENNA CONFIGURATION AND SETOUT PLAN	01	02	03			
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## LEASE / LICENSE PLAN

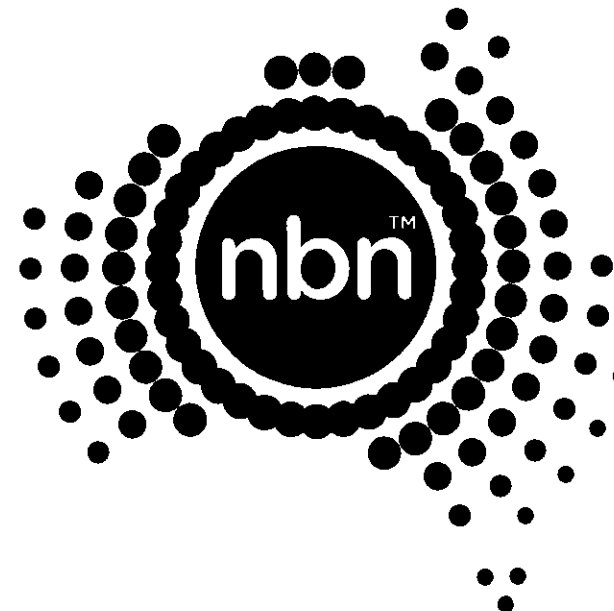
## REFERENCE DOCUMENTS

## DISTRIBUTION

ERICSSON	ARMANDO GUZMAN	1	1	1			
AURECON	PHIL PASCHKE	1	1	1			

# SITE No: 5PIR-51-09-WIRR WIRRABARA

41 CREW ROAD  
WIRRABARA  
SA 5481



## PROJECT SUMMARY

PROPOSED NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME  
PROPOSED NBN OUTDOOR CABINETS INSTALLED ON A CONCRETE SLAB WITHIN THE NBN  
COMPOUND

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

03 07.09.15 COMPOUND LOCATION MOVED  
02 10.08.15 PRELIMINARY ISSUE  
01 05.08.15 PRELIMINARY ISSUE (DRAFT)

Rev Date Revision Details

**aurecon**  
Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER: *JAH*

CHECKED: *Phil*

APPROVED: *JB*

Drawing Title:

COVER SHEET

Drawing No.

5PIR-51-09-WIRR-T1

Revision

03



SITE INFORMATION:

1. SITE ADDRESS

41 CREW ROAD, WIRRABARA SA 5481

2. GENERAL

THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS, CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS

3. SITE ACCESS

ACCESS IS AVAILABLE DIRECTLY OFF CREW ROAD (UNSEALED DIRT ROAD)

4. EQUIPMENT

PROPOSED NBN OUTDOOR CABINETS TO BE INSTALLED ON CONCRETE SLAB WITHIN NBN COMPOUND & LEASE AREA

5. STRUCTURE

PROPOSED NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME

6. ANTENNA ACCESS

ANTENNA ACCESS WILL BE AVAILABLE TO QUALIFIED RIGGERS ONLY BY CLIMBING THE STEP PEGS INSTALLED ON THE MONOPOLE USING THE LAD-SAF SAFETY CLIMB SYSTEM, OR VIA EWP

7. EXISTING SERVICES

THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING SERVICES AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.

8. EXISTING SITE HAZARDS

- LOW LYING LAND, POTENTIAL TO GET BOGGY WHEN WET

9. ELECTRICAL SUPPLY

POWER EXISTS AT THE EXISTING CLUBROOMS, THE FINAL SUPPLY POINT IS TO BE CONFIRMED WITH SA POWER NETWORKS

10. TRANSMISSION LINK

REFER TO ANTENNA TABLE LOCATED ON DRAWING SPIR-51-09-WIRR-A1

11. SITE SPECIFIC NOTES

- FINAL LAYOUT OF NBN EQUIPMENT SUBJECT TO CONFIRMATION OF MONOPOLE FOOTING DIMENSIONS

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details



DESIGNER:

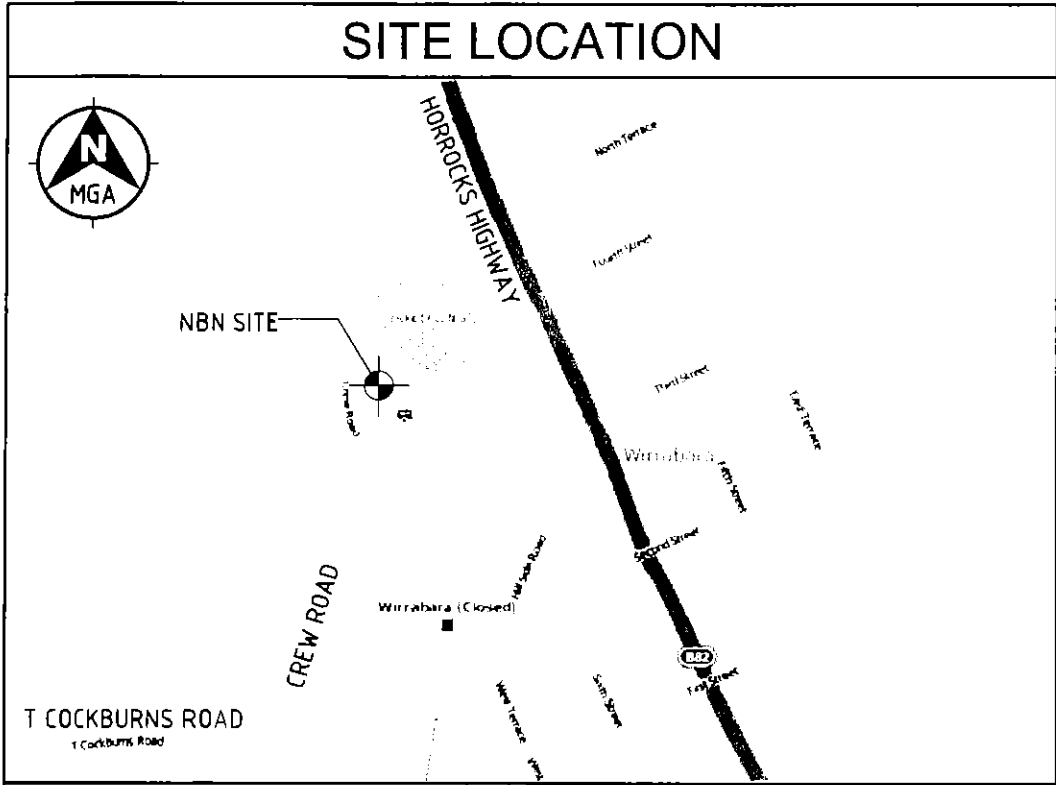
CHECKED:

APPROVED:

Drawing Title:

SITE SPECIFIC  
NOTES

Drawing No.	Revision
5PIR-51-09-WIRR-C1	03



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<http://www.openstreetmap.org>  
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licence, the full licence of which can be accessed at: <http://creativecommons.org/licenses/by-sa/2.0/legalcode>

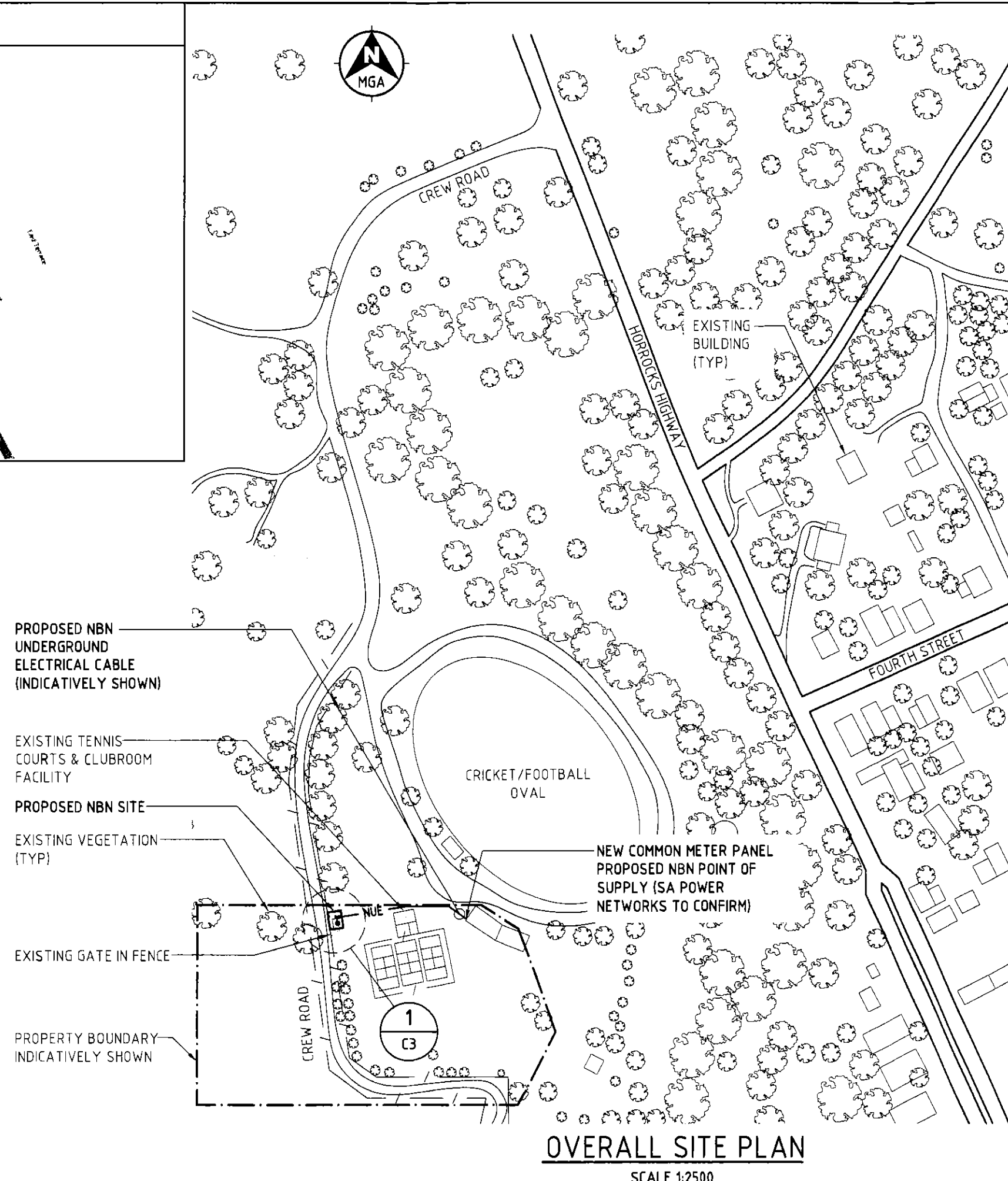
SITE CO-ORDINATES	
MONOPOLE LOCATION	
DATUM: MGA (GDA94)	ZONE: 54
LATITUDE	-33.031678
LONGITUDE	138.264268
EASTING	244 490
NORTHING	6 341 874

**NOTES:**

1. THE NBN UNDERGROUND ELECTRICAL LINE SHOWN ON THE DRAWINGS IS INDICATIVE ONLY. ELECTRICAL CONTRACTOR TO DETERMINE AN EXACT ROUTE. ELECTRICAL CONTRACTOR TO LOCATE AND IDENTIFY EXISTING U/G SERVICES PRIOR TO COMMENCEMENT OF WORK.

**LEGEND**

- NUE — NUE — NBN UNDERGROUND ELECTRICAL LINE
- / — / — EXISTING FENCE
- - - - - PROPERTY BOUNDARY



**OVERALL SITE PLAN**  
SCALE 1:2500

Client:

Client:

Project: NATIONAL BROADBAND NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

**PRELIMINARY**

03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details

Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER:

CHECKED:

APPROVED:

Drawing Title: **OVERALL SITE PLAN**

Drawing No.	Revision
5PIR-51-09-WIRR-C2	03



EXISTING TREE TO BE REMOVED TO  
ALLOW FOR NBN COMPOUND

CREW ROAD

PROPOSED NBN 300mm WIDE CABLE LADDER  
WITH 1-OFF CABLE LADDER SUPPORT POST  
AND PROPOSED NBN GPS UNIT (1-OFF)

PROPOSED NBN  $\phi 900$  PARABOLIC ANTENNA  
(TO BEETALOO NORTH)

EXISTING GATE TO PROPERTY

PROPOSED NBN OUTDOOR CABINET SSC-02  
INSTALLED ON A CONCRETE SLAB

PROPOSED NBN UNDERGROUND CONSUMER'S MAIN IN  
HDuPVC ELECTRICAL CONDUIT (APPROX 80m) ROUTE  
INDICATIVELY SHOWN

NBN OUTDOOR CABINET SSC-02  
(FUTURE LOCATION)

PROPOSED NBN POWER DISTRIBUTION  
BOARD/METER PANEL ON H-FRAME

PROPOSED NBN 40m MONOPOLE WITH  
CIRCULAR HEADFRAME

PROPOSED NBN PANEL ANTENNA WITH  
NBN REMOTE RADIO UNIT FIXED BEHIND  
THE PANEL ANTENNA (TYP)

PROPOSED NBN 2.4m HIGH CHAINWIRE  
SECURITY FENCE WITH 3.0m WIDE ACCESS  
GATES (INWARDS OPENING)

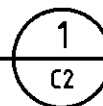
PROPOSED NBN MONOPOLE FOUNDATION  
(INDICATIVELY SHOWN)

EXISTING TREE TO BE REMOVED TO  
ALLOW FOR NBN COMPOUND

#### LEGEND

- NUE — NUE — NBN UNDERGROUND CONSUMER'S MAIN IN HDuPVC ELECTRICAL CONDUIT
- ec — ec — FINAL ELECTRICAL CIRCUITS IN 2x 50 $\phi$  HDuPVC UNDERGROUND ELECTRICAL CONDUIT
- / — / — NBN COMPOUND FENCE
- / — / — EXISTING FENCE
- - - - - PROPERTY BOUNDARY

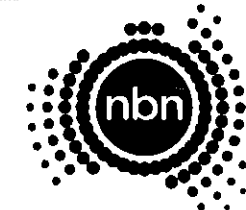
DETAIL  
SCALE 1:100



#### NOTES:

1. THE ELECTRICAL ROUTE SHOWN ON THIS DRAWING IS INDICATIVE ONLY, FINAL ROUTE TO BE DETERMINED ON SITE PRIOR TO CONSTRUCTION
2. CONSTRUCTOR SHALL LOCATE AND IDENTIFY ANY EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details

**aurecon**  
Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER: *[Signature]*

CHECKED: *[Signature]*

APPROVED: *[Signature]*

Drawing Title:

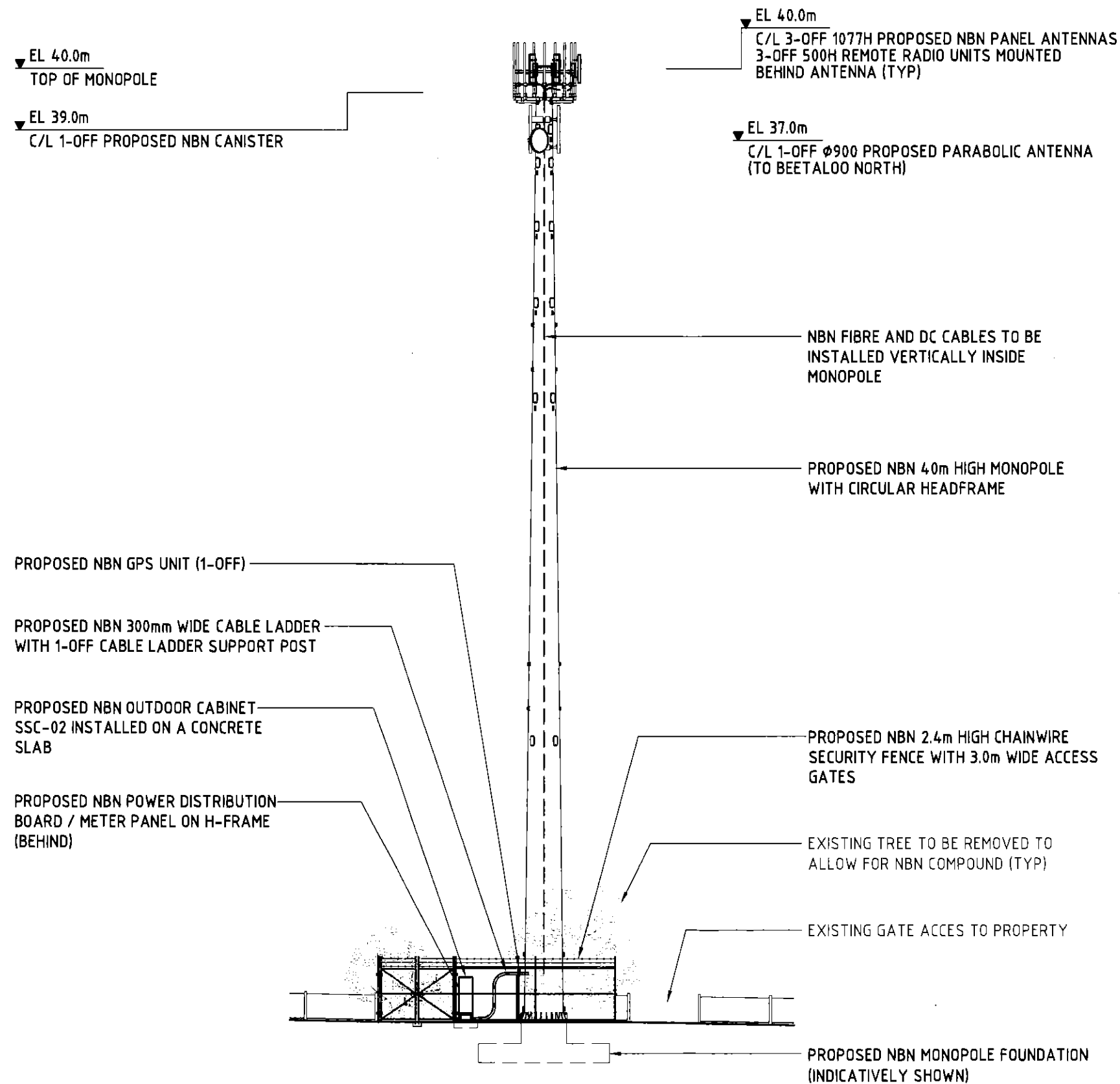
**SITE SETOUT  
PLAN**

Drawing No.

**5PIR-51-09-WIRR-C3**

Revision

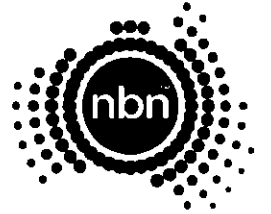
**03**



**WEST ELEVATION**

SCALE 1:200

Client:



Client:



Client:

Project:

**NATIONAL BROADBAND  
NETWORK**  
**SITE No: 5PIR-51-09-WIRR**  
**WIRRABARA**  
**41 CREW ROAD**  
**WIRRABARA**  
**SA 5481**

**PRELIMINARY**

03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details

**aurecon**  
Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

**SITE ELEVATION  
AND DETAILS**

Drawing No.

**5PIR-51-09-WIRR-C4**

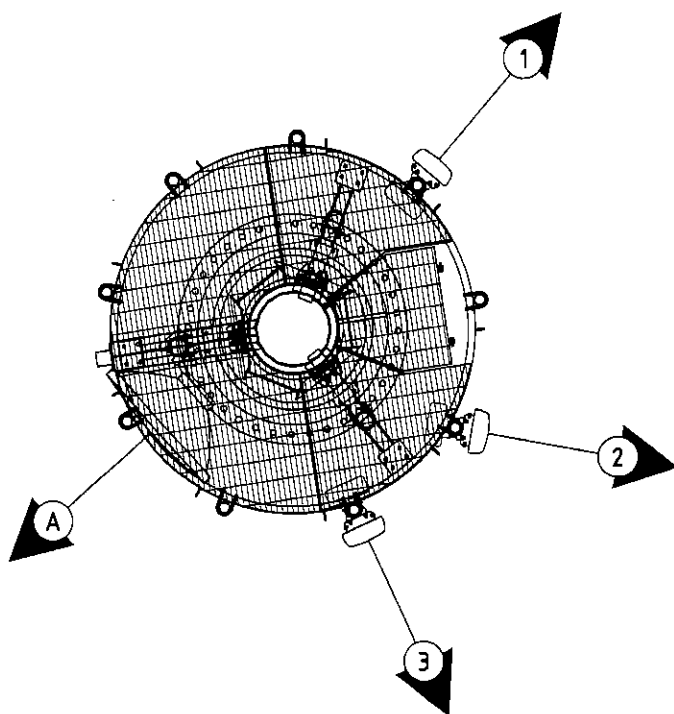
Revision

**03**



NBN ANTENNA CONFIGURATION

SECTOR	SYMBOL	ANTENNA DETAIL								MAIN FEEDER DETAIL				RRU DETAIL		RF TAIL		RET CABLE	
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILT	MECH TILT	DESTINATION	QUANTITY RAU	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	TYPE	LOCATION	TYPE	LENGTH	TYPE	LENGTH
1	①	ARGUS-LLPX310R	1077x300x115	40.0m	40°	4°	0°	N/A	N/A	H&S HYBRID 19.6mm CABLE	50m	39.0m	2m	RRUS61	BEHIND ANTENNA	H&S 1/2" BIRD PROOFED LISCA CABLE	2m	1/TSR 484 21/2000	1.5m
2	②	ARGUS-LLPX310R	1077x300x115	40.0m	100°	5°	0°	N/A	N/A				2m	RRUS61	BEHIND ANTENNA		5m	1/TSR 484 21/2000	1.5m
3	③	ARGUS-LLPX310R	1077x300x115	40.0m	155°	5°	0°	N/A	N/A				2m	RRUS61	BELOW ANTENNA		5m	1/TSR 484 21/2000	1.5m
4																			
5																			
6																			
A	Ⓐ	PARABOLIC	ø900	37.0m	228°	N/A	N/A	BEETALOO NORTH	1-OFF	LDF 1-50 CABLE	50m	-	-	-	-	-	-	-	-
B																			
C																			
D																			
GPS		KRE 101282/1	ø69x96	2.5m	N/A	N/A	N/A	N/A	N/A	LOF 1-50 CABLE	10m	-	-	-	-	-	-	-	-



ANTENNA SETOUT PLAN  
SCALE 1:50

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)

Rev Date Revision Details

**aurecon**  
Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER:   
CHECKED:   
APPROVED:

Drawing Title:  
**ANTENNA  
CONFIGURATION  
AND SETOUT PLAN**

Drawing No.  
**5PIR-51-09-WIRR-A1**

Revision  
**03**

---

### 10.3 Appendix C – EPBC Act Protected Matters Report



## EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 28/08/15 15:31:12

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are  
©Commonwealth of Australia  
(Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 0.5Kms



## Summary

### Matters of National Environmental Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	2
<a href="#">Listed Threatened Species:</a>	10
<a href="#">Listed Migratory Species:</a>	7

### Other Matters Protected by the EPBC Act

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

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

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

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	9
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Commonwealth Reserves Marine:</a>	None

### Extra Information

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

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	22
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None



## Details

### Matters of National Environmental Significance

#### Listed Threatened Ecological Communities

[ [Resource Information](#) ]

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

Name	Status	Type of Presence
<a href="#">Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia</a>	Endangered	Community likely to occur within area
<a href="#">Peppermint Box (<i>Eucalyptus odorata</i>) Grassy Woodland of South Australia</a>	Critically Endangered	Community likely to occur within area

#### Listed Threatened Species

[ [Resource Information](#) ]

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Grantiella picta</a>		
Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pedionomus torquatus</a>		
Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a>		
Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
<b>Plants</b>		
<a href="#">Caladenia gladiolata</a>		
Bayonet Spider-orchid, Clubbed Spider-orchid [8079]	Endangered	Species or species habitat may occur within area
<a href="#">Caladenia macroclavia</a>		
Large-club Spider-orchid [55012]	Endangered	Species or species habitat may occur within area
<a href="#">Caladenia tensa</a>		
Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caladenia woolcockiorum</a>		
Woolcock's Spider-orchid [55023]	Vulnerable	Species or species habitat may occur within area
<a href="#">Caladenia xantholeuca</a>		
White Rabbits, Flinders Ranges White Caladenia [55025]	Endangered	Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Aprasia pseudopulchella</a>		
Flinders Ranges Worm-lizard [1666]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
<a href="#">Notechis scutatus ater</a> Krefft's Tiger Snake (Flinders Ranges) [82287]	Vulnerable	Species or species habitat may occur within area

#### Listed Migratory Species

[ [Resource Information](#) ]

\* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area

#### Migratory Terrestrial Species

<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
---	--	--

<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat may occur within area
--	--	--

#### Migratory Wetlands Species

<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
--	--	--

<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
--	--	--

<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
--	--	--

<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area
---	--	--

### Other Matters Protected by the EPBC Act

#### Listed Marine Species

[ [Resource Information](#) ]

\* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area

<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
--	--	--

<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
--	--	--

<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
--	--	--

<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
---	--	--



Name	Threatened	Type of Presence
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat may occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

## Extra Information

### Invasive Species

### [ Resource Information ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
<b>Birds</b>		
<i>Alauda arvensis</i> Skylark [656]		Species or species habitat likely to occur within area
<i>Anas platyrhynchos</i> Mallard [974]		Species or species habitat likely to occur within area
<i>Carduelis carduelis</i> European Goldfinch [403]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur within area
<i>Streptopelia chinensis</i> Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
<i>Sturnus vulgaris</i> Common Starling [389]		Species or species habitat likely to occur within area
<i>Turdus merula</i> Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
<b>Mammals</b>		
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Carrichtera annua Ward's Weed [9511]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area



## Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

## Coordinates

-33.03173 138.26461

## Acknowledgements

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

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- Other groups and individuals

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

Please feel free to provide feedback via the [Contact Us](#) page.

[© Commonwealth of Australia](#)  
Department of the Environment  
GPO Box 787  
Canberra ACT 2601 Australia  
+61 2 6274 1111

# DEVELOPMENT APPLICATION FORM

Please use BLOCK LETTER and Black or Blue ink so that photocopies can be made of your application.

**COUNCIL:** DISTRICT COUNCIL OF MOUNT REMARKABLE

**APPLICANT:** NBN CO LIMITED

Postal Address	C/- AURECON AUSTRALASIA PTY LTD, 55 GRENFELL STREET, ADELAIDE, SA 5000
----------------	--

**OWNER:** THE DISTRICT COUNCIL OF MOUNT REMARKABLE

Postal Address	PO BOX 94, MELROSE SA 5483
----------------	----------------------------

**BUILDER:** N/A

Postal Address	
Licence No	

**CONTACT PERSON FOR FURTHER INFORMATION**

Name	ADAM PFITZNER		
Telephone	(08) 8237 9989		
Email	adam.pfitzner@aurecongroup.com		

**EXISTING USE:** RECREATION AREA (TENNIS COURTS)

**APPLICATION FOR:** DEVELOPMENT PLAN CONSENT

**DESCRIPTION OF PROPOSED DEVELOPMENT** FIXED WIRELESS TELECOMMUNICATIONS FACILITY COMPRISING A 40 METRE HIGH MONOPOLE, ANTENNAS AND ASSOCIATED INFRASTRUCTURE.

**LOCATION OF PROPOSED DEVELOPMENT:**

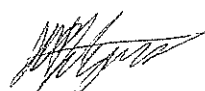
House No.	41	CREW ROAD	WIRABARA SA 5481	
Allotment:				
Section No (full/part)	391		HUNDRED OF APPILA	VOLUME 5714 FOLIO 834

**LAND DIVISION:** N/A

Site Area (m <sup>2</sup> )	Reserve Area (m <sup>2</sup> )	No of existing allotments:	
Number of additional allotments (excluding road and reserve)		Lease:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>BUILDING RULES CLASSIFICATION SOUGHT</b>		Present classification	
If Class 5, 6, 7, 8 or 9 classification is sought, state the proposed number of employees:		Male	Female
If Class 9a classification is sought, state the number of persons for whom accommodation is to be provided:			
If Class 9b classification is sought, state the proposed number of occupants of the various spaces of the premises:			
<b>DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY?</b>		NO	
<b>HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY BEEN PAID?</b>		YES	
<b>DEVELOPMENT COST</b> (do not include any fit-out costs):		\$150,000	

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 1993.

**SIGNATURE**



Dated **28 August 2015**

ADAM PFITZNER (AURECON) ON BEHALF OF NBN CO LIMITED

**FOR OFFICE USE**

Development No.  
Previous Development No.  
Assessment No.

<input type="checkbox"/> Complying <input type="checkbox"/> Non Complying <input type="checkbox"/> Notification Cat 2 <input type="checkbox"/> Notification Cat 3 <input type="checkbox"/> Referrals/Concurrences <input type="checkbox"/> DA Commission	Application forwarded to DA Commission/ Council on:     /     / Decision: Type: Date:     /     /
---	---

	Dec Req	Fees	Rec No	Date
Planning				
Building				
Land Division				
Additional				
<b>Development Approval:</b>				

**DEVELOPMENT REGULATIONS 2008**  
**Form of Declaration**  
**(Schedule 5 clause 2A)**

**To:** District Council of Mount Remarkable

**From:** NBN Co Ltd C/- Aurecon Australasia Pty Ltd

**Date of Application:** 28 August 2015

**Location of Proposed Development:**

House No: 41  
Lot No:  
Street: Crew Road  
Town/Suburb: Wirrabara

Section No (full/part): 391 Hundred: Appila

Volume: 5714 Folio: 834

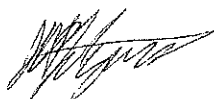
**Nature of Proposed Development:**

**Fixed Wireless Telecommunications Facility comprising a 40 metre high monopole, antennas and associated infrastructure.**

I Adam Pfitzner being a person acting on behalf of the applicant for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A (1) of Schedule 5 of the Development Regulations 2008.

**Date:** 28 August 2015

**Signed:**



**Note 1**

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in section 4(1) of the Development Act 1993), other than where the development is limited to --

- a) an internal alteration of a building; or
- b) an alteration to the walls of a building but not so as to alter the shape of the building.

**Note 2**

The requirements of section 86 of the Electricity Act 1996 do not apply in relation to:

- a) a fence that is less than 2.0 m in height; or
- b) a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

**Note 3**

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

**Note 4**

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually also comply.

Particular care needs to be taken where high voltage powerlines exist; where the development:

- is on a major road;
- commercial/industrial in nature; or
- built to the property boundary.

**Note 5**

Information brochures 'Powerline Clearance Declaration Guide' and 'Building Safely Near Powerlines' have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from council and the Office of the Technical Regulator. The brochures and other relevant information can also be found at [www.technicalregulator.sa.gov.au](http://www.technicalregulator.sa.gov.au)

**Note 6**

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.



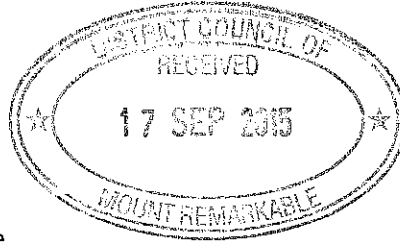
Aurecon Australasia Pty Ltd  
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W [aurecongroup.com](http://aurecongroup.com)



15 September 2015

Wayne Hart  
Chief Executive Officer  
District Council of Mount Remarkable  
PO Box 94  
MELROSE SA 5483



Mat. Ref:	C2015-S746
File Ref:	DA2015-869
Agenda Item:	
Meeting:	
Copy to:	
X-ref:	830/081/15

Dear Wayne

**Environmental EME Report for Development Application of Proposed nbn Fixed Wireless Facility at 41 Crew Road, Wirrabara, SA 5481**

We wish to provide Council with an Environmental EME Report (mentioned in Section 8.6.1 of our Planning Report, dated 28 August 2015). The Environmental EME Report was not available at the time of lodgement; however, we have now enclosed a copy to accompany our application for Council's consideration.

As mentioned in our application, the proposed facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003.

The EME Report (enclosed) shows that the maximum predicted EME, from the proposed facility, will equate to 0.026% of the maximum exposure limit. This is substantially less than 1% of the maximum allowable limit.

Should Council require any further information or clarification in regard to this letter, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at [adam.pfitzner@aurecongroup.com](mailto:adam.pfitzner@aurecongroup.com)

Yours sincerely

Adam Pfitzner  
Planner  
Aurecon Australasia Pty Ltd

Enc: ARPANSA Environmental EME Report



## **Environmental EME Report**

### **Wirrabara 41 Crew Road, WIRRABARA SA 5481**

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

**Date 11/9/2015**

**RFNSA Site No. 5481003**

### **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 Wirrabara 41 Crew Road WIRRABARA SA 5481. These levels have been calculated by Ericsson 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 0.026% 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/m<sup>2</sup>) – 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 0.68 V/m; equivalent to 1.23 mW/m<sup>2</sup> or 0.026% 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
NBN Co	LTE2300 (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 Wirrabara 41 Crew Road in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site					
	Existing Equipment			Proposed Equipment		
	Electric Field V/m	Power Density mW/m <sup>2</sup>	% ARPANSA exposure limits	Electric Field V/m	Power Density mW/m <sup>2</sup>	% ARPANSA exposure limits
0m to 50m				0.34	0.3	0.0063%
50m to 100m				0.68	1.23	0.026%
100m to 200m				0.55	0.79	0.017%
200m to 300m				0.45	0.53	0.011%
300m to 400m				0.48	0.61	0.013%
400m to 500m				0.55	0.82	0.017%
<b>Maximum EME level</b>				0.68	1.23	0.026
				57.25 m from the antennas at Wirrabara 41 Crew Road		

## 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/m <sup>2</sup>	% 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/m<sup>2</sup>), microwatts per square centimetre (μW/cm<sup>2</sup>) and milliwatts per square metre (mW/m<sup>2</sup>). Note: 1 W/m<sup>2</sup> = 100 μW/cm<sup>2</sup> = 1000 mW/m<sup>2</sup>.

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/m <sup>2</sup> = 375 μW/cm <sup>2</sup> = 3750 mW/m <sup>2</sup>
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m = 4.50 W/m <sup>2</sup> = 450 μW/cm <sup>2</sup> = 4500 mW/m <sup>2</sup>
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m = 4.50 W/m <sup>2</sup> = 450 μW/cm <sup>2</sup> = 4500 mW/m <sup>2</sup>
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m = 9.00 W/m <sup>2</sup> = 900 μW/cm <sup>2</sup> = 9000 mW/m <sup>2</sup>
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>

## 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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E [adelaide@aurecongroup.com](mailto:adelaide@aurecongroup.com)  
W [aurecongroup.com](http://aurecongroup.com)

 aurecon

ENTERED

29 September 2015

Wayne Hart  
Chief Executive Officer  
District Council of Mount Remarkable  
PO Box 94  
MELROSE SA 5483



Item:	C2015-5806.
File Ref:	830/081/15.
Agenda Item:	
Meeting:	
Copy to:	
X-ref DA2015-86	

Dear Wayne

**DA: 830/081/15 – Amendment to Plans (site location)**

We are writing to inform Council of a proposed amendment to Development Application number 830/081/15 for a **nbn**™ Fixed Wireless facility proposed to be located at 41 Crew Road, Wirrabara.

Following a request from the Landowner of this property (The District Council of Mount Remarkable), we formally submit an amendment to relocate the position of the proposed telecommunications facility to a new location within the same property (41 Crew Road, Wirrabara). The new site is located approximately 30 metres west-southwest of the original proposed location, on the opposite (western) side of Crew Road.

The proposed site relocation is not considered to warrant further community consultation as the proposal remains within the same property and retains the same attributes of the original proposal (i.e. within the Primary Production Zone).

We have attached a copy of the amended plans for DA 830/081/15 for Council's consideration.

Should Council require any further information in regard to this proposal, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at [adam.pfitzner@aurecongroup.com](mailto:adam.pfitzner@aurecongroup.com)

Yours sincerely



Adam Pfitzner  
Planner

Enc: Amended Plans for DA: 830/081/15  
Development Application Form (for Amendment)  
Electricity Declaration Form (for Amendment)

Cc: Tom Hateley  
Access Planning (SA) Pty Ltd  
235 Henley Beach Road  
TORRENSVILLE SA 5031

# DEVELOPMENT APPLICATION FORM

Please use BLOCK LETTER and Black or Blue ink so that photocopies can be made of your application.

**COUNCIL:** DISTRICT COUNCIL OF MOUNT REMARKABLE

**APPLICANT:** NBN CO LIMITED

Postal Address	C/- AURECON AUSTRALASIA PTY LTD, 55 GRENFELL STREET, ADELAIDE, SA 5000
----------------	--

**OWNER:** THE DISTRICT COUNCIL OF MOUNT REMARKABLE

Postal Address	PO BOX 94, MELROSE SA 5483
----------------	----------------------------

**BUILDER:** N/A

Postal Address	
Licence No	

**CONTACT PERSON FOR FURTHER INFORMATION**

Name	ADAM PFITZNER	
Telephone	(08) 8237 9989	
Email	adam.pfitzner@aurecongroup.com	

**EXISTING USE:** RECREATION AREA (TENNIS COURTS)

## FOR OFFICE USE

Development No.

Previous Development No.

Assessment No.

<input type="checkbox"/> Complying <input type="checkbox"/> Non Complying <input type="checkbox"/> Notification Cat 2 <input type="checkbox"/> Notification Cat 3 <input type="checkbox"/> Referrals/Concurrences <input type="checkbox"/> DA Commission	Application forwarded to DA Commission/ Council on:     /     / Decision: Type: Date:     /     /
---	---

	Dec Req	Fees	Rec No	Date
Planning				
Building				
Land Division				
Additional				
Development				
Approval:				

**APPLICATION FOR:** DEVELOPMENT PLAN CONSENT

**DESCRIPTION OF PROPOSED DEVELOPMENT AMENDMENT TO PLANS FOR DA: 830/081/15 - FIXED WIRELESS TELECOMMUNICATIONS FACILITY COMPRISING A 40 METRE HIGH MONOPOLE, ANTENNAS AND ASSOCIATED INFRASTRUCTURE.**

**LOCATION OF PROPOSED DEVELOPMENT:**

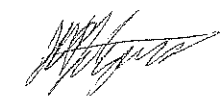
House No.	41	CREW ROAD	WIRABARA SA 5481	
Allotment:				
Section No (full/part)	391		HUNDRED OF APPILA	VOLUME 5714 FOLIO 834

**LAND DIVISION:** N/A

Site Area (m <sup>2</sup> )	Reserve Area (m <sup>2</sup> )	No of existing allotments:	
Number of additional allotments (excluding road and reserve)		Lease:	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>BUILDING RULES CLASSIFICATION SOUGHT</b>		Present classification	
If Class 5, 6, 7, 8 or 9 classification is sought, state the proposed number of employees:		Male	Female
If Class 9a classification is sought, state the number of persons for whom accommodation is to be provided:			
If Class 9b classification is sought, state the proposed number of occupants of the various spaces of the premises:			
<b>DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY?</b>		NO	
<b>HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY BEEN PAID?</b>		YES	
<b>DEVELOPMENT COST</b> (do not include any fit-out costs):		\$150,000	

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 1993.

**SIGNATURE**



ADAM PFITZNER (AURECON)

Dated 29 September 2015

**DEVELOPMENT REGULATIONS 2008**  
**Form of Declaration**  
**(Schedule 5 clause 2A)**

**To:** District Council of Mount Remarkable

**From:** nbn co ltd. C/- Aurecon Australasia Pty Ltd

**Date of Application:** 29 September 2015

**Location of Proposed Development:**

House No: 41  
Lot No:  
Street: Crew Road  
Town/Suburb: Wirrabara

Section No (full/part): 391 Hundred: Appila

Volume: 5714 Folio: 834

**Nature of Proposed Development:**

**Amendment to Plans for DA: 830/081/15 - Fixed Wireless Telecommunications Facility comprising a 40 metre high monopole, antennas and associated infrastructure.**

I **Adam Pfitzner** being a person acting on behalf of the applicant for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A (1) of Schedule 5 of the Development Regulations 2008.

**Date:** 29 September 2015

**Signed:**



**Note 1**

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in section 4(1) of the Development Act 1993), other than where the development is limited to –

- a) an internal alteration of a building; or
- b) an alteration to the walls of a building but not so as to alter the shape of the building.

**Note 2**

The requirements of section 86 of the Electricity Act 1996 do not apply in relation to:

- a) a fence that is less than 2.0 m in height; or
- b) a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

**Note 3**

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

**Note 4**

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually also comply. Particular care needs to be taken where high voltage powerlines exist; where the development:

- is on a major road;
- commercial/industrial in nature; or
- built to the property boundary.

**Note 5**

Information brochures 'Powerline Clearance Declaration Guide' and 'Building Safely Near Powerlines' have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from council and the Office of the Technical Regulator. The brochures and other relevant information can also be found at [www.technicalregulator.sa.gov.au](http://www.technicalregulator.sa.gov.au)

**Note 6**

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.



DATE OF ISSUE	05.08.15	10.08.15	07.09.15	18.09.15					
DRAWING PACKAGE VERSION	1	2	3	4					

## GENERAL

5PIR-51-09-WIRR-T1	COVER SHEET	01	02	03	04				
5PIR-51-09-WIRR-C1	SITE SPECIFIC NOTES	01	02	03	04				
5PIR-51-09-WIRR-C2	OVERALL SITE PLAN	01	02	03	04				
5PIR-51-09-WIRR-C3	SITE SETOUT PLAN	01	02	03	04				
5PIR-51-09-WIRR-C4	SITE ELEVATION AND DETAILS	01	02	03	04				

## STRUCTURAL

## ELECTRICAL

## ANTENNA DETAILS

5PIR-51-09-WIRR-A1	ANTENNA CONFIGURATION AND SETOUT PLAN	01	02	03	04				
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## LEASE / LICENSE PLAN

## REFERENCE DOCUMENTS

## DISTRIBUTION

ERICSSON	ARMANDO GUZMAN	1	1	1	1				
AURECON	PHIL PASCHKE	1	1	1	1				

# SITE No: 5PIR-51-09-WIRR WIRRABARA


41 CREW ROAD  
WIRRABARA  
SA 5481



## PROJECT SUMMARY

PROPOSED NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME  
PROPOSED NBN OUTDOOR CABINETS INSTALLED ON A CONCRETE SLAB WITHIN THE NBN COMPOUND

Client:



Client:



Project:

NATIONAL BROADBAND NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY


04 18.09.15 COMPOUND LOCATION MOVED

03 07.09.15 COMPOUND LOCATION MOVED

02 10.08.15 PRELIMINARY ISSUE

01 05.08.15 PRELIMINARY ISSUE (DRAFT)

Rev Date Revision Details



Aurecon Australasia Pty Ltd ABN 54 005 139 873

DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

COVER SHEET

Drawing No.

5PIR-51-09-WIRR-T1

Revision

04



SITE INFORMATION:

1. SITE ADDRESS

41 CREW ROAD, WIRRABARA SA 5481

2. GENERAL

THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS, CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS

3. SITE ACCESS

ACCESS IS AVAILABLE DIRECTLY OFF CREW ROAD (UNSEALED DIRT ROAD)

4. EQUIPMENT

PROPOSED NBN OUTDOOR CABINETS TO BE INSTALLED ON CONCRETE SLAB WITHIN NBN COMPOUND & LEASE AREA

5. STRUCTURE

PROPOSED NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME

6. ANTENNA ACCESS

ANTENNA ACCESS WILL BE AVAILABLE TO QUALIFIED RIGGERS ONLY BY CLIMBING THE STEP PEGS INSTALLED ON THE MONOPOLE USING THE LAD-SAF SAFETY CLIMB SYSTEM, OR VIA EWP

7. EXISTING SERVICES

THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING SERVICES AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS.

8. EXISTING SITE HAZARDS

- LOW LYING LAND, POTENTIAL TO GET BOGGY WHEN WET

9. ELECTRICAL SUPPLY

POWER EXISTS AT THE EXISTING CLUBROOMS, THE FINAL SUPPLY POINT IS TO BE CONFIRMED WITH SA POWER NETWORKS

10. TRANSMISSION LINK

REFER TO ANTENNA TABLE LOCATED ON DRAWING 5PIR-51-09-WIRR-A1

11. SITE SPECIFIC NOTES

- FINAL LAYOUT OF NBN EQUIPMENT SUBJECT TO CONFIRMATION OF MONOPOLE FOOTING DIMENSIONS

Client:



Client:



Client:

Project:

NATIONAL BROADBAND NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

04	18.09.15	COMPOUND LOCATION MOVED
03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)

Rev Date Revision Details



DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

SITE SPECIFIC NOTES

Drawing No.  
5PIR-51-09-WIRR-C1

Revision  
04



SITE LOCATION



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licence, the full licence of which can be accessed at <http://creativecommons.org/licenses/by-sa/2.0/legalcode>

SITE CO-ORDINATES

MONOPOLE LOCATION	
DATUM: MGA (GDA94)	ZONE: 54
LATITUDE	-33.031758
LONGITUDE	138.263957
EASTING	244 462
NORTHING	6 341 864

NOTES:

1. THE NBN UNDERGROUND ELECTRICAL LINE SHOWN ON THE DRAWINGS IS INDICATIVE ONLY. ELECTRICAL CONTRACTOR TO DETERMINE AN EXACT ROUTE. ELECTRICAL CONTRACTOR TO LOCATE AND IDENTIFY EXISTING U/G SERVICES PRIOR TO COMMENCEMENT OF WORK.

LEGEND

- NUE — NUE — NBN UNDERGROUND ELECTRICAL LINE  
— / — / — EXISTING FENCE  
- - - - - PROPERTY BOUNDARY

PROPOSED NBN UNDERGROUND ELECTRICAL CABLE (INDICATIVELY SHOWN)

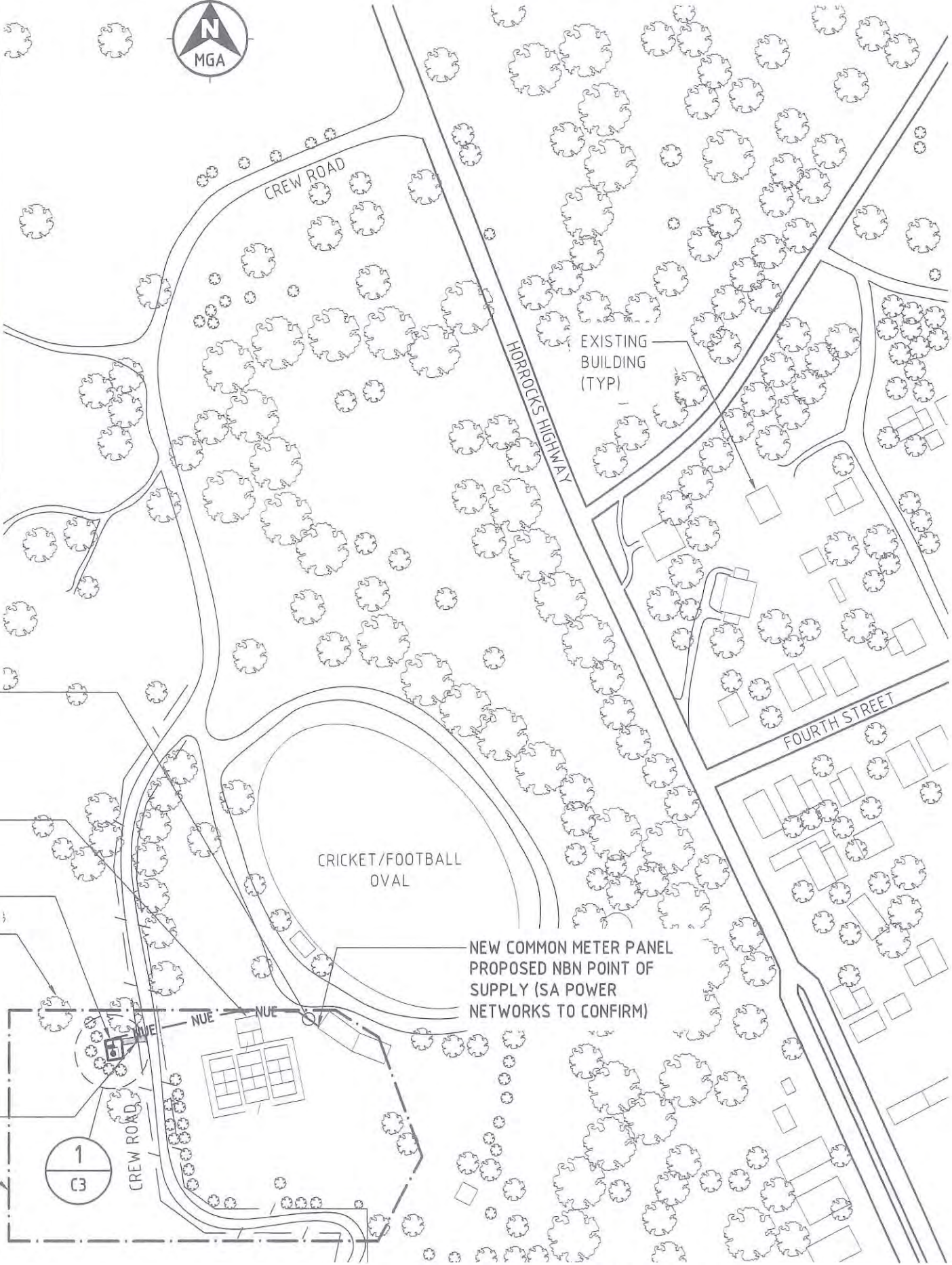
EXISTING TENNIS COURTS & CLUBROOM FACILITY

PROPOSED NBN SITE

EXISTING VEGETATION (TYP)

PROPOSED GATE IN FENCE

PROPERTY BOUNDARY INDICATIVELY SHOWN



OVERALL SITE PLAN

SCALE 1:2500

Client:



Client:



Client:

Project:

NATIONAL BROADBAND NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

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03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details



DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

OVERALL  
SITE PLAN

Drawing No.  
5PIR-51-09-WIRR-C2

Revision  
04





PROPOSED NBN OUTDOOR CABINET SSC-02  
INSTALLED ON A CONCRETE SLAB

NBN OUTDOOR CABINET SSC-02  
(FUTURE LOCATION)

PROPOSED NBN 300mm WIDE CABLE LADDER  
WITH 1-OFF CABLE LADDER SUPPORT POST  
AND PROPOSED NBN GPS UNIT (1-OFF)

PROPOSED NBN  $\phi 900$  PARABOLIC ANTENNA  
(TO BEETALOO NORTH)

EXISTING TREE (TYP)

PROPOSED 3m WIDE SITE ACCESS GATE IN EXISTING  
FENCE LINE

PROPOSED NBN UNDERGROUND CONSUMER'S MAIN IN  
HDuPVC ELECTRICAL CONDUIT (APPROX 80m) ROUTE  
INDICATIVELY SHOWN

8000  
(NBN COMPOUND)

10000  
(NBN COMPOUND)

PROPOSED NBN POWER DISTRIBUTION  
BOARD/METER PANEL ON H-FRAME

PROPOSED NBN 40m MONOPOLE WITH  
CIRCULAR HEADFRAME

PROPOSED NBN PANEL ANTENNA WITH  
NBN REMOTE RADIO UNIT FIXED BEHIND  
THE PANEL ANTENNA (TYP)

NATURALLY MADE TRACK TO SITE SHOWN  
FOR ILLUSTRATION PURPOSES ONLY

PROPOSED NBN 2.4m HIGH CHAINWIRE  
SECURITY FENCE WITH 3.0m WIDE ACCESS  
GATES

PROPOSED NBN MONOPOLE FOUNDATION  
(INDICATIVELY SHOWN)

EXISTING PROPERTY FENCE

CREW ROAD

DETAIL  
SCALE 1:100

1  
C2

#### LEGEND

- NUE — NUE — NBN UNDERGROUND CONSUMER'S MAIN IN HDuPVC ELECTRICAL CONDUIT
- ec — ec — FINAL ELECTRICAL CIRCUITS IN 2x 50 $\phi$  HDuPVC UNDERGROUND ELECTRICAL CONDUIT
- / — / — NBN COMPOUND FENCE
- / — / — EXISTING FENCE

#### NOTES:

1. THE ELECTRICAL ROUTE SHOWN ON THIS DRAWING IS INDICATIVE ONLY, FINAL ROUTE TO BE DETERMINED ON SITE PRIOR TO CONSTRUCTION
2. CONSTRUCTOR SHALL LOCATE AND IDENTIFY ANY EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

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03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details



DESIGNER:

CHECKED:

APPROVED:

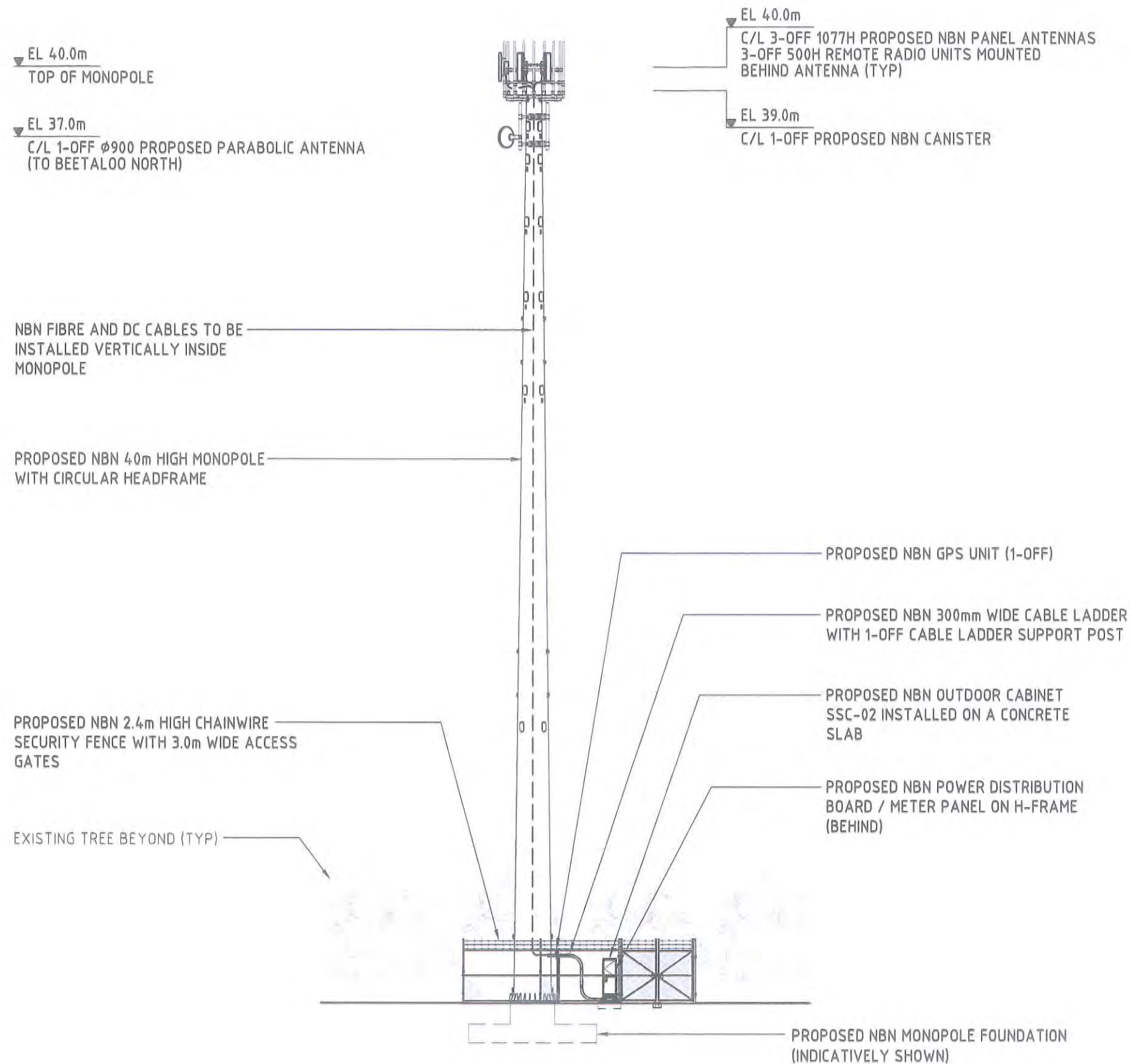
Drawing Title:

SITE SETOUT  
PLAN

Drawing No.  
5PIR-51-09-WIRR-C3

Revision  
04





**EAST ELEVATION**  
SCALE 1:200

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

**PRELIMINARY**

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03	07.09.15	COMPOUND LOCATION MOVED
02	10.08.15	PRELIMINARY ISSUE
01	05.08.15	PRELIMINARY ISSUE (DRAFT)
Rev	Date	Revision Details



DESIGNER:

CHECKED:

APPROVED:

Drawing Title:

**SITE ELEVATION  
AND DETAILS**

Drawing No.  
**5PIR-51-09-WIRR-C4**

Revision  
**04**



NBN ANTENNA CONFIGURATION

SECTOR	SYMBOL	ANTENNA DETAIL								MAIN FEEDER DETAIL				RRU DETAIL		RF TAIL		RET CABLE	
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILT	MECH TILT	DESTINATION	QUANTITY RAU	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	TYPE	LOCATION	TYPE	LENGTH	TYPE	LENGTH
1	①	ARGUS-LLPX310R	1077x300x115	40.0m	50°	4°	0°	N/A	N/A	H&S HYBRID 19.6mm CABLE	50m	39.0m	2m	RRUS61	BEHIND ANTENNA	H&S 1/2" BIRD PROOFED LISCA CABLE	2m	1/TSR 484 21/2000	1.5m
2	②	ARGUS-LLPX310R	1077x300x115	40.0m	110°	5°	0°	N/A	N/A				2m	RRUS61	BEHIND ANTENNA		5m	1/TSR 484 21/2000	1.5m
3	③	ARGUS-LLPX310R	1077x300x115	40.0m	165°	5°	0°	N/A	N/A				2m	RRUS61	BELOW ANTENNA		5m	1/TSR 484 21/2000	1.5m
4																			
5																			
6																			
A	Ⓐ	PARABOLIC	ø900	37.0m	228°	N/A	N/A	BEETALOO NORTH	1-OFF	LDF 1-50 CABLE	50m	-	-	-	-	-	-	-	-
B																			
C																			
D																			
GPS		KRE 101282/1	ø69x96	2.5m	N/A	N/A	N/A	N/A	N/A	LDF 1-50 CABLE	10m	-	-	-	-	-	-	-	-

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PIR-51-09-WIRR  
WIRRABARA  
41 CREW ROAD  
WIRRABARA  
SA 5481

PRELIMINARY

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Rev	Date	Revision Details



DESIGNER:

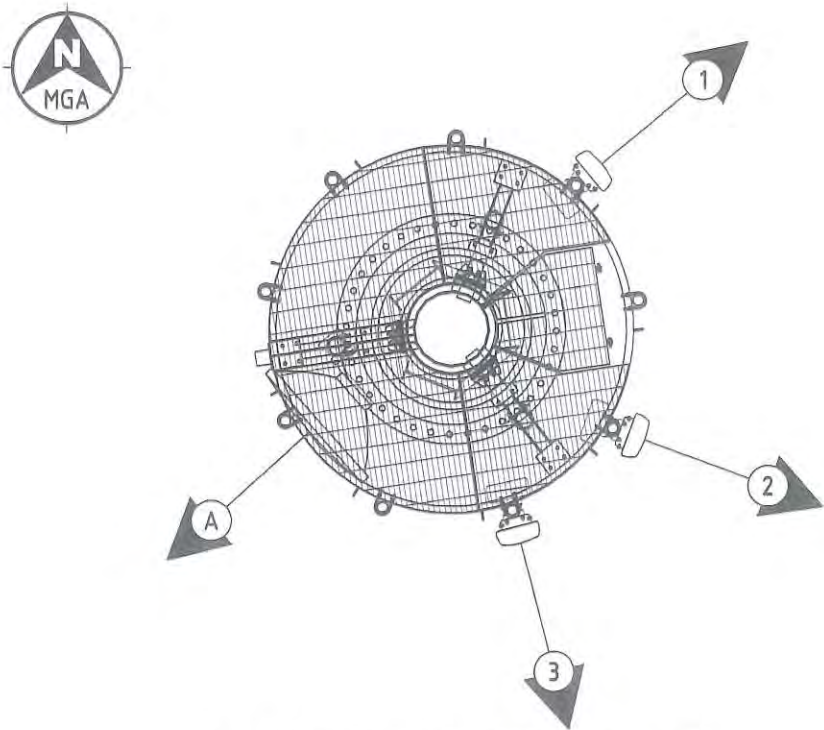
CHECKED:

APPROVED:

Drawing Title:  
**ANTENNA  
CONFIGURATION  
AND SETOUT PLAN**

Drawing No.  
**5PIR-51-09-WIRR-A1**

Revision  
**04**



ANTENNA SETOUT PLAN  
SCALE 1:50



20 October 2015

Ref: 6495 DAP Report

Chief Executive Officer  
District Council of Mount Remarkable  
PO Box 94  
MELROSE, SA 5483

Access Planning (SA) Pty Ltd  
ABN 57 059 702 241

235 Henley Beach Road  
Tonsley SA 5031

Telephone 08 83 50 7272  
Facsimile 08 83 50 7799  
admin@accessplanning.com.au  
www.accessplanning.com.au

**ATTENTION:** Tammy Bastian

Dear Tammy,

**RE: PROPOSED TELECOMMUNICATIONS FACILITY 41 CREW ROAD, WIRRABARA  
DA 830/081/15**

As instructed, the following is a planning assessment of the abovementioned development application.

In preparing this report I have reviewed the Council file on the application, visited the subject land and familiarised myself with the relevant provisions of the Development Plan

## **1.0 DEVELOPMENT DETAILS**

Proposed Development:	Telecommunication facility comprising a 40m high monopole with a circular headframe, antennas, associated infrastructure and fencing
Development Application Number:	830/081/15
Location:	41 (Section 391) Crew Road, Wirrabara
Certificate of Title:	Volume 5714 Folio 834
Applicant:	NBN Co Ltd C/- Aurecon Australasia Pty Ltd
Owner:	District Council of Mount Remarkable
Zone:	Primary Production zone - Township Fringe Policy Area
Public Notification:	Cat 3 (merit)
Lodgement Date:	11 September 2015
Authorised Development Plan:	5 September 2013

## 2.0 SUBJECT LAND AND LOCALITY

The subject land consists of an irregular shaped allotment comprising an area of 1.2 hectares located within the Primary Production zone to the west of Wirrabarra.

The land has access to Crew Road which I note, continues through the subject land, rather than being contained within a road reserve.

The subject land contains three tennis courts and an associated shelter/amenities building on the eastern side of Crew Road. The balance of the land is vacant.

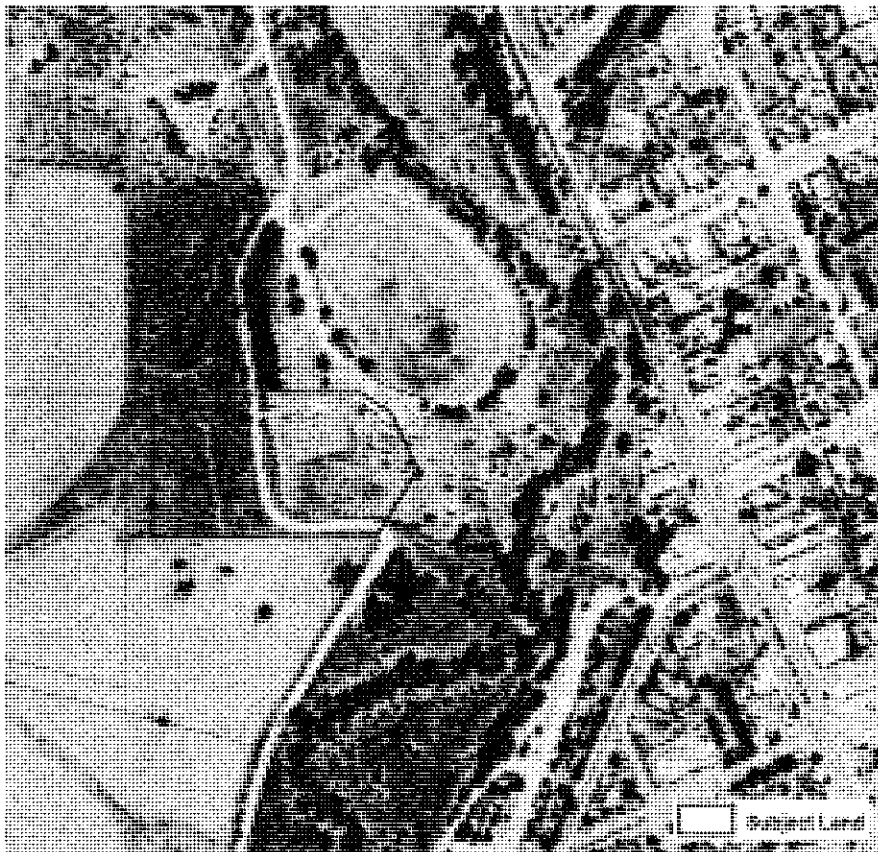
Vegetation on the property is limited to a number of small trees and shrubs, principally located alongside either side of the road and along the northern and western property boundaries.

The subject land is adjoined by Primary Production zoned land, except for the properties to the east and north east which are zoned Recreation. The land within the Recreation zone contains an oval and associated clubrooms and facilities.

The land to the north contains a row of large pine trees on the eastern side of Crew Road and the eastern portion of this allotment is used in associated within the adjoining oval. The land to the south and west is vacant and used for farming activities.

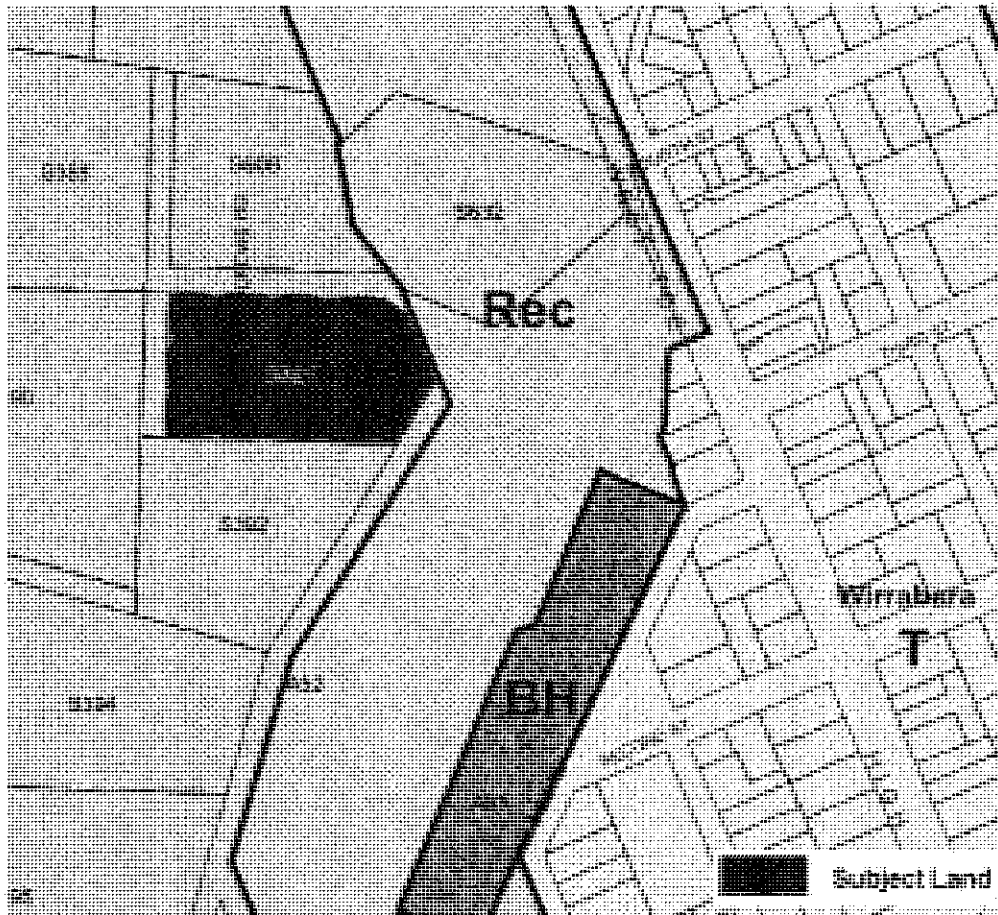
The Wirrabarra Township is located approximately 350 metres to the east of the site.

The subject land and locality are more particularly depicted below in figures 1 and 2.



**Figure 1: Subject Land and Locality**

**Source:** Property Location Browser ([www.maps.sa.gov.au](http://www.maps.sa.gov.au))



**Figure 2: Zoning**  
**Source:** Zone Map Mtr/21 of DC Mt Remarkable Development Plan

### 3.0 PROPOSED DEVELOPMENT

The proposal seeks approval to construct a telecommunications facility including:

- a 40 metre monopole with circular headframe;
- three (3) panel antennae (1077mm long) installed on the headframe at a centerline height of 40 metres and overall height of 40.53 metres.
- three (3) (500mm long) remote radio units installed behind the panel antennas;
- one (1) 900mm diameter parabolic antenna installed on the monopole at a height of 37 metres
- one (1) GPS unit installed at the base of the monopole;
- two (2) equipment shelter, installed at the base of the tower;
- a 300mm wide elevated cable tray between the tower and the equipment hut;
- 2.4 metre high chainlink fence, which includes 3 metre wide access gates around the perimeter of the compound (10m x 8m).

The proposed facility will be sited approximately 15 metres from the northern boundary of the allotment and setback 8 metres to the west of Crew Road.

The nearest dwelling is located approximately 350 metres to the east of the proposed site within the Warrabara Township.



Access will be provided to the facility from Crew Road, via a new driveway.

No existing vegetation on the property is proposed to be removed to accommodate the facility.

The proposed development is more particularly illustrated in the submitted plans.

#### **4.0 RELEVANT AUTHORITY**

Pursuant to Schedule 10 of the Development Regulations 2008, Council is the relevant authority with respect to the assessment of this application, notwithstanding that Council is the owner of the subject land.

#### **5.0 PUBLIC NOTIFICATION**

Pursuant to Schedule 9 of the Development Regulations 2008 the proposed development represents a Category 3 Development for the purposes of public notification. The application therefore underwent full public notification.

No representations were received during the notification period.

#### **6.0 DEVELOPMENT ASSESSMENT**

The subject land is located within the Primary Production zone and Township Fringe Policy Area as indicated on Zone and Policy Area Map MtR/21 of the Mount Remarkable (DC) Development Plan, Consolidated 5 September 2013.

The following Objectives and Principles of the Mount Remarkable (DC) Development Plan are considered relevant to the assessment of this application;

##### **Primary Production zone Objectives**

- 1 Economically productive, efficient and environmentally sustainable primary production.**
- 3 Protection of primary production from encroachment by incompatible land uses and protection of scenic qualities of rural landscapes.**

##### **Township Fringe Policy Area 1 Objectives**

- 1 A policy area primarily for low-intensity primary production compatible with the adjoining urban areas.**
- 2 Preservation of rural character and scenic features as a backdrop to the town.**

##### **Principles**

- 8 Buildings should be sited and designed to minimise their visual impact on the scenic and natural qualities of the landscape.**

##### **General Telecommunications Facilities**

## **Objectives**

- 1 Telecommunications facilities provided to meet the needs of the community.**
- 2 Telecommunications facilities sited and designed to minimise visual impact on the amenity of the local environment.**

## **Principles**

- 1 Telecommunications facilities should:**
  - (a) be located to meet the communication needs of the community**
  - (b) use materials and finishes that minimise visual impact**
  - (c) have antennae located as close as practical to the support structure**
  - (d) be located primarily in industrial, commercial, business, office, centre and rural zones**
  - (e) where technically feasible, be co-located with other telecommunications facilities**
  - (f) incorporate landscaping to screen the development, particularly equipment shelters and huts**
  - (g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.**

Within the Primary Production zone a telecommunications facility is neither a complying nor non-complying form of development, as such, the application is required to be assessed on its merits.

Whilst a telecommunication facility is not specifically envisaged in the zone or policy area, Telecommunication Facilities Principle 1 contemplates telecommunication facilities within rural zones. The Primary Production zone is certainly considered to be a rural zone.

The intent of the Primary Production zone and Township Fringe Policy Area is to retain the land for primary production purposes and to protect primary production activities from encroachment of incompatible uses.

The subject land comprises an area of approximately 1.2 hectares and contains existing sporting/recreation facilities within its eastern portion. Given the characteristics of the land the ability to undertake primary production activities are certainly limited on the property, notwithstanding its current zoning.

The proposal is a use that can coexist with farming activities on the adjoining properties to the west and on this basis the proposal largely complies with zone Objectives 1 and 3. In addition, the proposal only occupies a small portion of the subject land, and thus the facility will unlikely impede the continuation of the existing uses on the property and/or adversely restrict the establishment of desired uses on the land in the future.

The key issue with the application is assessing the visual impacts, considering the proximity of the facility to the Township zone boundary and the intent of both the zone and policy area to maintain the rural character of the area.

The visual impact of telecommunications facilities are principally dealt with in the General Telecommunications Facilities provisions above.

Mobile phone and broadband services now represent an increasingly important part of everyday life, both personally and for business purposes. It has become an essential part of today's society in much the same way that other utilities are required to service development and the activities/services which they offer. As a consequence, the demand for facilities, such as that now proposed, is also growing rapidly to a point where it can reasonably be expected that telecommunications services will be available to meet consumer needs, which is reflected in Telecommunication Facilities Objective 1 and Principle 1(a).

The applicant advised that co-locating was not an option within the locality as desired by Telecommunication Facilities Principle 1(e) and thus a new facility is required to be constructed.

With respect to the above, the applicant provided information confirming that co-locating on the existing Optus tower within south east corner of the Bulk Handling zone was not possible due coverage restrictions and structural and access issues.

It is acknowledged that the proposed facility, by virtue of its height, will have some visual amenity impact on the character of the locality. Telecommunications facilities, by their very nature are required to be located relatively central to the area they service and of a height necessary to function viably and efficiently. Therefore, some visual intrusion is, in most circumstances, unavoidable.

The proposed siting of the facility will assist to minimise the degree of impact, as the facility is to be sited adjacent a recreation area and setback approximately 350 metres from the nearest dwelling and the Township zone boundary.

The design of the facility will also assist to minimise its visual impact as the monopole is a relatively slender structure which carries little bulk, other than its vertical element.

To further reduce the visual impact of the facility it is recommended that any antennas mounted on the tower be painted or otherwise finished in a dull flat grey or similar muted colour. Generally light grey is considered to be a suitable, neutral colour, against most backgrounds to which the tower will be viewed. A condition of consent has been included to address this issue.

It is noted that views of the facility from within the wider locality, including the township and main approaches to/from the town, will likely be screened (to some extent) by intervening buildings and landscaping.

In addition, the facility will be located adjacent land used for recreation purposes which contains existing vertical structures (light towers around the oval and tennis/netball courts) albeit at a lesser height.

Given the design of the facility and setback from adjoining dwellings within the township, the proposed location is considered appropriate and will not fatally disrupt the visual value of the surrounding landscape as desired by the zone and policy area.

With regard to the above, when balancing the visual impacts against the needs of the community for telecommunications facilities, I consider that the facility has been designed and sited to sufficiently minimise its visual impacts in accordance with the relevant provisions of the Development Plan and therefore the application warrants consent.

## 7.0 RECOMMENDATION

That Development Application 830/081/15 is not seriously at variance with the provisions of the District Council of Mount Remarkable Development Plan.

That Development Application 830/081/15 seeking to construct a telecommunication facility comprising a 40 metre monopole with a circular headframe, antennas, associated infrastructure and fencing at 41 Crew Road, Wirrabara be **granted** Development Plan Consent, subject to the following conditions:

1. The development shall proceed in accordance with the plans and details submitted with and forming part of Development Application No. 830/081/15.
2. The antennas affixed to the monopole shall be painted or otherwise finished in a dull, flat grey colour such as cadet grey or similar.
3. All construction work is to be carried out to the satisfaction of Council at all times.

Tom Hateley MPA  
ACCESS PLANNING (SA) PTY LTD



## 6.2 DISTRICT COUNCIL OF ORROROO CARRIETON

### 6.2.1 DA 502/019/15 – NBN Co Pty Ltd – NBN fixed wireless telecommunications facility

<b>Action</b>	<b>For DECISION</b>
<b>Proponent</b>	<b>Council Officer</b>
<b>Officer</b>	<b>DCOC CEO</b>
<b>Development Application</b>	<b>502/019/15</b>
<b>Associated Reports &amp; Documents</b>	<b>Development Application / Planning Report, inc preliminary drawing pack, EPBC Act Protected Matters Report and ARPANSA Environmental EME Report</b>  <b>1 x Representor</b>  <b>Planning Consultant Report</b>

#### **Officer's Recommendations:**

**That** Development Application 502/019/15 for a fixed wireless telecommunications facility comprising a 40 metre high monopole, antennas and associated infrastructure at lot 4 FP160952 Orroroo – 24 Fourth Street is not seriously at variance with the provisions of the District Council of Orroroo Carrieton's Development Plan, Consolidated 22<sup>nd</sup> November 2012.

That following consideration and having regard to all relevant matters that the Panel refuse Development Plan consent for a telecommunications facility at 24 Fourth Street, Orroroo, as the proposed development would be at odds with the following provisions of the Development Plan.

#### **Residential zone**

Principle 4

#### **Town Centre zone**

Objective 4

Principles 4 and 5

#### **General Section**

##### **Design and Appearance**

Objective 1

Principle 1

#### **Infrastructure**

Objective 4

Principle 10

#### **Orderly and Sustainable Development**

Objectives 1 and 6

#### **Siting of Development**

Principles 1, 2 and 4

#### **Telecommunications Facilities**

Objective 2

Principles 1, 3 and 3

### Introduction:

The Flinders Regional Development Assessment Panel is required to determine the application.

### Previous Panel Consideration:

Nil

### Officer's Report:

Refer to attached Report by David Hutchison, Access Planning (dated 3<sup>rd</sup> November 2015).

### Statutory Requirement:

District Council of Orroroo Carrieton Development Plan – consolidated 22<sup>nd</sup> November 2012  
 Development Act 1993  
 Development Regulations 2008

### Policy/Strategic Implications:

*District Council of Orroroo Carrieton Strategic Management Plan 2010-2014:*

#### *Strategy Statement:*

To provide leadership through open communication to the community and ensuring our activities meet governance and legislation requirements.

#### *Strategy Objective:*

To provide good governance and comply with legislation

#### *Strategic Outcomes:*

Provide legislative requirements

### Risk/Liability:

Likelihood	Consequences				
	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain)	H	H	E	E	E
B (likely)	M	H	H	E	E
C (moderate)	L	M	H	E	E
D (unlikely)	L	L	M	H	E
E (rare)	L	L	M	H	H

*Legend:* E: Extreme risk; immediate action required  
 H: High risk; senior management attention needed  
 M: Moderate risk; management responsibility must be specified  
 L: low risk; manage by routine procedures

### Voting Requirements:

Absolute Majority

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Adelaide SA 5000  
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10 August 2015



Stephen Rufus  
Chief Executive Officer  
District Council of Orroroo Carrieton  
PO Box 3  
ORROROO SA 5431

Dear Stephen

**Development Application for a Proposed NBN Fixed Wireless (Telecommunications) Facility at 24 Fourth Street, Orroroo, SA 5431**

NBN Co has engaged Ericsson as the equipment vendor and project manager to establish the infrastructure required to facilitate the fixed wireless component of the National Broadband Network (NBN). Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The NBN is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To enable the provision of these services to the local community, NBN Co has undertaken a thorough analysis of potential site alternatives and during this process has attempted to select the most appropriate site. Factors such as the ability to meet the required coverage and technical objectives, opportunities for co-location, the surrounding landscape and community needs have all been carefully considered as part of this selection process.

Based on this assessment, NBN Co determined that the above address would be the most appropriate location to establish a facility so as to provide high speed wireless broadband coverage to the Orroroo area. This would also serve as a key communications anchor point for other NBN Fixed Wireless facilities in the wider Mid-North region.

Prior to lodgement of this development application, NBN Co has undertaken consultation to gauge feedback from the Orroroo community. The consultation was undertaken in the form of a Community Information Session that was held on Wednesday 5<sup>th</sup> August 2015 at the Orroroo Memorial Hall from 3:00pm to 6:00pm. The session provided the community with an opportunity to consider the proposal and the broader benefits of the National Broadband Network. The session was attended by approximately 22 community members with predominately positive feedback being received.

Please find enclosed an application for Development Plan Consent and supporting information for a proposed telecommunications facility comprising a 40 metre high monopole along with ancillary components at the above address which will form part the NBN fixed wireless infrastructure.

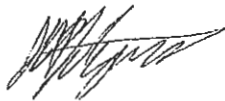
The application is accompanied by:

- Completed Development Application form;
- Completed Electricity Declaration form;

- Planning Report detailing compliance with the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012);
- A recent copy of the Certificate of Title;
- Preliminary Drawing pack;
- EPBC Act Protected Matters Report; and
- ARPANSA Environmental EME Report.

We trust that you have all the necessary information to commence your assessment of this application. Should you require any additional information regarding this application, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at [adam.pfitzner@aurecongroup.com](mailto:adam.pfitzner@aurecongroup.com)

Yours faithfully

A handwritten signature in black ink, appearing to read 'Adam Pfitzner'.

Adam Pfitzner  
Planner  
Aurecon Australasia Pty Ltd  
On behalf of **NBN Co Limited**



# Planning Report Proposed Fixed Wireless Facility

24 Fourth Street  
Orroroo SA 5431

## NBN Site Reference

### NBN-5PTZ-5PTG-5101 - Orroroo

*The contents of this document reflect NBN Co's current position on the subject matter of this document. It is provided solely to explain information relevant to NBN Co's planning proposal. The contents of this document should not be relied upon as representing NBN Co's final position on the subject matter, except where stated otherwise. Any dates provided are indicative only, are subject to change and are dependent upon a number of factors.*

Prepared on behalf of NBN Co Limited  
By Aurecon Australasia Pty Ltd  
10 August 2015

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## Executive Summary

<b>Proposal</b>	<p>NBN Co propose to install a new fixed wireless facility at 24 Fourth Street, Orroroo SA 5431 comprising of the following:</p> <ul style="list-style-type: none"> <li>▪ A new 40m high steel monopole;</li> <li>▪ Three (3) 1077mm long panel antennas at a centreline height of 40m;</li> <li>▪ Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;</li> <li>▪ One (1) 1800mm diameter parabolic antenna at a centreline height of 37m;</li> <li>▪ One (1) GPS unit;</li> <li>▪ Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and</li> <li>▪ 2.4m high security fencing and associated ancillary equipment.</li> </ul>
<b>Purposes</b>	The proposed facility will provide fixed wireless internet services to Orroroo.
<b>Property Details</b>	<p><i>Description of Land:</i> Allotment 4 Filed Plan 160952, in the area named Orroroo, Hundred of Walloway  <i>Street Address:</i> 24 Fourth Street, Orroroo, SA 5431  <i>Overall Site Area:</i> approx. 1034m<sup>2</sup>  <i>Property Owner:</i> Trevor McKay</p>
<b>Development Plan</b>	<p><i>Council:</i> District Council of Orroroo Carrieton  <i>Zone:</i> Residential Zone  <i>Policy Area:</i> N/A  <i>Maps:</i> OrCar/3</p>
<b>Application</b>	Construction of a Fixed Wireless Telecommunications Facility comprising a steel monopole, antennas, fencing and associated ancillary equipment.
<b>Applicant</b>	<p>NBN Co Limited (NBN Co)  c/- Aurecon Australasia Pty Ltd  Level 10, 55 Grenfell Street  Adelaide SA 5000  Contact: Adam Pfitzner  (08) 8237 9989  <a href="mailto:adam.pfitzner@aurecongroup.com">adam.pfitzner@aurecongroup.com</a></p>



# 1 INTRODUCTION

NBN Co has engaged Ericsson as the equipment vendor and project manager to establish the infrastructure required to facilitate the fixed wireless component of the National Broadband Network (NBN). Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The NBN is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To support the Fixed Wireless component of this network, NBN Co requires a fixed wireless site to provide fixed wireless internet services and serve as a key communications anchor point for other NBN Fixed Wireless facilities in the wider region that surrounds the site.

An in-depth site selection process was undertaken in the area prior to confirming the site as the preferred location. This process matched potential candidates against four key factors, specifically:

- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact);
- The ability of the site to provide connection to other sites within the region;
- Construction feasibility; and
- The ability for NBN Co to secure a lease agreement with the landowner.

This application seeks planning consent for:

- A new 40m high steel monopole;
- Three (3) 1077mm long panel antennas at a centreline height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;
- One (1) 1800mm diameter parabolic antenna at a centreline height of 37m;
- † One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

This submission will provide assessment in respect of the relevant planning guidelines, and demonstrates site selection on the basis of:

- The site is designed so as to be appropriately located & sited so as to minimise visual impact on the immediate & surrounding area;
- The proposal is designed to comply with the relevant Commonwealth, State and Local Legislation;
- The site is designed to achieve the required coverage objectives for the area;
- The proposal is designed to operate within the regulatory framework of Commonwealth, State and Local Government; and

- 
- 11 The facility is designed to operate within all current and relevant standards and is regulated by the Australian Communications and Media Authority (ACMA).

---

## 2 BACKGROUND

### 2.1 NBN Co and the National Broadband Network

NBN Co is the organisation responsible for overseeing the upgrade of Australia's existing telecommunications network and for providing wholesale services to retail service providers. The NBN is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

NBN Co plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

The NBN's fixed wireless network will use cellular technology to transmit signals to and from a small antenna fixed on the outside of a home or business, which is pointed directly towards the fixed wireless facility.

NBN Co's fixed wireless network is designed to offer service providers with wholesale access speeds of up to 25Mbps for downloads and 5Mbps for uploads.<sup>1</sup>

### 2.2 What is Fixed Wireless and how is it different to Mobile Broadband?

The NBN's fixed wireless network, which uses advanced technology commonly referred to as LTE or 4G, is engineered to deliver services to a fixed number of premises within each coverage area.

This means that the bandwidth per household is designed to be more consistent than mobile wireless, even in peak times of use.

Unlike a mobile wireless service where speeds can be affected by the number of people moving into and out of the area, the speed available in a fixed wireless network is designed to remain relatively steady.

### 2.3 The Fixed Wireless Network – Interdependencies

Although fixed wireless facilities are submitted to Council as standalone developments from a planning perspective, they are highly interdependent from a technical perspective. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the 'transmission network'.

The transmission network requires line of sight from facility to facility until it reaches the fibre network. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.

A typical fixed wireless facility will include three antennas mounted above the surrounding area. Each antenna is designed to cover a set area to maximise signal strength. These network

---

<sup>1</sup> NBN Co is designing the NBN to provide these speeds to our wholesale customers, telephone and internet service providers. End user experience including the speeds actually achieved over the NBN depends on some factors outside NBN Co's control like equipment quality, software, broadband plans and how the end user's service provider designs its network.

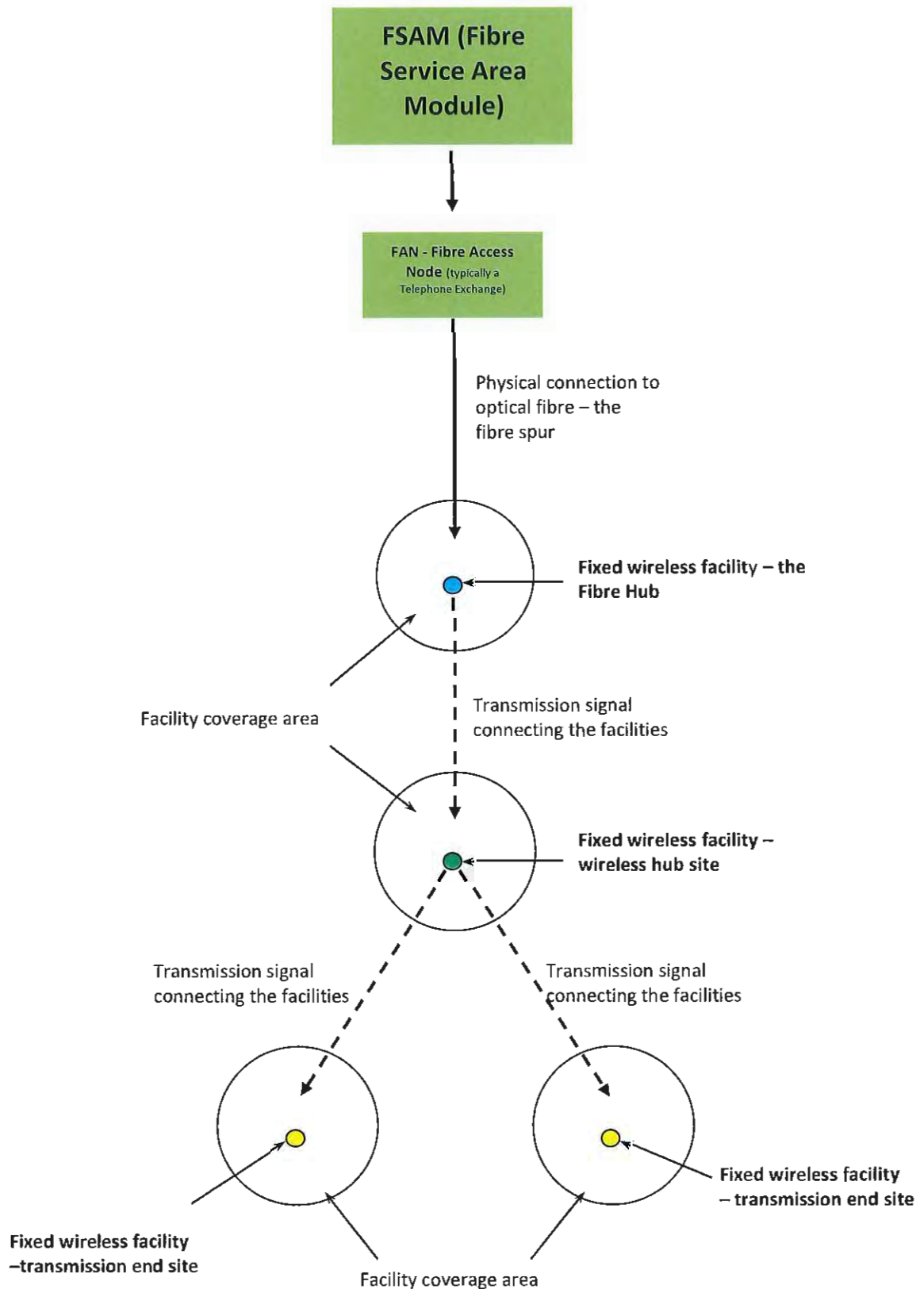
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antennas communicate to a small antenna installed on the roof of each customer's home or business.

Each NBN Co Fixed Wireless facility has been designed to heights that allow the panel antennas to have a clear line of sight to the surrounding premises (radio coverage), and also ensure that the radio transmission dish has a clear line of sight to the adjoining network facility to link the sites back into the broader network.



The character of the Fixed Wireless network is visually demonstrated through **Figure 1** below.



**Figure 1: The fixed wireless network**

---

## 3 SITE SELECTION

Planning for a new fixed wireless broadband facility is a complex process. NBN Co conducts a rigorous multi-stage scoping process, as outlined below.

### 3.1 Identification of areas requiring a Fixed Wireless facility

NBN Co's Fixed Wireless locations are determined by a number of factors including the availability of both the NBN Co Fibre transit network and the availability of Point of Interconnect (POI) facilities to allow for the installation of NBN Co fibre equipment. NBN Co uses a number of methods to identify those parts of Australia that require Fixed Wireless coverage. When an area is identified as requiring Fixed Wireless coverage, investigations are undertaken to determine the measures required to provide this coverage.

NBN Co has identified a requirement to provide a Fixed Wireless facility in Orroroo to provide fixed wireless internet services to the community.

### 3.2 Site Selection Parameters

NBN Co generally identifies a 'search area' where a fixed wireless facility would work reliably and provide fixed wireless internet coverage to the community. A preliminary investigation of the area is then generally undertaken, in conjunction with planning and property consultants, radiofrequency engineers and designers in order to identify possible locations to establish a facility.

Generally speaking, new sites must be located within, or immediately adjacent to, the identified search area in order to be technically feasible. However, while the operational and geographical aspects of deploying new facilities are primary factors, there are also many other issues that influence network design, which have to be resolved in parallel.

Some of the issues that may be considered include visual amenity, potential co-location opportunities, the availability and suitability of land as well as a willing site provider, occupational health and safety, construction issues (including structural and loading feasibility and access for maintenance purposes), topographical constraints affecting network line of sight, legislative policy constraints, environmental impacts, and cost implications.

The number, type and height of facilities required to complete the Fixed Wireless network are largely determined by the above operational, geographical and other factors discussed that influence final network design. These compounding factors often severely restrict the available search area within which a facility can be established to provide Fixed Wireless internet services to a local community.

### 3.3 Co-Location Opportunities

During the preliminary scoping visit, analysis of existing facilities was undertaken to determine if any co-location options were available in order to attach the NBN equipment to an existing tower. The following co-location opportunities were identified:

- A 30 metre high Telstra lattice tower at 1 Fifth Street, Orroroo, SA 5431 – co-location on this facility is not feasible due to the inadequate structural capacity of the existing facility.
- A 55 metre high Optus lattice tower at Section 349 East Terrace, Orroroo, SA 5431 – co-location on this facility is not viable as the land is owned by the Crown which incurs protracted lease negotiations.

In addition to the above, co-location on these facilities is also not technically feasible as the available height (taking into consideration elevations that have been 'reserved' for future Telstra and Optus equipment) for the installation of NBN equipment is too low. This is a particular issue for the parabolic antenna which must provide a line of sight connection to a proposed facility at Peterborough to allow connection to the wider NBN network. The undulating topography of the surrounding locality requires that the antennas be mounted high enough to clear any obstructions.

### 3.4 Candidate Sites

Following the identification of the search area, a number of candidate sites were examined. Each candidate was assessed based on the ability to meet the transmission objectives and site considerations detailed above. A total of three (3) candidates were selected for in-depth investigation, as per **Figure 2** below. The most feasible site for the proposed development is Candidate C (refer to Figure 2).

NBN Co endeavours to avoid locating search areas in proximity to residential localities and potentially sensitive land uses, where practicable. The search area is predominately located centrally within the Orroroo Township and is generally characterised by a mixture of commercial, residential and recreational land uses.



Figure 2 – NBN Co Candidate Sites (Image Source: Bing Maps)



A summary of the candidates that were proposed is set out in the table below, including a description of the opportunities and constraints resulting from detailed evaluation:

Candidate	Address and Lot Number	Facility Type	Description
A	Section 349 Hundred of Walloway, East Terrace, Orroroo, SA 5431 CR 6076/277	Co-location of NBN equipment on existing Optus facility.	This candidate is an existing 55 metre high Optus lattice tower with associated antennas. Whilst this candidate offers an appropriate co-location opportunity, the subject land is owned by the Crown which incurs protracted tenure negotiations. In addition, current reservations restricts height availability on the existing facility which effects the viability of NBN's transmission link to Peterborough.
B	18 Fifth Street, Orroroo, SA 5431 CT 5687/575	New 40m monopole and associated equipment.	This candidate is located on the Council Works Depot, situated centrally the Orroroo township within the Residential Zone. Whilst this candidate is located within a light industrial land use, it was not selected due to: <ul style="list-style-type: none"> <li>• The condition of the subject land highlights the potential for site contamination issues (being a works depot);</li> <li>• Limited available space for the construction of the facility (required to relocate multiple items of equipment/machinery);</li> <li>• Proximity to residential dwellings and road frontage (more prominent visual impact when compared to Candidate C);</li> <li>• Potential protracted lease negotiations.</li> </ul>
C	24 Fourth Street, Orroroo, SA 5431 CT 5309/593	New 40m monopole and associated equipment.	This location was selected as the preferred candidate and is detailed in subsequent sections of this report.



---

### 3.5 Preferred Site Selection

The reasons for selecting this site are summarised as follows:

- “ The proposed site has been particularly targeted as it can provide optimal fixed wireless coverage to Orroroo and achieves line-of-sight at an appropriate height as required by NBN Co for connecting to a proposed facility at Peterborough which is crucial for the functioning of the network in the region;
- “ This site is within a property that is used for non-residential purposes, adjacent a Commercial Zone;
- “ The location takes advantage of partial screening provided by existing equipment and vegetation on the subject land.

The proposed development is sited in a location which has a minimal impact on the amenity of the locality whilst being able to provide fixed wireless services to the community in Orroroo and enabling crucial transmission links for other proposed NBN Fixed Wireless facilities in the region.

## 4 SUBJECT LAND & SURROUNDS

The telecommunications facility is proposed to be located at 24 Fourth Street, Orroroo SA 5431 (the subject land). The land is formally described as Allotment 4 Hundred of Walloway, in the area named Orroroo in Certificate of Title Volume 5309 Folio 593. Refer to **Appendix A** for a copy of the Certificate of Title.

The subject land is a narrow, semi-rectangular shaped allotment which is situated towards the north-western side of the Orroroo Township, setback approximately 60 metres northeast of the main street (Second Street) and approximately 50 metres from Fourth Street. The allotment is used for storage purposes to assist the adjacent Garage that fronts Second Street.

The proposed telecommunications facility and associated lease area is to be located in the north-western corner of the subject land and occupies an area of approximately 80 square metres.

The subject land is within the Residential Zone in accordance with the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012).

Refer to **Figures 3** and **4** for images which depict the subject land and surrounding locality.

Access to the proposed facility will be from Fourth Street via existing access track on the subject land.

The surrounding locality is characterised by a mix of residential and commercial land uses which are mainly focused on Second Street.

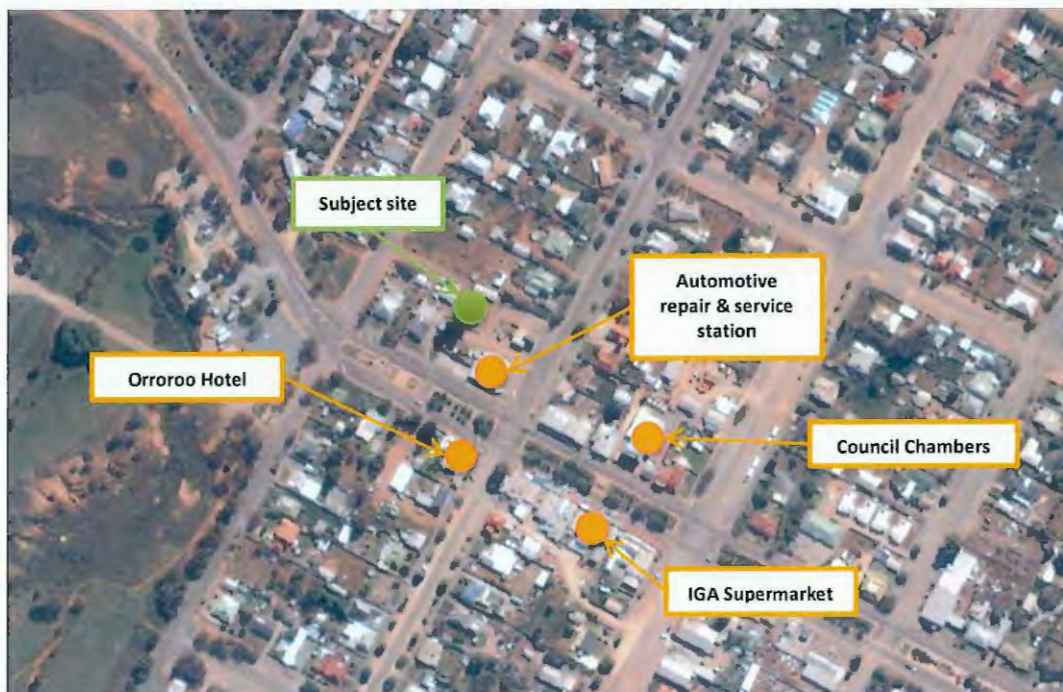


Figure 3: Subject site and surrounding locality (Image Source: Bing Maps)



Image 1: Looking southwest towards site (adjacent tree) on subject land.



Image 2: Looking north towards site on subject land (scrapped cars to be relocated).



Image 3: Looking north-northwest from the median strip on Second Street (near corner of Fourth St) towards subject land (behind Hunts Fuel, adjacent tree)



Image 4: Looking southeast from proposed site towards Fourth Street.

Figure 4: Images of the subject land and surrounding locality



## 5 PROPOSED DEVELOPMENT

### 5.1 Facility and Equipment Details

#### 5.1.1 Equipment to be Installed

Approval is sought for the development of a fixed wireless telecommunications facility, comprising the following equipment:

- A new 40m high steel monopole;
- Three (3) 1077mm long panel antennas at a centreline height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;
- One (1) 1800mm diameter parabolic antenna at a centreline height of 37m;
- One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

The monopole will be constructed from galvanised steel which will fade to a light grey colour within approximately twelve (12) months from construction. The dull colour of the galvanised finish is considered to be the most appropriate finish to mitigate visual impact within the surrounding locality. Associated equipment and cabinets will be a pre-finished light grey colour to match the monopole structure and blend with the surrounding locality.

Please refer to **Appendix B – Proposed Plans** for further details.

#### 5.1.2 Access and Parking Details

The proposed NBN compound will be accessed via an existing access point from Fourth Street which is considered safe and convenient for the proposed development.

NBN Co considers the site access to be appropriate given the NBN Co facility will not be a significant generator of traffic. During the construction phase, it is planned that a truck will be used to deliver the equipment and a crane will be utilised to lift most of the equipment into place. Any traffic impacts associated with construction are expected to be of a short-term duration and are not anticipated to adversely impact on the surrounding road network.

A total construction period of approximately ten weeks (including civil works and network integration and equipment commissioning) is anticipated. Construction activities will involve four basic stages:

- Stage 1 (Week 1) – Site preparation works, including field testing, excavation and construction of foundations;
- Stage 2 (Weeks 2, 3 and 4) – Construction of the mast;
- Stage 3 (Weeks 5 and 6) – Construction of the equipment shelter and fences;
- Stage 4 (Weeks 7 – 10) – Installation of antennas and radio equipment, as well as equipment testing.



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Once operational, the facility is designed to function on a continuous, unstaffed basis and will typically only require maintenance works once a year, for approximately one day per year.

#### **5.1.3 Construction and Noise**

Noise and vibration emissions associated with the proposed facility are expected to be limited to the construction phase outlined above. Noise generated during the construction phase is anticipated to be of short duration and will be within the standards outlined in the relevant EPA guidelines. Construction works are planned only to occur between the hours of 7.00am and 6.00pm.

There is expected to be some low level noise from the ongoing operation of air conditioning equipment associated with the equipment cabinets, once installed. Noise emanating from the air conditioning equipment is expected to be at a comparable level to domestic air conditioning, and should be consistent with typical background noise levels prescribed by relevant guidelines.

## 6 CURRENT PLANNING CONTROLS

### 6.1 Commonwealth Legislation – The Telecommunications Act

The Commonwealth's Telecommunications Act 1997 (the Act) sets the statutory framework for telecommunications carriers to follow. The Commonwealth Department of Broadband, Communications and the Digital Economy are responsible for administering the provisions of the Act. The Act is supported by several other documents of statutory standing, in particular the Telecommunications (Low-Impact Facilities) Determination 1997 as well as the Telecommunications Code of Practice 1997.

When a proposed facility is compliant with the Telecommunications (Low-Impact Facilities) Determination 1997, the Act exempts carriers from State planning legislation. However when a facility is non-compliant with the Telecommunications (Low-Impact Facilities) Determination 1997, the relevant State and Territory planning legislation must be adhered to by the relevant carrier for a proposed facility.

### 6.2 State Policy and Legislation

Under the *Telecommunications (Low-Impact Facilities) Determination 1997*, the proposed facility is not defined as 'low-impact', due to the proposal involving the construction of a facility that exceeds the maximum requirements that are allowed under the provisions set out by the determination. Therefore the proposed facility is subject to the Development Act 1993 and the Development Regulations 2008.

### 6.3 The Telecommunications Code of Practice

Under Section 2.11 of the Telecommunications Code of Practice 1997, carriers are required to ensure that the design, planning and installation of their facilities are in accordance with what the industry considers to be 'best practice'.

Section 2.11.3 requires carriers to:

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

In order to achieve 'Best Practice', carriers must comply with any relevant industry code or standard, which has been registered by the Australian Communications and Media Authority, under Part 6 of the Telecommunications Act 1997. The planning and siting of the current proposal has regard to Section 3 of the Australian Standard, Siting of Radio-Communications Facilities (AS:3516.2).

## 7 DEVELOPMENT PLAN ASSESSMENT

### 7.1 Nature of Development

The subject land is located within the Residential Zone in accordance with the provisions of the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012).

In accordance with the provisions of the Residential Zone we are of the opinion that the proposed development should be assessed on merit.

### 7.2 Public Notification

In accordance with Section 38 (2) (c) of the Development Act 1993, we are of the opinion that the proposed telecommunications facility should be assigned Category 3 for Public Notification purposes.

### 7.3 Development Plan Provisions

The following Objectives and Principles of Development Control (PDC) of the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012) are considered to be relevant in the assessment of the proposed development.

Council Wide		
Building near Airfields	Objectives	1
	Principles of Development Control	1, 2, 3, 4
Design and Appearance	Objectives	1
	Principles of Development Control	6, 16
Infrastructure	Objectives	1, 2, 4, 5
	Principles of Development Control	10
Interface between land uses	Objectives	1, 2
	Principles of Development Control	1, 2, 6, 7
Siting and Visibility	Objectives	1
	Principles of Development Control	2, 5
Telecommunications Facilities	Objectives	1, 2
	Principles of Development Control	1, 3
Transportation and Access	Objectives	2
	Principles of Development Control	8, 13, 21, 22

Zone Specific		
Residential Zone	Objectives	3
	Principles of Development Control	1, 2, 4, 8

## 7.4 Development Plan Assessment

### 7.4.1 Building near Airfields

The proposed location for the NBN Fixed Wireless facility is approximately 7.8 kilometres northwest of the Orroroo Airport runway. The proposed development, in this location, is not considered to affect the long-term operational, safety and commercial aviation requirements of the airfield. In addition to the significant separation distance from the runway, the proposal is located at a bearing of approximately 318.12 degrees from the end of the runway which is not considered to affect the approach/take-off of aircraft.

The development does not propose any lighting as part of this application and is not likely to increase the attraction of birds.

We are of the opinion that the proposed development is consistent with the following provisions:

#### ***Building near Airfields***

##### **OBJECTIVES**

**1** Development that ensures the long-term operational, safety and commercial aviation requirements of airfields (airports, airstrips and helicopter landing sites) continue to be met.

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

**1** The height and location of buildings and structures should not adversely affect the long-term operational, safety and commercial aviation requirements of airfields.

**2** Development in the vicinity of airfields should not create a risk to public safety, in particular through any of the following:

- (a) lighting glare
- (b) smoke
- (c) air turbulence
- (d) storage of flammable liquids
- (e) attraction of birds
- (f) materials that affect aircraft navigational aids.

**3** Lighting within six kilometres of an airport should be designed so that it does not pose a hazard to aircraft operations.

**4** Development that is likely to increase the attraction of birds should not be located within three kilometres of an airport used by commercial aircraft. If located closer than three kilometres the facility should incorporate bird control measures to minimise the risk of bird strikes to aircraft.



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#### 7.4.2 Design and Appearance

The proposed NBN fixed wireless telecommunications facility has been designed and sited to provide optimal fixed wireless telecommunications coverage, achieve line-of-sight to other facilities in the region for connection to the wider NBN network and to minimise visual impact where possible.

The proposed location is on a parcel of land primarily used for storage and access for an associated automotive repair and service station on adjoining land within the centre of Orroroo.

The facility has been sited in a location in consultation with the land owner to ensure existing business operations are not affected by the operation of the facility. The location also takes advantage of existing trees adjacent the subject site to provide partial screening to the facility when viewed from the wider locality.

The monopole structure will be constructed of galvanised steel which will fade to a light grey colour within approximately twelve (12) months from the construction of the facility. This finish is considered to be more sympathetic to the surrounding locality in comparison to painted finishes. Associated equipment for the proposed facility is to be of a light grey colour to mitigate potential visual impact with the surrounding locality.

The height of the proposed facility strikes a balance between the need to minimise visual impact on the surrounding locality and technical constraints required for the function of the proposed antennas to provide internet services to Orroroo and connect to the wider NBN network.

We are of the opinion that the proposed development is consistent with the following provisions:

##### ***Design and Appearance***

###### **OBJECTIVES**

- 1. Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form.*

###### **PRINCIPLES OF DEVELOPMENT CONTROL**

- 6. The external walls and roofs of buildings should not incorporate highly reflective materials which will result in glare.*

- 16. The setback of buildings from public roads should:*

- (a) be similar to, or compatible with, setbacks of buildings on adjoining land and other buildings in the locality*
- (b) contribute positively to the streetscape character of the locality*
- (c) not result in or contribute to a detrimental impact upon the function, appearance or character of the locality.*

##### ***Siting and Visibility***

###### **OBJECTIVES**

- 1. Protection of scenically attractive areas, particularly natural and rural landscapes.*

###### **PRINCIPLES OF DEVELOPMENT CONTROL**

- 2. Buildings should be sited in unobtrusive locations and, in particular, should:*

- (a) be grouped together*

*(b) where possible be located in such a way as to be screened by existing vegetation when viewed from public roads.*

*5. The nature of external surface materials of buildings should not detract from the visual character and amenity of the landscape.*

### **7.4.3 Interface between land uses**

The proposed Fixed Wireless facility is located at the rear of the property, in the northwest corner, in order to maximise separation from residential dwellings as much as practicable whilst also minimising any potential interference with the existing land use on the subject land. The facility is located approximately 35 metres from the nearest dwelling, which is located northeast of the proposed site and has a frontage to Fourth Street. Established trees on the dwelling's property as well as existing sheds on the subject land assist in minimising potential visual impact from the nearest dwelling. An additional dwelling is located approximately 38 metres southwest of the proposed site and the existing Orroroo Senior Citizens Club Hall assists in screening the lower portion of the facility when viewed from properties that look directly towards the subject land on the opposite side of Fourth Street.

The proposed development is unlikely to cause adverse impacts to the existing land uses in the surrounding locality. The facility has been sited with an existing commercial use which minimises the visual impact of the proposed facility and provides better separation from residential land uses than other centrally located sites which meet coverage requirements.

This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. This standard is set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

During operation, the only noise emitted by this facility is the small cooling system located within the door of each outdoor equipment cabinet. This emits a noise level similar to that of a domestic air conditioner and is unlikely to be noticeable beyond the subject land.

The proposed development is considered to be consistent with the following provisions:

#### ***Interface between land uses***

##### **OBJECTIVES**

- 1. Development located and designed to prevent adverse impact and conflict between land uses.*
- 2. Protect community health and amenity and support the operation of all desired land uses.*

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

- 1. Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:*
  - (a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants*
  - (b) noise*
  - (c) vibration*
  - (d) electrical interference*
  - (e) light spill*
  - (f) glare*
  - (g) hours of operation*
  - (h) traffic impacts.*

2. Development should be designed and sited to minimise negative impact on existing and potential future land uses considered appropriate in the locality.

6. Development should be designed, constructed and sited to minimise negative impacts of noise and to avoid unreasonable interference.

7. Development should be consistent with the relevant provisions each of the following documents:

(a) AS 2107 Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors

(b) AS 3671 Acoustics – Road Traffic Noise Intrusion, Building Siting and Construction

(c) the current Environment Protection (Noise) Policy

#### 7.4.4 Telecommunications Facilities and Infrastructure

The proposed facility will provide fast fixed wireless internet services to Orroroo and dwellings in the surrounding locality.

The NBN will enable high speed broadband to be delivered to all Australian households, businesses and enterprises through a combination of fixed line, fixed wireless and satellite technology. The proposed telecommunications facility is part of the National Broadband Network, and will provide fixed wireless services to the community and will have significant benefits for the residents and businesses throughout the Mid North region.

Access to the NBN will provide a wide range of services to meet the need of the community and local businesses in Orroroo, such as:

- High Speed Internet Services
- Upgraded Telephone Services
- Teleworking Opportunities (working from home)
- Distance Education Services
- Online Health Services
- Online Business Services

During the preliminary scoping visit, analysis of existing facilities was undertaken to determine if any co-location options were available for NBN equipment. Two (2) existing telecommunications facilities were identified (55m high Optus lattice tower and 30m high Telstra lattice tower). These facilities are not suitable for co-location of NBN equipment as the available height on the facilities are insufficient for NBN equipment to provide coverage to the town and connect to a proposed facility at Peterborough via line-of-sight. In addition, the existing Optus facility is located on Crown land which can incur protracted tenure negotiations.

NBN Co. endeavours to utilise existing structures where possible, however; height requirements for the antennas and topographic constraints required a new 40m facility be located centrally within the town to provide high quality fixed wireless coverage to residents.

The proposed facility is appropriately sited and designed to minimise the visual impact and amenity of the surrounding locality as much as practicable. The facility has been located with separation from sensitive land uses adjacent a commercial land use and takes advantage of partial screening provided by an established tree and existing buildings within and immediately adjacent the subject land.

The design of the proposed facility balances the need to provide an appropriate standard of fixed wireless services and achieve line of sight to adjacent facilities in the network, whilst minimising visual impact on the surrounding locality as much as practicable. The 40 metre height of the monopole structure is the minimum acceptable height for the antennas to operate effectively.

The proposed development is therefore considered to be consistent with the following provisions:

#### ***Telecommunications Facilities***

##### **OBJECTIVES**

- 1: Telecommunications facilities provided to meet the needs of the community.***
- 2: Telecommunications facilities sited and designed to minimise visual impact on the amenity of the local environment.***

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

- 1: Telecommunications facilities should:***
  - (a) be located in a co-ordinated manner to deliver communication services efficiently*
  - (b) use materials and finishes that minimise visual impact*
  - (c) have antennae located as close as practical to the support structure*
  - (d) be located primarily in industrial, commercial, business, office, centre and rural zones*
  - (e) where technically feasible, be co-located with other telecommunications facilities*
  - (f) incorporate landscaping to screen the development, particularly equipment shelters and huts*
  - (g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.*
- 3. Telecommunications facilities should be located in residential zones only if sited and designed to minimise visual impact by:***
  - (a) using existing buildings and vegetation for screening*
  - (b) where possible, incorporating the facility within an existing structure that may serve another purpose*
  - (c) taking into account the size, scale, context and characteristics of existing structures, landforms and vegetation so as to complement the local environment.*

#### ***Infrastructure***

##### **OBJECTIVES**

- 1. Infrastructure provided in an economical and environmentally sensitive manner.***
- 2. Infrastructure, including social infrastructure, provided in advance of need.***
- 4. The visual impact of infrastructure facilities minimised.***
- 5. The efficient and cost-effective use of existing infrastructure.***

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

- 10. Utility buildings and structures should be grouped with non-residential development where possible.***



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#### 7.4.5 Transportation and Access

The proposed development utilises an existing access point off of Fourth Street. Given the location of the proposed facility on the subject land, vehicles will be able to enter and exit the site in a forward direction as there is sufficient manoeuvring space. This access arrangement is considered safe and convenient for the proposed development and will not interfere with the free flow of traffic on Fourth Street.

Following construction, traffic generated by this facility will be minimal, with access typically being on a twelve (12) monthly basis for maintenance purposes.

The proposed development is therefore considered to be consistent with the following provisions:

##### ***Transportation and Access***

###### **OBJECTIVES**

###### **2. Development that:**

- (a) provides safe and efficient movement for all motorised and non-motorised transport modes*
- (b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles*
- (c) provides off street parking*
- (d) is appropriately located so that it supports and makes best use of existing transport facilities and networks.*

###### **PRINCIPLES OF DEVELOPMENT CONTROL**

**8.** *Development should provide safe and convenient access for all anticipated modes of transport including cycling, walking, public and community transport, and motor vehicles.*

**13.** *Development should make sufficient provision on site for the loading, unloading and turning of all traffic likely to be generated.*

**21.** *Development should have direct access from an all weather public road.*

###### **22. Development should be provided with safe and convenient access which:**

- (a) avoids unreasonable interference with the flow of traffic on adjoining roads*
- (b) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision*
- (c) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.*

#### 7.4.6 Residential Zone

The Residential Zone encompasses a wide range of residential and small scale non-residential land uses as defined by Principle of Development Control 1.

Although the proposed development is not specifically an envisaged land use for the zone, the proposed facility is considered to provide an essential service for Orroroo and serve as a key part of the NBN network for the wider Mid-North region. The proposed facility is considered to be broadly consistent with key objectives and desired character of the Residential Zone as:

- 1) The desired character statement identifies the importance of the provision of essential services for future development. The proposed development is providing a crucial broadband service that enables a wide range of capabilities for residents and business owners to support their needs.

- 11 The subject site is located in an area selected in consultation with the land owner to ensure the existing land uses are not adversely affected;
- 11 The location on the subject land takes advantage of existing buildings and vegetation adjacent the site for screening purposes;
- 11 The proposed development is located alongside a light industrial / commercial use to minimise its appearance;
- 11 The location is set back from residential properties and other sensitive land uses as much as practical.

The proposed telecommunications facility is not considered to significantly impair the amenity of the locality, nor is it considered to be in conflict with adjoining land uses on the subject land or within the immediate locality. In summary we are of the opinion that the proposed development is considered to be consistent with the provisions as outlined below:

#### ***Residential Zone***

##### **OBJECTIVES**

***3. Development that contributes to the desired character of the zone.***

##### **PRINCIPLES OF DEVELOPMENT CONTROL**

***1. The following forms of development are envisaged in the zone:***

- *domestic outbuilding in association with a dwelling*
- *domestic structure*
- *dwelling*
- *dwelling addition*
- *small scale non-residential uses that serve the local community, for example:*
  - *child care facilities*
  - *health and welfare services*
  - *open space*
  - *primary and secondary schools*
  - *recreation areas*
  - *shops, offices or consulting rooms*
- *supported accommodation*

***2. Development listed as non-complying is generally inappropriate and not acceptable unless it can be demonstrated that it does not undermine the objectives and principles of the Development Plan.***

***4. Non-residential development such as shops, schools and consulting rooms should be of a nature and scale that:***

- (a) serves the needs of the local community*
- (b) is consistent with the character of the locality*
- (c) does not detrimentally impact on the amenity of nearby residents.*

***8. Development should not be undertaken unless it is consistent with the desired character for the zone.***

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## 8 OTHER ENVIRONMENTAL CONSTRAINTS AND OPPORTUNITIES

### 8.1 Heritage

In order to determine any possible natural or cultural values of state or national significance associated with the site, a search was conducted through the relevant Heritage Registers. There are no known items of cultural, historical or environmental heritage significance located in the direct vicinity of the proposal site.

There are no listed items Aboriginal heritage identified within the subject land; however, if any artefacts are found, the construction of this facility will be undertaken pursuant to Section 23 of the Aboriginal Heritage Act of 1998, in order to ensure that no damage is made to the historical artefacts.

### 8.2 Electrical Interference and Grounding of the Facility

The NBN fixed wireless network is licensed by the Australian Communications and Media Authority (ACMA) for the use of the LTE2300 frequency band. As NBN Co is a licensee of this sub-band, emissions from NBN Co equipment within the frequency band should not cause interference.

Filters will also help to ensure that each facility meets the ACMA specifications for emission of spurious signals outside the NBN Co frequency allocations. NBN Co intends to promptly investigate any interference issues that are reported.

The facility is also designed to be grounded (earthed) to the relevant Australian Standards.

### 8.3 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will be detailed in construction plans and will be designed to comply with the Building Code of Australia and local Council standards. In addition, NBN Co contractors will be informed that they must comply with the 'NBN Construction Specification' that requires contractors to undertake the necessary erosion and sediment control measures in order to protect the surrounding environment. On completion of the installation, NBN Co intends to restore and reinstate the site to an appropriate standard. No waste which requires collection or disposal should be generated by the operation of the facility.

### 8.4 Flora and Fauna and Endangered Species Study

In order to determine any possible natural Flora, Fauna and Endangered Species significance associated with the site, a search was conducted through the relevant environmental searches.

It was identified that there are six (6) '*Listed Threatened Species*', one (1) '*Listed Ecological Community*' and five (5) '*Listed Migratory Species*' that may occur within a 0.5km radius of the site.

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Given that the footprint of the site is relatively small (10m by 8m); the proposed installation is considered to be of low impact to flora and fauna. Precautions will be taken in order to minimise the removal or damage to any native species that may be present in the area of the proposed site. The siting of the facility ensures no vegetation will be removed or damaged<sup>2</sup>.

Please refer to the Protected Matters Search Report in **Appendix C** for further details.

## 8.5 Social and Economic Impacts

Access to fast internet is an essential service in contemporary society. Initially, small to medium business customers accounted for a significant part of the demand for broadband technology, but internet services have now been embraced by the general public. Usage of internet services continues to widen as new technologies become progressively more affordable and accessible for the wider community.

The proposed development will enable fast fixed wireless internet coverage to be provided in the District Council of Orroroo Carrieton region by enabling proposed NBN fixed wireless facilities to be connected to the wider NBN network.

The new NBN is designed to provide the community with access to fast and reliable internet services. A reliable internet service is important to help promote the economic growth of communities, and the facility is anticipated to have significant social and economic benefits for the local community.

## 8.6 Public Safety

### 8.6.1 Radiofrequency Emissions

In relation to public safety and specifically Electromagnetic Emissions (EME) and public health, NBN Cooperates within the operational standards set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA is a Federal Government agency incorporated under the Health and Ageing portfolio and is charged with the responsibility for protecting the health and safety of both people and the environment from the harmful effects of radiation (ionising and non-ionising).

All NBN Co installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the NBN Co facility does not result in any increase in the level of risk to the public.

This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. The EME Report associated with this site is attached in **Appendix D**. The report shows that the maximum predicted EME will equate to 0.11% of the maximum exposure limit. This is substantially less than 1% of the maximum allowable exposure limit.

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<sup>2</sup> Whilst all care is taken in the siting of the facility, some native vegetation may be required to be cleared as part of the construction process. If required, a separate application will be submitted to the Native Vegetation Council for the clearing of the native vegetation.



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Moreover, all NBN Co equipment has the following features, all of which help to minimise the amounts of energy used and emitted:

- Dynamic/Adaptive Power Control is a network feature that automatically adjusts the power and hence minimises EME from the facility.
- Varying the facility's transmit power to the minimal required level, minimising EME from the network, and
- Discontinuous transmission, a feature that reduces EME emissions by automatically switching the transmitter off when no data is being sent.

#### 8.6.2 Access

The proposed facility will have restrictions aimed at preventing public access, including a secured compound fence with a locked gate and warning signs placed around the facility.

### 8.7 The Public Interest and Benefits of Telecommunications

The proposed NBN Co facility is expected to have significant benefit for residents in the Orroroo area. NBN Co believes that the approval of the proposal will serve the public interest, given benefits for enhanced internet coverage in the area. The facility is expected to have benefits for local residents and businesses within the district.

There are numerous other benefits of telecommunications connectivity, as follows:<sup>3</sup>

- There are many potential educational benefits justifying the implementation of the NBN. Curriculum and data sharing, increased availability and accessibility of research materials, and virtual classroom environments are good examples. Such elements are particularly beneficial within a tertiary education context.
- Businesses can, through internet usage, increase efficiency through time, resource and monetary savings. Improved internet services effectively remove physical distance and travel time as a barrier to business.
- Improvements to internet services may also be of benefit for local employees, by enabling telecommuting and home business. The telecommuting trend is heavily reliant on access to fast internet services, and is anticipated to continually increase in popularity.

The public benefits of access to fast internet services have been widely acknowledged for many years. Reliable internet access is now more than ever an integral component of daily life, so much so that its absence is considered a social disadvantage.

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<sup>3</sup> End user experience including the speeds actually achieved over the NBN depends on some factors outside NBN Co's control like the end user's equipment quality, software, broadband plans and how the end user's service providers designs its network.

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## 9 CONCLUSION

NBN Co considers that the proposed facility, comprising of a 40 metre high monopole with attached antennas, outdoor cabinets and associated ancillary equipment has been situated in the most appropriate location whilst ensuring adequate coverage to Orroroo and surrounding areas is achieved.

The facility has been strategically sited and designed to minimise visibility within the surrounding environment as much as practicable. In this regard NBN Co considers that the proposal satisfies the requirements of the Orroroo Carrieton Council Development Plan, whilst also addressing internet service deficiencies within the Orroroo area. The location of the facility provides an important ongoing benefit to the District Council of Orroroo Carrieton region.

NBN Co considers that the proposal is also consistent with the stated objectives and principles of development control within the Orroroo Carrieton Council Development Plan (Consolidated 22 November 2012). The proposal also considers the Telecommunications Act 1997 and the Telecommunications Code of Practice 1997.

In this regard, the proposal satisfies the provisions of the Orroroo Carrieton Council Development Plan and we are of the opinion that the proposal has sufficient merit to warrant Development Plan Consent.

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## 10 APPENDIX

### 10.1 Appendix A – Certificate of Title



# Title Register Search

## LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

REGISTER SEARCH OF CERTIFICATE OF TITLE \* VOLUME 5309 FOLIO 593 \*

COST : \$26.50 (GST exempt )	PARENT TITLE : CT 2420/135
REGION : EMAIL	AUTHORITY : CONVERTED TITLE
AGENT : PHPL BOX NO : 000	DATE OF ISSUE : 23/11/1995
SEARCHED ON : 05/08/2014 AT : 13:34:20	EDITION : 5
CLIENT REF N-ORROROO	

### REGISTERED PROPRIETOR IN FEE SIMPLE

TREVOR THOMAS MCKAY OF 17 FOURTH STREET ORROROO SA 5431

### DESCRIPTION OF LAND

ALLOTMENT 4 FILED PLAN 160952  
IN THE AREA NAMED ORROROO  
HUNDRED OF WALLOWAY

### EASEMENTS

SUBJECT TO A FREE AND UNRESTRICTED RIGHT OF WAY OVER THE LAND MARKED A

### SCHEDULE OF ENDORSEMENTS

9763559 MORTGAGE TO WESTPAC BANKING CORPORATION

### NOTATIONS

DOCUMENTS AFFECTING THIS TITLE

NIL

REGISTRAR-GENERAL'S NOTES

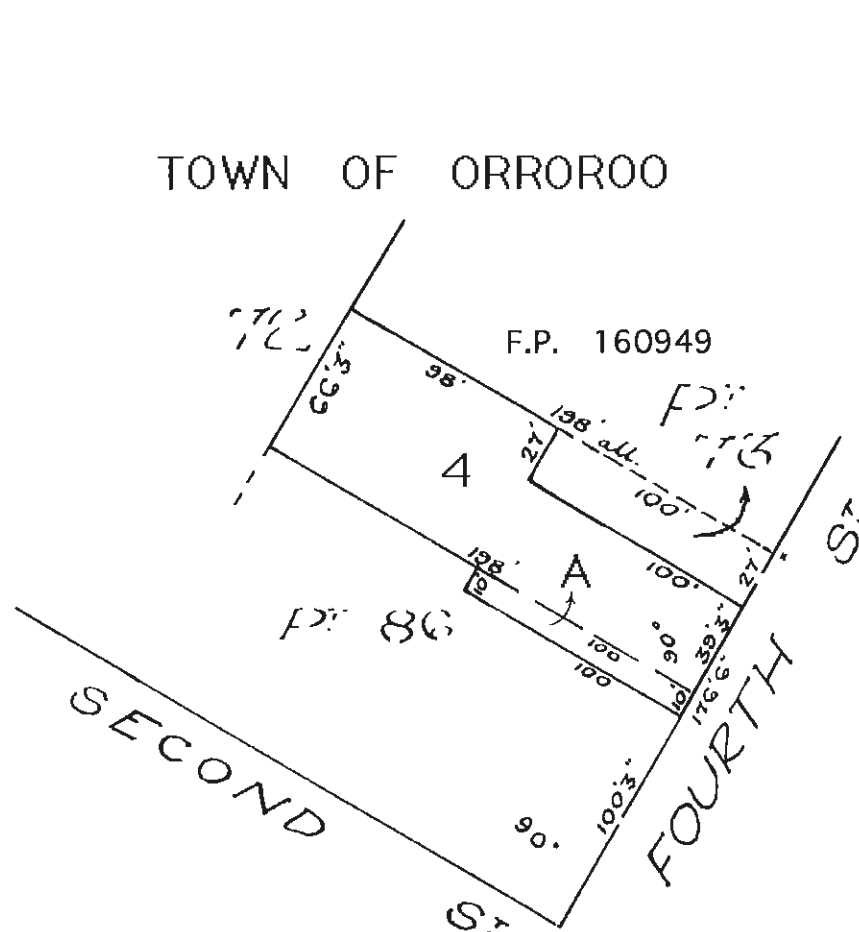
NIL

END OF TEXT.



LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA  
 DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5309 FOLIO 593  
 SEARCH DATE : 05/08/2014 TIME: 13:34:20

This plan is scanned for Certificate of Title 2420/135  
 See title text for easement details.



DISTANCES ARE IN FEET AND INCHES FOR METRIC CONVERSION	
1 FOOT	= 0.3048 metres
1 INCH	= 0.0254 metres

Note : Subject to all lawfully existing plans of division

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## 10.2 Appendix B – Proposed Plans

DATE OF ISSUE

DRAWING PACKAGE VERSION

17-12-14	19-12-14								
1	2								

## GENERAL

5PTG-51-01-ORRO-T1	COVER SHEET	01	02						
5PTG-51-01-ORRO-C1	SITE SPECIFIC NOTES AND ANTENNA TABLE	01	02						
5PTG-51-01-ORRO-C2	OVERALL SITE PLAN	01	01						
5PTG-51-01-ORRO-C3	SITE SETOUT PLAN	01	02						
5PTG-51-01-ORRO-C4	SITE ELEVATION AND DETAILS	01	02						

## STRUCTURAL

## ELECTRICAL

## EME EXCLUSION ZONES

## LEASE / LICENSE PLAN

## REFERENCE DOCUMENTS

## DISTRIBUTION

ERICSSON	MALCOLM LEWIS	1	1						
AURECON	PHIL PASCHKE	1	1						

**SITE No: 5PTG-51-01-ORRO  
ORROROO**

**24 FOURTH STREET  
ORROROO  
SA 5431**



## PROJECT SUMMARY

PROPOSED NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME  
PROPOSED NBN OUTDOOR CABINETS INSTALLED ON A CONCRETE SLAB WITHIN THE NBN COMPOUND

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PTG-51-01-ORRO  
ORROROO  
24 FOURTH STREET  
ORROROO  
SA 5431

PRELIMINARY

02 19.12.14 40m MONOPOLE  
01 17.12.14 PRELIMINARY ISSUE  
Rev Date Revision Details



DESIGNER: KT

CHECKED: *[Signature]*APPROVED: *[Signature]*

Drawing Title:  
**COVER SHEET**

Drawing No. 5PTG-51-01-ORRO-T1 Revision 02



# NBN ANTENNA CONFIGURATION

SECTOR	SYMBOL	ANTENNA DETAIL								MAIN FEEDER DETAIL				RRU DETAIL		RF TAIL		RET CABLE	
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILT	MECH TILT	DESTINATION	QUANTITY RAU	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	TYPE	LOCATION	TYPE	LENGTH	TYPE	LENGTH
1	①	ARGUS-LLPX310R-V1	1077x300x115	40.0m	40°	4°	0°	N/A	N/A	H&S HYBRID 19.6mm CABLE	60m	39.0m	2m	RRUS61	BEHIND ANTENNA	H&S 1/2" BIRD PROOFED LISCA CABLE	2m	1/TSR 484 21/2000	1.5m
2	②	ARGUS-LLPX310R-V1	1077x300x115	40.0m	100°	4°	0°	N/A	N/A				2m	RRUS61	BEHIND ANTENNA		2m	1/TSR 484 21/2000	1.5m
3	③	ARGUS-LLPX310R-V1	1077x300x115	40.0m	180°	4°	0°	N/A	N/A				2m	RRUS61	ADJACENT MOUNT		5m	1/TSR 484 21/2000	1.5m
4																			
5																			
6																			
A	Ⓐ	PARABOLIC	Ø1800	37m	139°	N/A	N/A	PETERBOROUGH NORTH	1-OFF	LDF 1-50 CABLE	50m	-	-	-	-	-	-	-	-
B																			
C																			
D																			
GPS		KRE 101282/1	Ø69x96	2.5m	N/A	N/A	N/A	N/A	N/A	LDF 1-50 CABLE	10m	-	-	-	-	-	-	-	-

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PTG-51-01-ORRO  
ORROROO  
24 FOURTH STREET  
ORROROO  
SA 5431

PRELIMINARY

02 19.12.14 40m MONOPOLE  
01 17.12.14 PRELIMINARY ISSUE  
Rev Date Revision Details



DESIGNER: KT

CHECKED: JC

APPROVED: [Signature]

Drawing Title:  
SITE SPECIFIC NOTES  
AND ANTENNA TABLE

Drawing No.  
5PTG-51-01-ORRO-C1  
Revision  
02

## SITE INFORMATION:

### 1. SITE ADDRESS

24 FOURTH STREET, ORROROO, SA 5431

### 2. GENERAL

THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS,  
CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS

### 3. SITE ACCESS

ACCESS TO THE PROPOSED NBN SITE IS AVAILABLE FROM FOURTH STREET AND ACROSS THE  
LANDLORD'S PROPERTY AS SHOWN ON DRAWING C2

### 4. EQUIPMENT

PROPOSED NBN OUTDOOR CABINETS ARE TO BE INSTALLED ON A CONCRETE SLAB WITHIN  
THE NBN COMPOUND & LEASE AREA

### 5. STRUCTURE

NEW NBN 40m MONOPOLE WITH CIRCULAR HEADFRAME

### 6. ANTENNA ACCESS

ANTENNA ACCESS WILL BE AVAILABLE TO QUALIFIED RIGGERS ONLY BY CLIMBING THE  
ACCESS LADDER INSTALLED ON THE MONOPOLE USING THE LAD-SAF SAFETY CLIMB SYSTEM,  
OR VIA EWP

### 7. EXISTING SERVICES

THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING  
SERVICES AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS

### 8. EXISTING SITE HAZARDS

- AREA SURROUNDING THE NBN SITE LOCATION IS CURRENTLY  
USED FOR STORAGE, BE AWARE OF POSSIBLE TRIP HAZARDS  
- VEHICULAR MOVEMENTS ACROSS THE PROPERTY ASSOCIATED  
WITH THE LANDLORD'S BUSINESS

### 9. ELECTRICAL SUPPLY

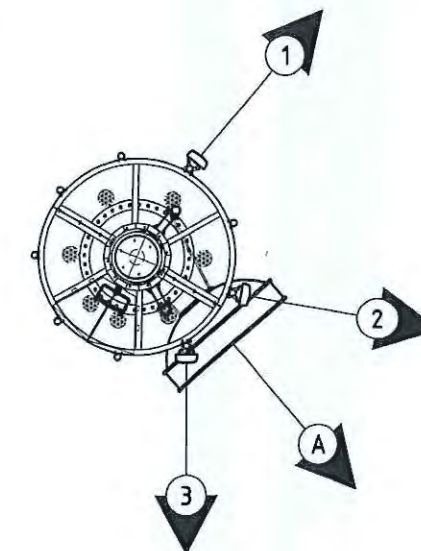
POWER EXISTS AT THE EXISTING BUSINESS ON THE PROPERTY.  
THE FINAL SUPPLY POINT IS TO BE CONFIRMED WITH SA POWER  
NETWORKS

### 10. TRANSMISSION LINK

REFER TO TABLE ABOVE

### 11. SITE SPECIFIC NOTES

- FINAL LAYOUT OF NBN EQUIPMENT SUBJECT TO CONFIRMATION  
OF MONOPOLE FOOTING DIMENSIONS  
- SECTOR 3 RRU TO BE INSTALLED ON THE MOUNT POLE  
ADJACENT THE ANTENNA TO AVOID INTERFERENCE WITH THE  
HEADFRAME ACCESS HATCH



## ANTENNA SETOUT PLAN

SCALE 1:100



## SITE LOCATION



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## SITE CO-ORDINATES

### MONOPOLE LOCATION

DATUM: MGA (GDA94)	ZONE: 54
LATITUDE	-32.732735
LONGITUDE	138.611978
EASTING	276 224
NORTHING	6 375 819

### LEGEND

---	PROPERTY BOUNDARY
— NUE — NUE —	NBN UNDERGROUND ELECTRICAL LINE
— A E — A E —	AERIAL ELECTRICAL LINE
— / — / —	EXISTING FENCE



## OVERALL SITE PLAN

SCALE 1:2000

### NOTES:

1. THE NBN SUB-MAIN ROUTE SHOWN ON THE DRAWINGS IS INDICATIVE ONLY. ELECTRICAL CONTRACTOR TO DETERMINE AN EXACT ROUTE. ELECTRICAL CONTRACTOR TO LOCATE AND IDENTIFY EXISTING U/G SERVICES PRIOR TO COMMENCEMENT OF WORK.

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
 NETWORK  
 SITE No: 5PTG-51-01-ORRO  
 ORROROO  
 24 FOURTH STREET  
 ORROROO  
 SA 5431

## PRELIMINARY

01 17.12.14 PRELIMINARY ISSUE  
 Rev Date Revision Details



DESIGNER: KT

CHECKED: *[Signature]*

APPROVED: *[Signature]*

Drawing Title:

OVERALL  
 SITE PLAN

Drawing No. 5PTG-51-01-ORRO-C2 Revision 01





PROPOSED NBN PANEL ANTENNA WITH  
NBN REMOTE RADIO UNITS FIXED BEHIND  
THE PANEL ANTENNA (TYP)

PROPOSED NBN 40m MONOPOLE WITH  
CIRCULAR HEADFRAME

PROPOSED NBN MONOPOLE FOUNDATION  
(INDICATIVELY SHOWN)

PROPOSED MONOPOLE ACCESS LADDER

PROPOSED NBN 2.4m HIGH CHAINWIRE  
SECURITY FENCE WITH 3.0m WIDE ACCESS  
GATES

EXISTING FENCE

PROPOSED NBN  $\phi 1800$  PARABOLIC ANTENNA  
(TO PETERBOROUGH NORTH)

EXISTING STORAGE AREA  
ASSOCIATED WITH LANDLORDS  
BUSINESS

EXISTING CAR BODIES & OTHER MACHINERY  
TO BE RELOCATED PRIOR TO COMMENCEMENT  
OF CONSTRUCTION (NOT SHOWN FOR CLARITY)

PROPOSED NBN 300mm WIDE CABLE LADDER  
WITH 1-OFF CABLE LADDER SUPPORT POST  
AND PROPOSED NBN GPS UNIT (1-OFF)

PROPOSED NBN POWER DISTRIBUTION  
BOARD/METER PANEL ON H-FRAME

EXISTING PROPERTY BOUNDARY  
(TYP)

PROPOSED NBN UNDERGROUND CONSUMER'S  
MAIN IN HDuPVC ELECTRICAL CONDUIT  
(APPROX 85m)

PROPOSED NBN OUTDOOR CABINET SSC-02  
INSTALLED ON A CONCRETE SLAB

NBN OUTDOOR CABINET SSC-02  
(FUTURE LOCATION)

DETAIL  
SCALE 1:100

1  
C2

#### LEGEND

- PROPERTY BOUNDARY
- NUE — NUE — NBN UNDERGROUND CONSUMER'S MAIN CABLE IN HDuPVC ELECTRICAL CONDUIT
- / — / — NBN COMPOUND FENCE & LEASE AREA
- / — / — EXISTING FENCE

#### NOTES:

1. THE ELECTRICAL ROUTE SHOWN ON THIS DRAWING IS INDICATIVE ONLY, FINAL ROUTE TO BE DETERMINED ON SITE PRIOR TO CONSTRUCTION
2. CONSTRUCTOR SHALL LOCATE AND IDENTIFY ANY EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK ON SITE

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PTG-51-01-ORRO  
ORROROO  
24 FOURTH STREET  
ORROROO  
SA 5431

PRELIMINARY

02	19.12.14	40m MONOPOLE
01	17.12.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



DESIGNER: KT

CHECKED: *PC*

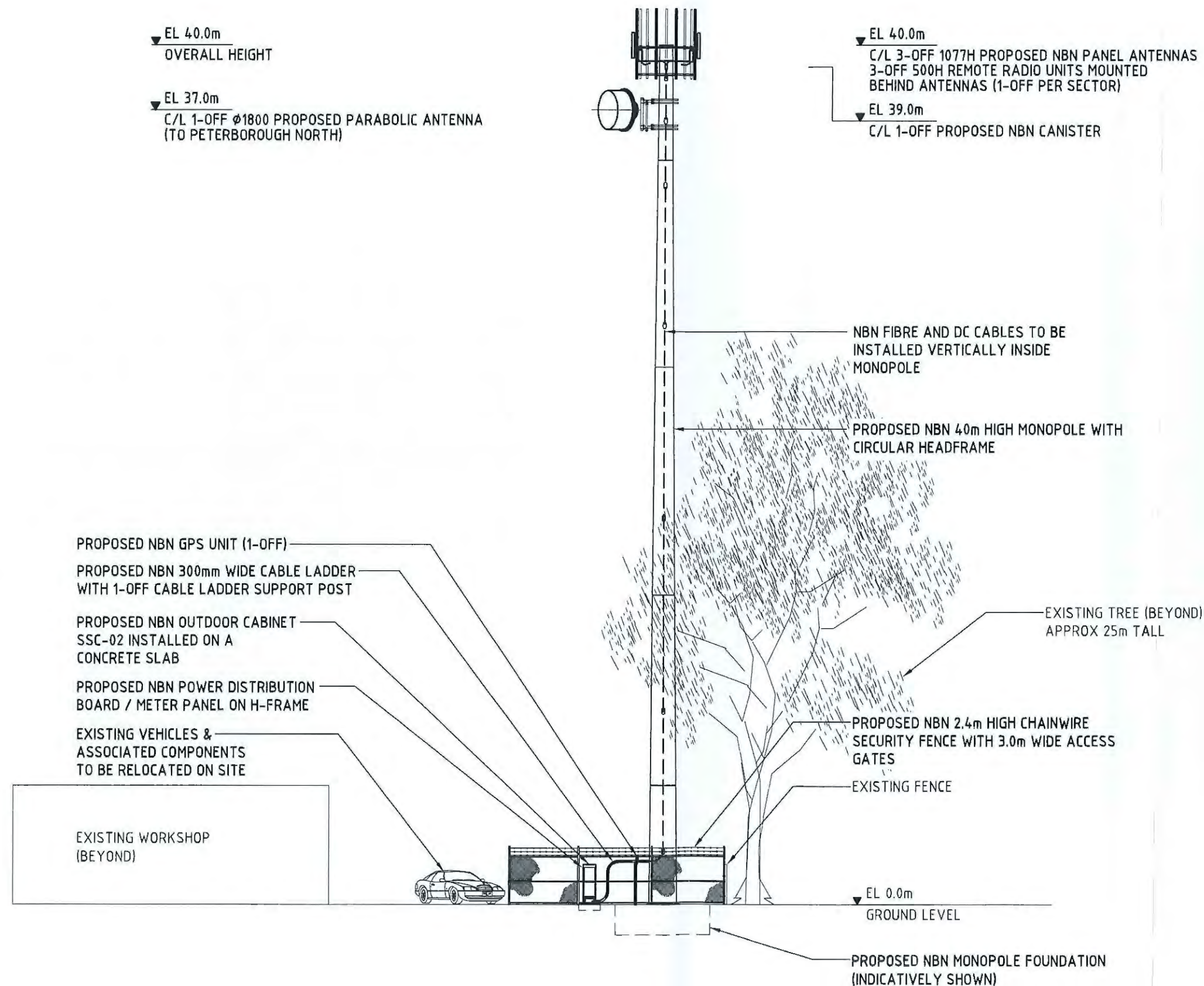
APPROVED: *EL*

Drawing Title:

SITE SETOUT  
PLAN

Drawing No.  
5PTG-51-01-ORRO-C3

Revision  
02



## WEST ELEVATION

SCALE 1:200

Client:



Client:



Client:

Project:

NATIONAL BROADBAND  
NETWORK  
SITE No: 5PTG-51-01-ORRO  
ORROROO  
24 FOURTH STREET  
ORROROO  
SA 5431

PRELIMINARY

02	19.12.14	40m MONOPOLE
01	17.12.14	PRELIMINARY ISSUE
Rev	Date	Revision Details



DESIGNER: KT

CHECKED: *KT*

APPROVED: *KT*

Drawing Title:  
SITE ELEVATION  
AND DETAILS

Drawing No.	Revision
5PTG-51-01-ORRO-C4	02

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### 10.3 Appendix C – EPBC Act Protected Matters Report





## EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 29/07/15 17:46:20

### [Summary](#)

### [Details](#)

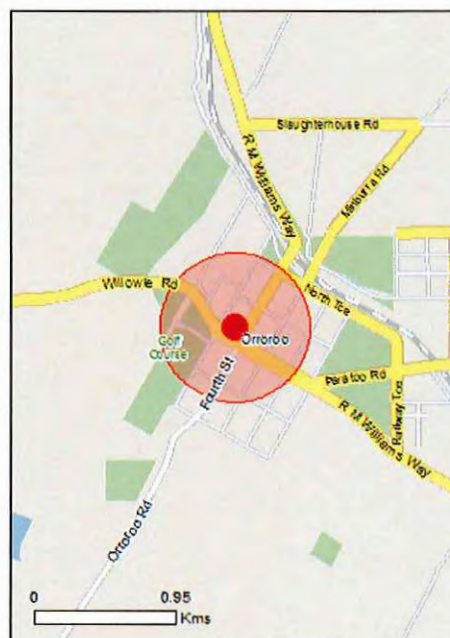
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)



This map may contain data which are  
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### [Coordinates](#)

Buffer: 0.5Km



## Summary

### Matters of National Environmental Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	1
<a href="#">Listed Threatened Species:</a>	6
<a href="#">Listed Migratory Species:</a>	5

### Other Matters Protected by the EPBC Act

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

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

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

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	7
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Commonwealth Reserves Marine:</a>	None

### Extra Information

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

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	26
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None



## Details

### Matters of National Environmental Significance

#### Listed Threatened Ecological Communities

[ [Resource Information](#) ]

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

Name	Status	Type of Presence
<a href="#">Iron-grass Natural Temperate Grassland of South Australia</a>	Critically Endangered	Community likely to occur within area

#### Listed Threatened Species

[ [Resource Information](#) ]

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Pedionomus torquatus</a> Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

#### Plants

<a href="#">Caladenia tensa</a> Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area
<a href="#">Codonocarpus pyramidalis</a> Slender Bell-fruit, Camel Poison [19507]	Vulnerable	Species or species habitat likely to occur within area

#### Reptiles

<a href="#">Aprasia pseudopulchella</a> Flinders Ranges Worm-lizard [1666]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Tiliqua adalaidensis</a> Pygmy Blue-tongue Lizard, Adelaide Blue-tongue Lizard [1270]	Endangered	Species or species habitat may occur within area

#### Listed Migratory Species

[ [Resource Information](#) ]

\* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area

#### Migratory Terrestrial Species

<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
---	--	--

#### Migratory Wetlands Species

Name	Threatened	Type of Presence
<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

### Other Matters Protected by the EPBC Act

#### Listed Marine Species [ Resource Information ]

\* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat may occur within area



## Extra Information

### Invasive Species

### [ Resource Information ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
<b>Birds</b>		
<i>Alauda arvensis</i> Skylark [656]		Species or species habitat likely to occur within area
<i>Anas platyrhynchos</i> Mallard [974]		Species or species habitat likely to occur within area
<i>Carduelis carduelis</i> European Goldfinch [403]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur within area
<i>Streptopelia chinensis</i> Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
<i>Sturnus vulgaris</i> Common Starling [389]		Species or species habitat likely to occur within area
<i>Turdus merula</i> Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
<b>Mammals</b>		
<i>Capra hircus</i> Goat [2]		Species or species habitat likely to occur within area
<i>Felis catus</i> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
<i>Lepus capensis</i> Brown Hare [127]		Species or species habitat likely to occur within area
<i>Mus musculus</i> House Mouse [120]		Species or species habitat likely to occur within area
<i>Oryctolagus cuniculus</i> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<i>Vulpes vulpes</i> Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		

Name	Status	Type of Presence
<i>Asparagus asparagoides</i> Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
<i>Austrocylindropuntia</i> spp. Prickly Pears [85132]		Species or species habitat likely to occur within area
<i>Carrichtera annua</i> Ward's Weed [9511]		Species or species habitat likely to occur within area
<i>Cenchrus ciliaris</i> Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i> Boneseed [16905]		Species or species habitat likely to occur within area
<i>Genista</i> sp. X <i>Genista monspessulana</i> Broom [67538]		Species or species habitat likely to occur within area
<i>Lycium ferocissimum</i> African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
<i>Olea europaea</i> Olive, Common Olive [9160]		Species or species habitat likely to occur within area
<i>Pinus radiata</i> Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
<i>Rubus fruticosus</i> aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
<i>Ulex europaeus</i> Gorse, Furze [7693]		Species or species habitat likely to occur within area

## Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

## Coordinates

-32.73274 138.61198

## Acknowledgements

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

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)
- [Birds Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [SA Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [State Forests of NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- Other groups and individuals

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

Please feel free to provide feedback via the [Contact Us](#) page.

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GPO Box 787  
Canberra ACT 2601 Australia  
+61 2 6274 1111



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## 10.4 Appendix D – ARPANSA Environmental EME Report



## Environmental EME Report Orroroo 24 Fourth Street, ORROROO SA 5431

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

**Date 11/8/2015**

**RFNSA Site No. 5431007**

### 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 Orroroo 24 Fourth Street ORROROO SA 5431. These levels have been calculated by Ericsson 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 0.11% 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/m<sup>2</sup>) – 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 2.076 V/m; equivalent to 11.43 mW/m<sup>2</sup> or 0.11% 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
NBN Co	LTE2300 (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 Orroroo 24 Fourth Street in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site					
	Existing Equipment			Proposed Equipment		
	Electric Field V/m	Power Density mW/m <sup>2</sup>	% ARPANSA exposure limits	Electric Field V/m	Power Density mW/m <sup>2</sup>	% ARPANSA exposure limits
0m to 50m				0.8	1.71	0.017%
50m to 100m				0.67	1.19	0.012%
100m to 200m				1.75	8.096	0.081%
200m to 300m				2.076	11.43	0.11%
300m to 400m				1.97	10.24	0.1%
400m to 500m				1.54	6.3	0.063%
<b>Maximum EME level</b>				2.076	11.43	0.11
	247.9 m from the antennas at Orroroo 24 Fourth Street					

## 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/m <sup>2</sup>	% of ARPANSA exposure limits
Orroroo Area School on West Terrace	0m to 3m	1.22	3.93	0.039%



## 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/m<sup>2</sup>), microwatts per square centimetre (μW/cm<sup>2</sup>) and milliwatts per square metre (mW/m<sup>2</sup>). Note: 1 W/m<sup>2</sup> = 100 μW/cm<sup>2</sup> = 1000 mW/m<sup>2</sup>.

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/m <sup>2</sup> = 375 μW/cm <sup>2</sup> = 3750 mW/m <sup>2</sup>
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m = 4.50 W/m <sup>2</sup> = 450 μW/cm <sup>2</sup> = 4500 mW/m <sup>2</sup>
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m = 4.50 W/m <sup>2</sup> = 450 μW/cm <sup>2</sup> = 4500 mW/m <sup>2</sup>
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m = 9.00 W/m <sup>2</sup> = 900 μW/cm <sup>2</sup> = 9000 mW/m <sup>2</sup>
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 μW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>

## 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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08 September 2015

David Hutchison  
Authorised Officer  
Orroroo Carrieton Council  
C/- Access Planning (SA) Pty Ltd  
235 Henley Beach Road  
TORRENSVILLE SA 5031

Dear David

**Response to Request for Further Information in regard to Proposed nbn™ Fixed Wireless Facility at 24 Fourth Street, Orroroo, SA 5431**

We are writing in response to your email dated 25 August 2015 requesting further information in regard to the site selection process identified in the Planning Report submitted to Council.

To begin, it is important to clarify one aspect of the email that was received. The email suggested that we were having issues "negotiating with Crown Castle". It should be noted that the two existing facilities in Orroroo are owned/operated by Telstra and Optus. There is no Crown Castle facility within Orroroo. The issues identified as to why the Optus proposal was not pursued was due to the land being owned by The Crown (not Crown Castle).

**Optus facility on Crown Land**

nbn™ has had a lot of difficulty securing tenure on Crown owned land, nbn™ consider the limited tenure as a significant risk and do not wish to pursue as it will also significantly delay the rollout of the nbn™ network.

**Viterra Silos**

The silos were considered for the location of an nbn™ facility but were not selected due to access and Occupational Health and Safety (OHS) issues.

nbn™ require access to the site 24/7 which cannot be guaranteed during harvest season. Fumigation and other Viterra site activities create a significant OHS risk and maintenance issues for nbn™.

In addition, the proposed remote radio units are air cooled, and can become clogged with dust, affecting equipment performance, potentially creating a fire hazard and requiring excessive maintenance to prevent technical and safety issues.

Furthermore, the silos are old concrete structures and we are unable to guarantee the structural integrity which poses additional OHS risk.

We understand that mobile carriers (i.e. Telstra and Optus) have previously installed their equipment on silo structures using older technology, however, the potential risk is not considered reasonable for nbn™.

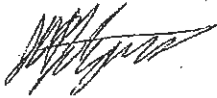
**Telstra Facility**

Telstra's facility located at 1 Fifth Street was considered for the co-location of nbn™ equipment. The existing facility is a 30 metre high lattice tower. This facility was not selected as it is not technically

feasible to locate **nbn**<sup>™</sup> on the existing tower as it would not provide sufficient height and does not have sufficient structural capacity for additional equipment.

I trust the above provides clarification on the matters raised. Should you require additional information, please contact me on (08) 8237 9989 or [adam.pfitzner@aurecongroup.com](mailto:adam.pfitzner@aurecongroup.com).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Adam Pfitzner', written in a cursive style.

Adam Pfitzner  
Planner  
Aurecon Australasia Pty Ltd

DEVELOPMENT ACT 1993  
DISTRICT COUNCIL OF ORROROO CARRIETON

**STATEMENT OF REPRESENTATION**

Pursuant to Section 38 of the Development Act, 1993

TO Chief Executive Officer  
District Council of Orroroo Carrieton  
PO Box 3  
ORROROO SA 5431

DISTRICT COUNCIL OF  
ORROROO / CARRIETON  
FILE.....

28 SEP 2015

DEVELOPMENT No. 502/019/15

ATTENTION.....  
MEETING.....

NAME OF PERSON(S) ROB MCCARTHY  
MAKING REPRESENTATION

ADDRESS PO BOX 145  
ORROROO SA 5431

NATURE OF INTEREST OWNER OF LAND IN VICINITY  
AFFECTED BY DEVELOPMENT

(eg adjoining resident, owner  
of land in vicinity, or on behalf  
of an organisation or company)

REASONS FOR REFER "ANNEXURE A" ATTACHED  
REPRESENTATION

(please attach separate sheet if needed)

MY REPRESENTATION  
WOULD BE OVERCOME BY

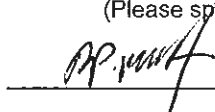
(state action sought)

Please indicate in the appropriate box below whether or not you wish to be heard by Council in respect to this submission: -

I do **not** wish to be heard ☒  
I desire to be heard personally ☐  
I will be represented by ☐

(Please specify) \_\_\_\_\_

SIGNED



DATE

25 / 9 / 2015

**DEVELOPMENT NO. 502/019/15**

REASONS FOR REPRESENTATION

1. A 40 metre high monopole and antennas, sited approximately 60 metres from the main street of Orroroo will have a detrimental impact upon the appearance and character of the locality and will dominate the skyline for tourist and community members.
  - The District Council of Orroroo Carrieton have spent thousands of dollars in recent years developing and significantly improving the visual character of the main street of Orroroo. The main street of Orroroo is a major tourism route between NSW and WA, and it also provides traffic links that facilitate access to the Flinders and other parts of the Mid North.
  - The District Council of Orroroo Carrieton's Development Plan states that telecommunication facilities should be "sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas".
  - The application states that the proposed location takes advantage of partial screening provided by existing vegetation on the subject land. The existing 25m tree mentioned in the application (refer Drawing No. 5PTG-51-01-ORRO-C4 Revision 02) has recently shown obvious signs of stress and is dying. Consequently, the proposed site will not be able to take advantage of partial screening from vegetation.
2. A 40 metre high monopole, antennas and associated infrastructure, sited within a Residential Zone will have a negative impact on the value of the existing and proposed residential properties surrounding the site.
3. A wireless base station will increase the radiofrequency (RF) and electromagnetic energy (EME) levels surrounding the site. As a person with a history of lymphoma this increase is of particular concern.





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**aurecon**

DISTRICT COUNCIL OF  
ORROROO / CARRIETON  
FILE.....

22 OCT 2015

ATTENTION.....  
MEETING.....  
.....

16 October 2015

Ann Frick  
Development Officer  
District Council of Orroroo Carrieton  
PO Box 3  
ORROROO SA 5431

Dear Ann

**DA: 502/019/15 – Response to Representations Received during Category 3 Public Notification of Development Application for a proposed nbn™ Fixed Wireless Facility at 24 Fourth Street, Orroroo, SA 5431**

We are writing in response to Council's letter dated 2 October 2015 in regard to the representations that were received in regard to the **nbn™** Fixed Wireless Facility (DA: 502/019/15) proposed at the above address.

We thank Council for the opportunity to respond, on behalf of **nbn**, to the comments made during the public notification of the application. **nbn** appreciates feedback from residents and is committed to working openly and transparently with communities and key stakeholders in the deployment of **nbn™** infrastructure nationwide to achieve solutions which strike a balance between providing **nbn™** services and minimising impacts on communities and the local environment.

One (1) representation was received and we would like to take this opportunity to respond to the issues raised within the representation. The representor raises concerns that the proposed location will have a high visual impact on a major tourist route and likely to impact on property values and cause health implications.

As the representation has expressed a range of issues, we have categorised and addressed these under the headings below.

The location of an **nbn™** Fixed Wireless telecommunications facility is determined by a number of key considerations. Unlike mobile technologies, the proposed **nbn™** Fixed Wireless Facility is required to be located as close to the centre of the coverage objective as practicable in order to be technically feasible.

Search areas are usually located in proximity to areas which require the service, to ensure balanced and effective coverage is provided to all residents and businesses.

In order to provide effective fixed wireless internet coverage to Orroroo, the facility needs to be located in a central location to ensure each antenna at the top of the facility services an even number of premises in the coverage footprint. In addition, the facility needs to be able to achieve line of sight connection to another **nbn™** facility in Peterborough, which is crucial for the functioning of the facility. These technical constraints mean that the facility can only be located in certain central locations within Orroroo in order to function effectively.

For instance, the following are two (2) of the major constraints within Orroroo:

1. In certain locations within and around Orroroo, the transmission connection that would link the Orroroo and Peterborough facilities may be affected by aircraft using the Orroroo Airport. Whilst the frequency of flights is considered to be low, the impact of the aircraft blocking the transmission signal would affect every user on the **nbn**<sup>TM</sup> network in Orroroo by way of losing their individual connections. Due to obligations on it, **nbn** does not consider this to be an acceptable risk when delivering a fast, *reliable* broadband internet service.
2. Crown owned land – majority of the land bordering Orroroo (on the outskirts/fringe of the town) is under the ownership of the Crown. Establishing a new telecommunications facility on this land poses a significant and unacceptable risk as, **nbn** cannot secure appropriate tenure. As a lease agreement cannot be resolved, **nbn** cannot construct on the land, and an alternative location must be pursued to avoid substantial delays to the rollout of the **nbn**<sup>TM</sup> network to Orroroo.

During earlier stages of planning for a facility in Orroroo, three (3) sites were selected for further investigation. A number of sites were ruled out due to the above transmission and Crown land issues, as well as the inability to provide adequate coverage to Orroroo, OH&S issues and site access issues (i.e. a location on Viterra land). Aside from the proposed location (which forms our Development Application) the following two (2) sites were also considered for the installation of the Fixed Wireless facility:

#### **A. Optus Co-location – Recreation Oval, Section 349 North Terrace, Orroroo**

In the first instance, **nbn** determined if any existing infrastructure can be used for the co-location of **nbn**<sup>TM</sup> equipment to avoid the construction of a new facility. This candidate is an existing 55 metre high Optus lattice tower with associated antennas. Whilst this candidate is well separated from residential land uses and negates the need for a new facility, the location also has a number of constraints which prevents the co-location of **nbn**<sup>TM</sup> equipment, as follows:

- The existing facility is located on Crown owned land in which **nbn** cannot secure an appropriate lease. Whilst Optus has accepted this risk, **nbn** has advised that it is not in a position to do so. As mentioned above, if a lease cannot be secured, **nbn** cannot use the land; and
- The critical transmission link, requiring line of sight to Peterborough is affected by the aircraft utilising the Orroroo Airport, effectively "cutting" the connection if a plane traverses through the point-to-point radio signal between the towers.

Despite **nbn**'s strong preference for co-location solutions, for the reasons outlined above, co-location on this facility was not considered to be a viable option. In addition to this candidate, the existing 30 metre high Telstra facility was also considered as a potential co-location opportunity, however, this facility is not considered to have adequate structural capacity to support additional **nbn**<sup>TM</sup> equipment.

#### **B. Council Works Depot – 18 Fifth Street, Orroroo**

This candidate is located within a Residential Zone towards the centre of Orroroo. Whilst this site is similar to our proposed site, it was not selected due to:

- The condition of the subject land highlights potential for site contamination issues (being a works depot);
- The site is compact and does not offer an appropriate amount of space for the construction of the facility, and would have required the relocation of multiple items of equipment/machinery;

- The site is considered to be in closer proximity to residential land uses than the proposed site and is likely to have a greater visual impact as it was proposed to be located adjacent the Fifth Street frontage.
- The possibility of protracted lease negotiations, delaying the rollout of the **nbn™** network to Orroroo.

In contrast to the above, we are of the opinion that the proposed location achieves an appropriate balance between the technical constraints for the provision of an effective wireless internet service to Orroroo and minimising impact on the locality and town as much as practicable. As identified in the representation, we acknowledge that the facility is in proximity to dwellings to the southwest and northeast of the subject land; however, the siting ensures that the base of the facility (compound area) is not within direct line of sight from the primary frontage of any dwellings.

The representation has raised issue with the location of the facility being in proximity to residential dwellings and the main street (Second Street) as a major tourist route.

We acknowledge the character and amenity value that the refurbished main street brings to Orroroo. There is no doubt that the street offers an open, attractive and inviting atmosphere to both residents and visitors to the town.

We also acknowledge that the established trees planted within the median strip provide a dense 'screen' which restricts views to the northeast when travelling along Second Street from the southeast and is likely to conceal a significant portion of the facility from view by passing motorists.

On the opposite approach into town (from the northwest), the existing native trees and stobie poles provide a balance of vertical elements and whilst there are no existing structures that compare to a 40 metre high monopole, the proposed setback (from Second Street), as well being located behind the existing tree, minimises impact on the character of the main street. In addition, as the proposed site favours one side of the town (i.e. not directly in the centre of the town) once a motorist reaches the refurbished main street, they have already passed the site, which avoids the impact on the main street itself.

It should be noted that whilst the refurbished main street provides a pleasant aesthetic to Orroroo, the town does have precedence of two (2) other telecommunication facilities. Both existing facilities are of a lattice tower design, which is considered to have a greater visual impact when compared to the proposed facility. A lattice design creates a bulky, dominant appearance, whereas the proposed monopole structure is considered to be more sympathetic to the surrounding environment by being a slim and uniform design.

Furthermore, the existing Telstra facility, located at 1 Fifth Street, is considered to have comparable separation from residential dwellings and closer setback distances to road frontages.

Our proposal has set the facility as far back within the property as possible, offering approximately 55 metres from Second Street and approximately 65 metres from Fourth Street. The location utilises the existing "Hunts Fuel" and "Orroroo Senior Citizens Club Inc." buildings to provide reasonable screening to the base of the proposed facility when viewed from adjoining road networks.

In regard to the comment in the representation that the existing 25m high tree is 'dying', we cannot confirm this is the case. However, the application is proposing to retain the tree to provide partial screening of the facility and unfortunately it is beyond the control of this application as to how long that partial screening is available.

## Health & EME

The representation also raised the issues regarding the effect of Electromagnetic Energy (EME / EMR) that will be produced by the proposed facility, stating that *"a wireless base station will increase the radiofrequency (RF) and electromagnetic energy (EME) levels surrounding the site."*

**nbn** acknowledges that some people are concerned about possible health effects from the EME generated by radio frequency technology and are committed to addressing these concerns responsibly.

We note that information about EME and safety was provided at our well-attended community information session held in Orroroo prior to lodging this application on 5<sup>th</sup> August 2015.

**nbn** relies 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 Organization (WHO) for overall assessments of health and safety impacts.

Organisations such as the WHO routinely review the medical research and science relevant to the Electromagnetic Energy (EME) generated by radio communications services. The consensus is that there is no substantiated scientific evidence of adverse health effects from the EME generated by radio communications services that comply with national and international safety guidelines.

The report which accompanied the application to Council clearly demonstrates that the NBN Fixed Wireless proposal will operate well within the prescribed safety standards developed by ARPANSA, and a summary of the estimated RF EME levels around the proposed Orroroo facility is contained in the "EME Report", which was included with the application documentation.

We also note that research on possible biological and health effects of exposures to RF EME has been underway for more than 50 years. The WHO states that the research has found no adverse health effects from the low level RF signals emitted by base stations and wireless networks:

*"considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects"*

It is **nbn's** responsibility to comply with the mandated standard for RF EME set by ARPANSA, which is the safety standard recommended by the WHO. The safety standard works by limiting the network signal to a level low enough to protect all people, in all environments, 24 hours a day. The safety limit itself has a significant safety margin built into it. For reference, please find attached EME Report (as sent to Council in a letter dated 24 August 2015) which shows the maximum predicted level of EME equates to 0.11% of the maximum allowable exposure limit (mandated standard) at a distance of 247.9 metres from the facility. This is substantially less than 1% of the maximum allowable exposure limit. In locations that are closer to the facility (0 – 50 metres) the maximum levels much less – equating to 0.017% of the maximum allowable limit (or over 5800 times below that limit).

The proposal will operate at levels that are many orders of magnitude below the standard.

## Property Values

Property values may be impacted for a variety of reasons. **nbn** is not aware of any credible evidence to suggest that the construction of a telecommunications facility would influence property value from a positive or negative perspective.



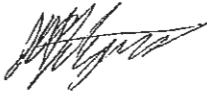
We trust that the above response addresses the key issues raised within the representation received by Council.

We note that the proposed **nbn**<sup>TM</sup> facility will deliver substantial benefits to premises in Orroroo and the entire community has the potential to benefit from broadband that will be reliable and cost effective.

We confirm our intention to attend a Flinders Regional Development Assessment Panel meeting in support of our response should the opportunity be provided.

Should Council require any further information, please do not hesitate to contact the undersigned on (08) 8237 9989 or by email at [adam.pfitzner@aurecongroup.com](mailto:adam.pfitzner@aurecongroup.com)

Yours sincerely



Adam Pfitzner  
Planner

Enc: ARPANSA Environmental EME Report

**Cc:** David Hutchison  
Access Planning (SA) Pty Ltd  
235 Henley Beach Road  
TORRENSVILLE SA 5031



## **Environmental EME Report**

### **Orroroo 24 Fourth Street, ORROROO SA 5431**

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

**Date 11/8/2015**

**RFNSA Site No. 5431007**

### **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 Orroroo 24 Fourth Street ORROROO SA 5431. These levels have been calculated by Ericsson 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 0.11% 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/m<sup>2</sup>) – 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 2.076 V/m; equivalent to 11.43 mW/m<sup>2</sup> or 0.11% 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
NBN Co	LTE2300 (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 Orroroo 24 Fourth Street in 360° circular bands	Maximum Cumulative EME Level – All carriers at this site					
	Existing Equipment			Proposed Equipment		
	Electric Field V/m	Power Density mW/m <sup>2</sup>	% ARPANSA exposure limits	Electric Field V/m	Power Density mW/m <sup>2</sup>	% ARPANSA exposure limits
0m to 50m				0.8	1.71	0.017%
50m to 100m				0.67	1.19	0.012%
100m to 200m				1.75	8.096	0.081%
200m to 300m				2.076	11.43	0.11%
300m to 400m				1.97	10.24	0.1%
400m to 500m				1.54	6.3	0.063%
<b>Maximum EME level</b>				2.076	11.43	0.11
				247.9 m from the antennas at Orroroo 24 Fourth Street		

## 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/m <sup>2</sup>	% of ARPANSA exposure limits
Orroroo Area School on West Terrace	0m to 3m	1.22	3.93	0.039%

## 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/m<sup>2</sup>), microwatts per square centimetre (µW/cm<sup>2</sup>) and milliwatts per square metre (mW/m<sup>2</sup>). Note: 1 W/m<sup>2</sup> = 100 µW/cm<sup>2</sup> = 1000 mW/m<sup>2</sup>.

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/m <sup>2</sup> = 375 µW/cm <sup>2</sup> = 3750 mW/m <sup>2</sup>
WCDMA850	870 – 890 MHz	900 MHz	41.1 V/m = 4.50 W/m <sup>2</sup> = 450 µW/cm <sup>2</sup> = 4500 mW/m <sup>2</sup>
GSM900, LTE900, WCDMA900	935 – 960 MHz	900 MHz	41.1 V/m = 4.50 W/m <sup>2</sup> = 450 µW/cm <sup>2</sup> = 4500 mW/m <sup>2</sup>
GSM1800, LTE1800	1805 – 1880 MHz	1800 MHz	58.1 V/m = 9.00 W/m <sup>2</sup> = 900 µW/cm <sup>2</sup> = 9000 mW/m <sup>2</sup>
LTE2100, WCDMA2100	2110 – 2170 MHz	2100 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 µW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE2300	2302 – 2400 MHz	2300 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 µW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE2600	2620 – 2690 MHz	2600 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 µW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>
LTE3500	3425 – 3575 MHz	3500 MHz	61.4 V/m = 10.00 W/m <sup>2</sup> = 1000 µW/cm <sup>2</sup> = 10000 mW/m <sup>2</sup>

## 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>.



3<sup>rd</sup> November 2015

Ref: 6481rept

The Chief Executive Officer  
District Council of Orroroo Carrieton  
PO Box 3  
ORROROO SA 5431

ATTENTION: Ms. Ann Frick

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ABN 57 089 702 241

235 Henley Beach Road  
Torrensville SA 5031

Telephone 08 8130 7222  
Facsimile 08 8130 7299  
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www.accessplanning.com.au

Dear Ann,

**RE: FIXED WIRELESS TELECOMMUNICATIONS FACILITY COMPRISING A 40 METRE  
HIGH MONOPOLE, ANTENNAS AND ASSOCIATED INFRASTRUCTURE  
(DA: 502/019/15)**

The following is a planning assessment of the above mentioned development application.

In preparing this report I have reviewed the Council file and associated documents, inspected the subject land and locality and assessed the development against the relevant provisions of the Development Plan.

## **1.0 DEVELOPMENT DETAILS**

Development Application No:	502/019/2015
Applicant:	NBN Co. C/- Aurecon Australasia Pty Ltd, 55 Grenfell Street, Adelaide, SA 5000
Owner:	Mr. Trevor McKay 17 Fourth Street, Orroroo, SA 5431
Property Location:	Lot 4 FP160952 Orroroo - 24 Fourth Street.
Certificate of Title:	Volume: 5309 Folio: 593
Existing Use:	Vacant land used for parking and storage
Proposed Development:	Fixed Wireless Telecommunications Facility comprising a 40 Metre High Monopole, Antennas and Associated Infrastructure
Zone:	Residential Zone (Map OrCar/3)
Public Notification:	Category 3 - Merit
Authorised Development Plan:	Orroroo Carrieton Council, 22 November 2012

## 2.0 PROPOSED DEVELOPMENT

The development proposes to the establishment of a wireless transmission facility for the provision of broadband internet and landline phone services.

The development will include the following features:

- A new 40m high steel monopole;
- Three (3) 1077mm long panel antennas at a centre line height of 40m;
- Three (3) 500mm long remote radio units (RRUs), mounted behind panel antennas;
- One (1) 1800mm diameter parabolic antenna at a centerline height of 37m;
- One (1) GPS unit;
- Two (2) outdoor equipment cabinets (each measuring 1464mm x 667mm x 944mm); and
- 2.4m high security fencing and associated ancillary equipment.

The proposed facility is to be located in the a secure compound located in the north west corner of the site, putting the facility some 60m from the alignment of Fourth Street and 50m from the alignment of Second Street.

The tower has a base dimension of about 1.5m, is about 400mm wide at the top and supports a head frame supporting the antennas which is about 3m across; the antennas being about 3.4 in height.

The NBN network has been described in the application documents thus;

*“Although fixed wireless facilities are submitted to Council as standalone developments from a planning perspective, they are highly interdependent from a technical perspective. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the “transmission network.”*

*The transmission network requires line of sight from facility to facility until it reaches the fibre network. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.*

*A typical fixed wireless facility will include three antennas mounted above the surrounding area. Each antenna is designed to cover a set area to maximise signal strength. These network antennas communicate to a small antenna installed on the roof of each customer’s home or business.*

*Each NBN Co Fixed Wireless facility has been designed to heights that allow the panel antennas to have a clear line of sight to the surrounding premises (radio coverage), and also ensure that the radio transmission dish has a clear line of sight to the adjoining network facility to link the sites back into the broader network.”*

The applicant advises that the site for the development has been selected by a range of parameters including;

- A need to be located within or immediate adjacent to the area to serviced;
- Visual amenity impacts;
- Potential co-location option;
- The availability and suitability of land as well as a willing site provider;
- Occupational health and safety and construction issues;
- Access for maintenance purposes;
- Topographical constraints affecting network line of sight;
- Legislative policy constraints;
- Environmental impact;, and

- Cost implications.

As part of the process of selecting a site, co-location options must be considered. Co-location involves locating the facility on an existing tower if one exists in the area under investigation. Two co-location options were investigated,

- The 30 metre high Telstra lattice tower at 1 Fifth Street, Orroroo – co-location on this facility was not considered feasible due to the inadequate structural capacity of the existing facility.
- The 55 metre high Optus lattice tower at Section 349 East Terrace, Orroroo – co-location was not considered feasible as the land is owned by the Crown which incurs protracted lease negotiations.

The applicant advises that neither site was considered appropriate because the height available to locate the facility was too low, especially for the parabolic antenna which needs 'line of sight' to the facility at Peterborough.

Other sites considered included the Council works depot at 18 Fifth Street and the land now the subject of this application.

Reasons for excluding the Council works depot include potential site contamination issues, limited space to locate the facility, the proximity of houses and subsequent visual impact issues, and the possibility of having to enter into protracted lease negotiations with the Council.

The subject land was ultimately selected as it was in the search area and provided line of sight access to the NBN Co. facility at Peterborough, is a property used for non-residential purposes (despite being in the Residential zone) and can take advantage of the partial screening provided by existing development and landscaping on the land.

### **3.0 THE SUBJECT LAND AND LOCALITY**

The subject land is an irregular shaped allotment having a frontage of 15m to Fourth Street and a depth of some 60m. All up the land has an area of 1023m<sup>2</sup>.

The land is more particularly described as being allotment 4 in Filed Plan 160592, Fourth Street Orroroo; Certificate of Title Volume 5309 Folio 593.

The land forms part of a larger land holding that includes the garage located at the corner of Second and Fourth Streets and is used for access purposes to the garage and for outdoor storage purposes.

The land is surfaced with a combination of crushed rubble and natural earth and a small stone building (which appears to have been a modest cottage occupies part of the north eastern boundary of the land.

There is a large gum tree in the south western corner of the land.

At the time of my inspection the gum tree appeared dead or very close to it, with only marginal leaf growth at the tips of the upper branches.

Various views of the subject land are available in the application documents and in Appendix 1 of this report.



I note that the report accompanying the Development Application cites the gum tree on the subject land as having a height in the order of 25m. I estimate the height at something less than 20m.

The gum tree provides a useful reference for the height of the 40m high tower.



**Figure 1: The Subject Land**

For the purpose of defining the locality I have adopted the whole of the Town and its surrounds and in particular those areas adjacent to the town where the proposed tower will have a visual impact.

To this end there is a primary locality, which is the built up area of the town in which the proposed development will have its most significant visual impact, with the secondary locality being the rural area surrounding the town and in particular the road entries to the Town.



The facility will be visible to varying degrees within both localities and will depend on the screening providing by roadside or plantation vegetation, the direction of the road from which the facility will be seen (focus of the view) and the elevation of the road relative to the subject land.

Orroroo is located in a relatively flat environment and development within the town is low scale, primarily single storey building arranged along very wide road reserves.

Unlike many country towns, private television antennas are rare and overhead infrastructure is low.

The most visible features of the Town, particularly on the approaches to the Town from the north and west are the grain silos and the Telstra tower on the northern approach and the Optus tower, CFS tower and grain silos on the approach from the west.

The degree of visibility of these features depends on the extent of screening from roadside vegetation as well as its location in relation to the focus of the view.



**Figure 2: Entry to Orroroo from the north. The proposed tower sits just to the right of the road in the middle distance**



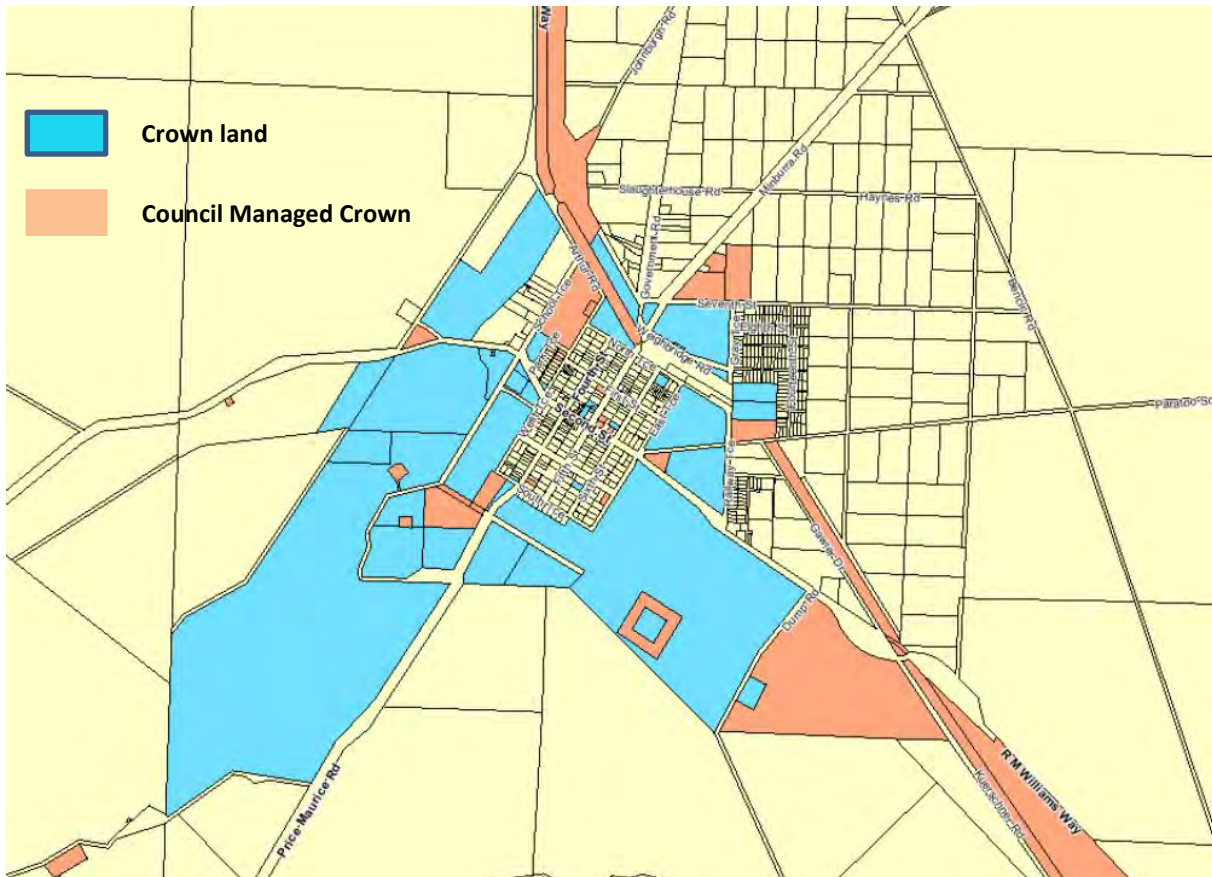
**Figure 3: Entry to Orroroo from the west. The proposed tower sits just to the left of the road in the middle distance.**

In both cases the very low scale of development is obvious, with features such as the Telstra tower in the case of Figure 2 and the CFS tower in the case of figure 3 being in the drivers peripheral vision as opposed to the proposed tower which will sit almost directly in the line of vision.

Landscaping, roadside vegetation and intervening buildings will hide the lower portion of the tower but the upper section, headframe and antennas will highly visible above the trees and buildings.

In other circumstances on the entry to the town the Telstra and Optus Towers are visible clustered together with the silos, and for the most part are viewed in the peripheral vision of a person passing along the main entry routes into the town.

As identified by Aurecon, much of the Town is surrounded by Crown land as indicated in Figure 4 below.



**Figure 4: Crown Land around Orroroo**

The Crown land is problematic only in so far as most of the vacant Crown Land is subject to Native Title Claim.

That said existing developed land such as the oval is not subject to Native Title claim.

#### **4.0 ZONING**

The subject land is located in the Residential zone. It adjoins the Town Centre zone as depicted in the extract from zone Map OrCar/3 below.

Notwithstanding its residential zoning, the land is used for Commercial purposes as described above.



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## 5.0 PUBLIC CONSULTATION

Pursuant to Schedule 9 of the *Development Regulations 2008*, the proposed development was classed as a Category 3 form of development for the purposes of Public Consultation, and as such underwent public notification.

One response were received, a summary of which is provided below.

- A 40 metre high monopole and antennas, sited approximately 60 metres from the main street of Orroroo will have a detrimental impact upon the appearance and character of the locality and will dominate the skyline for tourist and community members.
- The District Council of Orroroo Carrieton have spent thousands of dollars in recent years developing and significantly improving the visual character of the main street of Orroroo. The main street of Orroroo is a major tourism route between NSW and WA, and it also provides traffic links that facilitate access to the Flinders and other parts of the Mid North.
- The District Council of Orroroo Carrieton's Development Plan states that telecommunication facilities should be "sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas".
- The application states that the proposed location takes advantage of partial screening provided by existing vegetation on the subject land. The existing 25m tree mentioned in the application has recently shown obvious signs of stress and is dying. Consequently, the proposed site will not be able to take advantage of partial screening from vegetation.
- A 40 metre high monopole, antennas and associated infrastructure, sited within a Residential Zone will have a negative impact on the value of the existing and proposed residential properties surrounding the site.
- A wireless base station will increase the radio frequency (RF) and electromagnetic energy (EME) levels surrounding the site. As a person with a history of lymphoma this increase is of particular concern.

## 6.0 RESPONSE TO REPRESENTATIONS

### Siting of the facility

The applicant has responded to the above by restating the reasons for siting the tower where they have (as set out in section 2 above), with the added advise that;

- Certain location in the Town are subject to interference from aircraft taking off from the airfield which would break the link to Peterborough, and
- Much of the land around Orroroo is Crown land and there is some difficulty securing a lease with the Crown.

They maintain that the subject land achieves a balance between the technical issues around siting the facility and minimising the visual impact of the facility.

### Visual impact

In response to issues raised about the visual impact they say that;



- They acknowledge the character and amenity brought to the Town by the main street.
- Trees planted on the main street conceal the development to motorists passing through.
- Trees otherwise in the area provide screening for the facility from many vantage points.
- Stobie poles provide a balance to the tower by establishing a vertical element along the road(s).
- The tower has less visual impact than the Optus lattice tower as the monopole is more sympathetic to the surrounding by being slim and of uniform design.
- The Telstra tower is sited closer to the road and houses than the proposed tower.
- The existing tree on the site screens the development somewhat. Moreover, they cannot confirm the tree is dying and it is beyond their control how long the tree will provide screening in the event that it is dying.

### **Health Issues**

In respect to Health issues arising from Electromagnetic energy generated by the facility they point to the fact the facility operates well within the guidelines for EME exposure established by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the World Health Organisation.

### **Property Values**

They advise that there is no credible evidence that property values are affected by Telecommunications facilities of the kind proposed.

## **7.0 COMMENTS ON PUBLIC CONSULTATION**

In respect to the matter of health issues and property values, these matters have been considered numerous times by the ERD Court.

In respect to the possible health impacts arising to exposure to EME the Court has adopted the approach that the standards imposed on EME emissions by ARPANSA are a precautionary standard and compliance with the standards is sufficient to ensure that health impacts from EME exposure are unlikely, noting that the EME levels associated with the proposed development are many times less than that set by ARPANSA.

Similarly the Court has noted on many occasions that property values can be affected by a wide range of factors, which may or may not be directly related to local conditions and that the Development Plan does not refer to land values except in the most oblique and inferential way, and certainly not in direct reference to specific forms of development.

For this reason the proposal must be assessed against the relevant provisions of the Development Plan and not assertions as to impacts on property values or health impacts arising from EME exposure.

## **8.0 DEVELOPMENT PLAN ASSESSMENT**

The subject land is located in the Residential Zone. It immediately adjoins the Town Centre zone.

The relevant provisions of the Development Plan are reproduced below.

A telecommunications facility is a consent use in the Residential zone.

## **Residential Zone**

### **Objectives**

- 1 A residential zone comprising a range of dwelling types.**
- 2 Increased dwelling densities in close proximity to centres, public transport routes and public open spaces.**
- 3 Development that contributes to the desired character of the zone.**

### **Desired Character**

**The zone comprises a large proportion of Orroroo township and incorporates most of the residential and pockets of community-related development, including a home for the elderly.**

**Orroroo has retained its low-density development pattern and an attractive character which provide a pleasant living environment for its residents. Although a variety of housing styles exist in the zone, dwellings in general have remained in good physical condition.**

**It is important that future development is orderly and compact for the economic provision of essential services, and easy access to the town's facilities.**

### **Principles**

- 1 The following forms of development are envisaged in the zone:**
  - domestic outbuilding in association with a dwelling
  - domestic structure
  - dwelling
  - dwelling addition
  - small scale non-residential uses that serve the local community, for example:
    - child care facilities
    - health and welfare services
    - open space
    - primary and secondary schools
    - recreation areas
    - shops, offices or consulting rooms
  - supported accommodation
- 4 Non-residential development such as shops, schools and consulting rooms should be of a nature and scale that:**
  - (a) serves the needs of the local community
  - (b) is consistent with the character of the locality
  - (c) does not detrimentally impact on the amenity of nearby residents.
- 8 Development should not be undertaken unless it is consistent with the desired character for the zone.**

## **Town Centre zone**

### **Objectives**

- 4 Development that contributes to the desired character of the zone.**

### **Desired Character**

**The zone is located at the crossroads of the Adelaide Road and Morchard Road, in the western part of Orroroo. It incorporates a mixture of land uses, including business, commercial, hotel, tourist-related and some civic/community uses.**

**The town centre evolved as the main service centre as it provides convenient access from other parts of the district, and has traffic links that facilitate access to other parts of the Mid North and to the Flinders.**

**The appearance and historic style of the built environment should be retained, in particular the veranda facades which are seen as an important historic component of the overall style.**

**Preservation of the zone's character and its built-form, where set-backs, materials, scales, roof pitch, gables, signs and colour schemes reinforce the existing streetscape, is an important element.**

**The appearance of the zone should be further improved by extensive landscaping along the roadsides.**

**New development should have regard to the scale, design and the unique quality of the built-form and be sympathetic to the individual and small-scale style of the existing buildings, and not overwhelm their historic and cultural significance and their setting.**

**The overall special character of the town centre should be preserved and new development be encouraged to reflect values that reinforce the nature of the existing development.**

#### **Principles**

- 4 Development should not be undertaken unless it is consistent with the desired character for the zone.**
- 5 Buildings and structures should be designed and constructed in sympathy with adjoining buildings so as to complement and enhance the existing character and appearance of the streetscape. Particular regard should be taken of the scale of buildings and roof heights, set-backs, façade treatment, profile, verandas, construction materials and colours.**
- 6 Landscape and other features that contribute to the historic character of the streetscape should not be modified unless the final effect will enhance its character.**

#### **Design and Appearance**

##### **Objective**

- 1 Development of a high architectural standard that responds to and reinforces positive aspects of the local environment and built form.**

##### **Principle**

- 1 The design of a building may be of a contemporary nature and exhibit an innovative style provided the overall form is sympathetic to the scale of development in the locality and with the context of its setting with regard to shape, size, materials and colour.**

#### **Infrastructure**

##### **Objectives**

- 1 Infrastructure provided in an economical and environmentally sensitive manner.**
- 2 Infrastructure, including social infrastructure, provided in advance of need.**
- 3 Suitable land for infrastructure identified and set aside in advance of need.**
- 4 The visual impact of infrastructure facilities minimised.**
- 5 The efficient and cost-effective use of existing infrastructure.**

##### **Principles**

- 10 Utility buildings and structures should be grouped with non-residential development where possible.**

#### **Orderly and Sustainable Development**

##### **Objectives**

- 1 Orderly and economical development that creates a safe, convenient and pleasant environment in which to live.**
- 4 Development that does not prejudice the achievement of the provisions of the Development Plan.**

- 6 Urban development contained within existing townships and settlements and located only in zones designated for such development.

#### Principles

- 6 Development should be located and staged to achieve the economical provision of public services and infrastructure, and to maximise the use of existing services and infrastructure.

#### Siting and Visibility

##### Objectives

- 1 Protection of scenically attractive areas, particularly natural and rural landscapes.

#### Principles

- 1 Development should be sited and designed to minimise its visual impact on:
  - (a) the natural, rural or heritage character of the area
  - (b) areas of high visual or scenic value, particularly rural areas
  - (c) views from public reserves, tourist routes and walking trails.
- 2 Buildings should be sited in unobtrusive locations and, in particular, should:
  - (a) be grouped together
  - (b) where possible be located in such a way as to be screened by existing vegetation when viewed from public roads.
- 4 Buildings and structures should be designed to minimise their visual impact in the landscape, in particular:
  - (a) the profile of buildings should be low and the rooflines should complement the natural form of the land
  - (b) the mass of buildings should be minimised by variations in wall and roof lines and by floor plans which complement the contours of the land
  - (c) large eaves, verandas and pergolas should be incorporated into designs so as to create shadowed areas that reduce the bulky appearance of buildings.

#### Telecommunications Facilities

##### Objectives

- 1 Telecommunications facilities provided to meet the needs of the community.
- 2 Telecommunications facilities sited and designed to minimise visual impact on the amenity of the local environment.

#### Principles

- 1 Telecommunications facilities should:
  - (a) be located to meet the communication needs of the community
  - (b) use materials and finishes that minimise visual impact
  - (c) have antennae located as close as practical to the support structure
  - (d) be located primarily in industrial, commercial, business, office, centre and rural zones
  - (e) where technically feasible, be co-located with other telecommunications facilities
  - (f) incorporate landscaping to screen the development, particularly equipment shelters and huts
  - (g) be designed and sited to minimise the visual impact on the character and amenity of the local environment, in particular visually prominent areas, main focal points and significant vistas.
- 2 Telecommunications facilities in areas of high visitation and community use should use innovative design techniques (eg sculpture and other artworks) where possible and where the resulting design would positively contribute to the character of the area.
- 3 Telecommunications facilities should be located in residential zones only if sited and designed to minimise visual impact by:
  - (a) using existing buildings and vegetation for screening
  - (b) where possible, incorporating the facility within an existing structures that may serve another purpose maintaining that structure's character



- (c) taking into account the size, scale, context and characteristics of existing structures, landforms and vegetation so as to complement the local environment.
- 4 Telecommunications facilities should not have a direct or significant effect on the amenity, character and settings of Historic (Conservation) Zones or Policy Areas, local heritage places, State heritage places or State Heritage Areas.



**Note that a location amongst existing tall structures as shown in Figure 7 would go some way to reducing the visual prominence of the proposed facility**

**Figure 7: View of the entry to Orroroo from the north looking westwards from the roadside**

As indicated above, the character of Orroroo is defined predominantly by low scale buildings, wide to very wide road alignments and low overhead infrastructure, all of which imparts a spacious, human character to the Town. The Town centre itself has an historic interest, with building lined side by side, located on or close to the street alignment and with verandahs, footpaths and the planted central median reinforcing the historic character of the locality, whilst the Residential part of the town is of detached dwellings on large allotments. These elements of the character of the Town are well explained in the Desired Character statements for both the Residential zone and Town centre zone.

Orroroo as identified in the desired character statement is on the primary tourist route to the Flinders Ranges and is a mid-way stopping point for travellers either on their way to or from the Ranges.

Whilst the importance of telecommunications facilities is recognised, that does not mean that they should be considered without regard to the relevant provisions of the Development Plan.

The applicants have provided reasons for seeking approval on the subject land but that is not to say that alternative locations are not available or equally suitable which are likely to be less (directly) visible and out of scale with adjoining or nearby development.

They have indicated that Crown land is not suitable because of the concern that they may take longer to negotiate a lease or that a lease period may not be long as they want. These are not technical issues but rather are matter of convenience. Optus for example have been able to locate their facility on Crown land without similar concerns standing in the way.

Inevitably telecommunications infrastructure of the type proposed will be visible; it is matter of where it is located and how it relates to views that becomes a critical factor.

The proposed development is highly visible in view paths along both of the main entry roads to Orroroo and from the secondary entries via Orroroo Road the Wilmington Road where, in all cases it sits just off side of the main view paths along these roads.

It is recognised that the views of the facility are screened from time to time by intervening trees and buildings, but the height of the facility is such that the upper portion of the tower at least will be highly visible from a wide area in and around the Town. Moreover, the tower will become a significant focal point at the intersection of Second and Fourth Street, which is the main tourist route through the Town.

Aurecon argue that the existing tree will go some way to screening the tower from this vantage point. I am no expert but the tree looks to be well and truly dying. Its health will not be assisted by the digging of substantial footings for the tower in the critical root zone of the tree, which I suspect will be the final element that finish the tree off.

There is limited opportunity on site to undertake site landscaping, which in any event is only going to be able to assist in screening the ground level infrastructure.

The Development Plan seeks that telecommunications facilities in areas of high visitation, main focal points and significant vistas should minimise the visual impact of the facility. I see nothing in the application that seeks to achieve this goal. Further, the facility does not relate to scale size, context and characteristics of existing structures.

Aurecon point to the stobie poles as elements within the locality that assist in offsetting the visual impact of the facility. Certainly the stobie poles are a minor feature of the streetscape. They are however generally low, well-spaced and separated (by the wide road reserves) such that they do not become a defining feature of the streetscape/landscape. At about 8m in height, they do not provide a comparable reference for a 40m high tower with a base of 1.5m and 3m wide headframe.

By reference to views 1 and 2 in the appendix, the visual impact of the tower relative to the open streetscape of the intersection of Second and Fourth Street becomes obvious.

Aurecon also suggest that the solid slim line tower is a better option than a lattice tower as it has less visual impact.

This is at odds with most comparative assessments that find lattice towers less visible.

A preferable alternative would be located the tower together with other tall structures on the north eastern side of town.

A location along Railway Terrace should still meet the coverage requirements on NBN Co but would either move the location away from the main focal viewpoints and /or reduce its visual impact by locating it together with other tall structures such as the Telstra Tower, Optus Tower and silos, which will go some considerable way to reducing its visual prominence.

## 9.0 CONCLUSION

I am of the opinion that the provisions of the Development Plan weigh against the siting of the development where it has been proposed.

In particular the development is located in a residential zone and on a highly visible site. Little has been done to reduce its visual prominence either at ground level or for the upper sections of the tower.

It is located in a relatively open and thus highly visible locality, and in an area that comprises very low level development in an open and spacious streetscape.

The development does not have regard to the existing character of adjoining development and the one tree that might provide some relief for its visual prominence is clearly unhealthy and unlikely to survive the works that are proposed to be undertaken at its base.

Whilst acknowledging the need for the facility, I not consider that there is a technical reason that the facility cannot be located in a better position where its visual prominence may be minimised.

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## 10.0 RECOMMENDATION

Following consideration and having regard to all relevant issues that Panel resolve;

- 1 That development application number 502/019/2015 for a telecommunications facility at 24 Fourth Street, Orroroo is not seriously at variance with the provisions of the Development Plan.
- 2 That following consideration and having regard to all relevant matters that the Panel refuse Development Plan consent for a telecommunications facility at 24 Fourth Street, Orroroo, as the proposed development would be at odds with the following provisions of the Development Plan.

### **Residential zone**

Principle 4

### **Town Centre zone**

Objective 4

Principles 4 and 5

### **General Section**

#### **Design and Appearance**

Objective 1

Principle 1

### **Infrastructure**

Objective 4

Principle 10

### **Orderly and Sustainable Development**

Objectives 1 and 6

### **Siting of Development**

Principles 1, 2 and 4

### **Telecommunications Facilities**

Objective 2

Principles 1, 3 and 3

Please do not hesitate to contact me in the event that you have any questions.



David Hutchison BA MPIA CPP



## Appendix 1 Views of the subject land



**View 1: The subject land from Fourth Street. The proposed tower sits just to the right of the gum tree. I estimate the gum tree to be about 15m high**




**View 2: Wider view of the subject land from the intersection of Second and Fourth Streets**



**The subject land looking from the east on the Wilmington - Orroroo Road adjacent the caravan park. Note the gum tree on the subject land in left middle of the photograph.**



**Subject land from the north north west (rear). Note survey pegs adjacent to the blue vehicle which denote the north western boundary of secure compound in which the facility is to be located.**

	<p align="center"><b>FLINDERS REGIONAL DEVELOPMENT ASSESSMENT PANEL</b></p> <p align="center"><b>AGENDA</b></p>	<p>Version Number Issued : Next Review GDS</p>	<p>1 23 Nov 2015 9.14.1 Page 12 of 12</p>
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**6.3 DISTRICT COUNCIL OF PETERBOROUGH**

**NIL**

No Applications for The District Council of Peterborough require consideration at this Meeting.

**6.4 THE FLINDERS RANGES COUNCIL**

**NIL**

No Applications for The Flinders Ranges Council require consideration at this Meeting.

**7. OTHER BUSINESS:**

**8.1 THE FLINDERS RANGES COUNCIL**

**8.2 DISTRICT COUNCIL OF MOUNT REMARKABLE**

**8.3 DISTRICT COUNCIL OF ORROROO CARRIETON**

**8.4 DISTRICT COUNCIL OF PETERBOROUGH**

**8. NEXT MEETING:**

**9. CLOSURE:**