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Servicing Report

Rifle Range

Property:

Popplewell Street, Fern Bay

Applicant:

Defence Housing Australia

Date:

June 2018

Project Management • Town Planning • Engineering • Surveying
Visualisation • Economic Analysis • Social Impact • Urban Planning

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Document Control Sheet

| Issue No. | Amendment | Date | Prepared By | Checked By |
|-----------|------------------|------------|-----------------|------------|
| A | Draft | 30/09/2016 | AW | LG |
| B | Minor Amendments | 19/06/2017 | A Van de Mortel | L Gibbs |
| C | Minor Amendments | 01/06/2018 | R Champness | L Gibbs |
| | | | | |

Limitations Statement

This report has been prepared in accordance with and for the purposes outlined in the scope of services agreed between ADW Johnson Pty Ltd and the Client. It has been prepared based on the information supplied by the Client, as well as investigation undertaken by ADW Johnson and the sub-consultants engaged by the Client for the project.

Unless otherwise specified in this report, information and advice received from external parties during the course of this project was not independently verified. However, any such information was, in our opinion, deemed to be current and relevant prior to its use. Whilst all reasonable skill, diligence and care have been taken to provide accurate information and appropriate recommendations, it is not warranted or guaranteed and no responsibility or liability for any information, opinion or commentary contained herein or for any consequences of its use will be accepted by ADW Johnson or by any person involved in the preparation of this assessment and report.

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The Client should be aware that this report does not guarantee the approval of any application by any Council, Government agency or any other regulatory authority.

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SITE SERVICES PLAN AND DBYD INFORMATION

APPENDIX B

ADVICE FROM HUNTER WATER CORPORATION

LIST OF FIGURES

Figure 1 - Site Locality (Google earth).

1.0 INTRODUCTION

ADW Johnson has been engaged by DHA to form part of a consultant team to seek a rezoning of the DHA owned land in Fern Bay, formally known as the Rifle Range. The purpose of this report is to address the utility servicing requirements for the proposed development and the suitability of the surrounding utility infrastructure to support the proposed development.

2.0 SUBJECT SITE

The subject site is Lot 5 Popplewell Road, Fern Bay NSW 2295. The total lot area is approximately 111 hectares. The planning proposal is for the rezoning of a portion of the site to the southwest from E2 (Environmental Conservation) to R2 (General Residential).



Figure 1 - Site Locality (Google earth).

3.0 METHODOLOGY

Dial before you dig searches were carried out on the site to ascertain the general arrangement of the utility services in the surrounding areas. Further consultation has been made with Hunter Water Corporation to determine the capacity currently in their sewer and water assets to adequately service the proposed development. The Dial before you dig information is attached in **Appendix A**. Whilst the Hunter Water Corporation advice is attached in **Appendix B**.

4.0 POTABLE WATER SUPPLY

The area surrounding the proposed site is well serviced with 150 mm diameter cast iron concrete lined water mains running in all of the adjacent neighbouring streets. These water mains are fed from a 150mm diameter cast iron concrete lined distribution main which is running along Nelson Bay Road. A plan supplied by Hunter Water is attached to **Appendix A** showing the location of the water mains in the surrounding residential areas and the distribution main in Nelson Bay Road.

Advice received from HWC indicates that there is currently sufficient capacity available in the surrounding water mains. It is noted that during the design phase security of supply will need to be addressed in accordance with Hunter Water's design guidelines.

5.0 SEWER

The surrounding residential areas are all serviced with 150 mm diameter UPVC sewer mains which drain by gravity to a Waste Water Pump Station on Vardon Road. There are multiple locations in the neighbouring streets where sewer connections could be made to service the proposed development.

Advice received from Hunter Water suggests that the proposed development is located within the Fern Bay 1 Waste Water Pump Station (WWPS) which has sufficient capacity to receive wastewater from the proposed development. It is likely that a portion of the site will require a small pump to enable the wastewater to be transported to the Fern Bay 1 WWPS.

It is noted that the proposed development will utilise the current available capacity in the Fern Bay 1 WWPS and as such allocation of this capacity can only be granted after development consent has been issued from the relevant consent authority. A sewer plan received from HWC is attached in **Appendix A**.

6.0 ELECTRICITY

Popplewell Road currently has an overhead High Voltage transfer main running from north to south. This High Voltage Main services the surrounding residential areas.

It is envisaged that a high voltage connection will be made from the transfer main to service the proposed development. Input will be required from an electrical engineer to confirm the number of substations required to service the proposed development.

7.0 TELECOMMUNICATIONS

A Telstra supply network is currently present in the surrounding residential streets. It is unlikely that this network will have sufficient capacity to service the proposed development. The current NBN roll out plan does not include Stockton and Fern Bay. It is envisaged that in time and with consultation with NBN that a fibre optic connection will be made available to the site.

8.0 GAS

A dial before you dig plan from Jemena shows that there are no domestic gas services in the neighbouring streets. There is a 150 mm Gas Transfer Main shown in Nelson Bay Road.

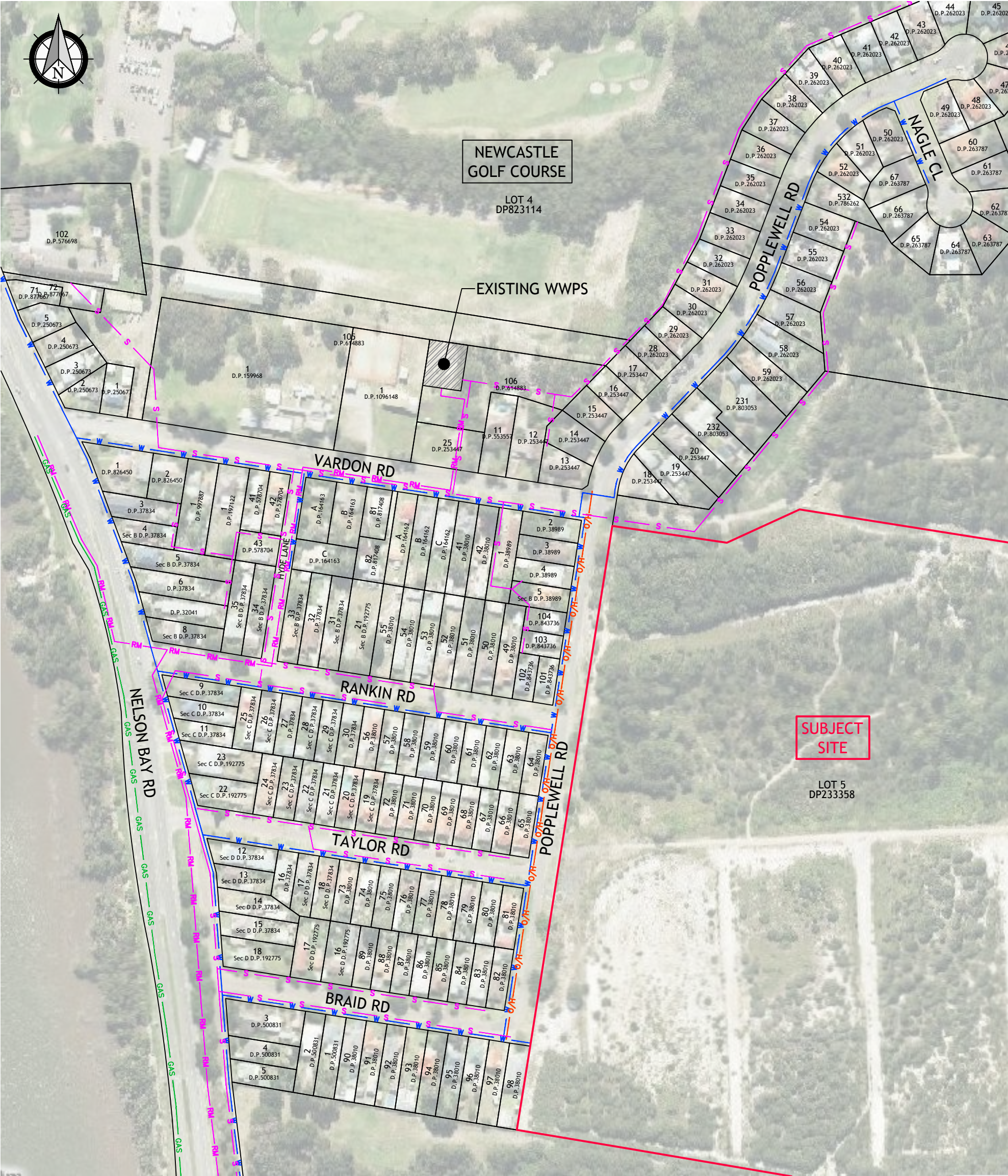
Consultation with Jemena should be sought to clarify whether Jemena will supply any proposed development with gas. It is expected that for commercial reasons Jemena would extend their infrastructure to the site.

9.0 CONCLUSION

In summary, the proposed redevelopment of the Rifle Range Site will be adequately serviced by the surrounding infrastructure and as such there are no constraints to the proposed rezoning due to the provision of services.

Appendix A

SITE SERVICES PLAN AND DBYD INFORMATION



- W W EXISTING WATERMAIN
- S S EXISTING SEWERMAIN
- RM RM EXISTING SEWER RISING MAIN
- GAS GAS EXISTING GASMAIN
- O/H O/H EXISTING OVERHEAD POWER

| ver. | date | comment | drawn | pm | level information | scale (A3 original size) |
|------|----------|---------------|-------|----|-------------------------------------|---------------------------------------|
| A | 30.09.16 | INITIAL ISSUE | JN | AW | DATUM: N/A CONTOUR INTERVAL: N/A | 0 50 100 125m SCALE: 1:2500 (FULL) |

drawing title:

RIFLE RANGE EXISTING SERVICES PLAN

LOT 5 D.P.233358
location: POPPLEWELL ROAD, FERN
BAY

council: PORT STEPHENS

dwg ref: 239478(30)-ESK-001_A

client:



central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
www.adwjohnson.com.au



HUNTER WATER CORPORATION

A.B.N. 46 228 513 446

DIAL BEFORE YOU DIG SERVICES PLAN - SEWER

Enquiries: 1300 657 657

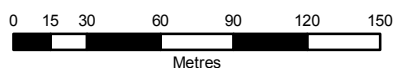
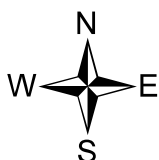
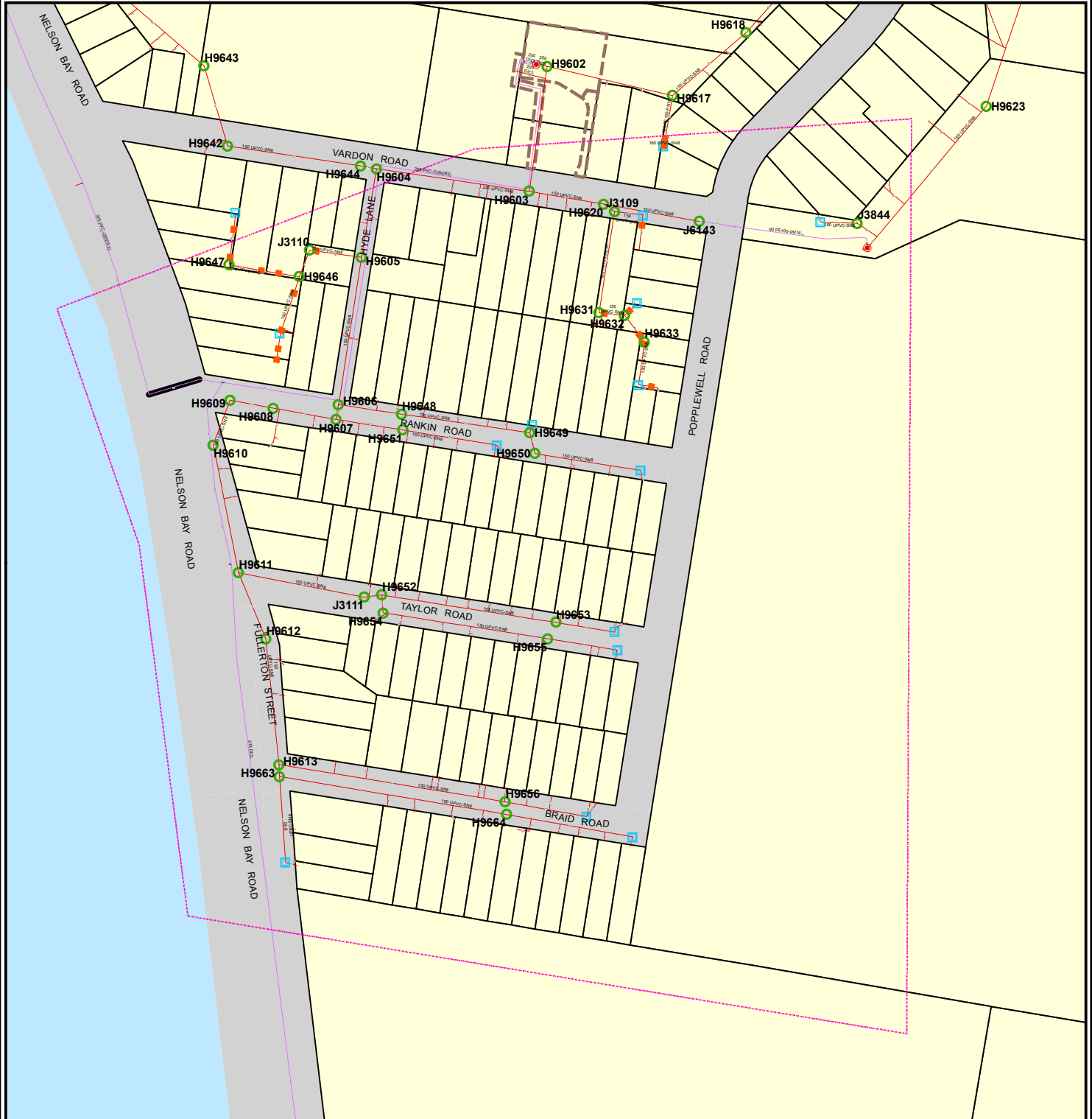


APPLICANT: *Mr Andrew Williams*

NOTIFICATION NO.: 11279164

SEQUENCE NO.: 55856583

DATE OF ISSUE: 22/09/2016



SEWER/WATER/RECYCLED WATER/
ELECTRICAL - UTILITY DATA
© HUNTER WATER CORPORATION 2016

CADASTRAL DATA © LPI OF NSW 2016

IMPORTANT

THIS PLAN IS NOT TO BE USED FOR CONVEYANCING

THIS INFORMATION IS VALID FOR 30 DAYS FROM THE DATE OF ISSUE

SERVICE LOCATIONS ARE APPROXIMATE.

HAND DIG UNTIL ACTUAL LOCATIONS ARE IDENTIFIED.

PROPERTY SERVICES ARE NOT SHOWN.

ANY INFORMATION ON THIS PLAN MAY NOT BE UP TO DATE

AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.

REFER TO ATTACHED ADVICE SHEET FOR FURTHER WARNINGS.



HUNTER WATER CORPORATION

A.B.N. 46 228 513 446

DIAL BEFORE YOU DIG SERVICES PLAN - WATER

Enquiries: 1300 657 657

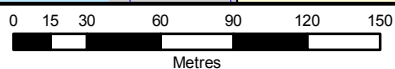
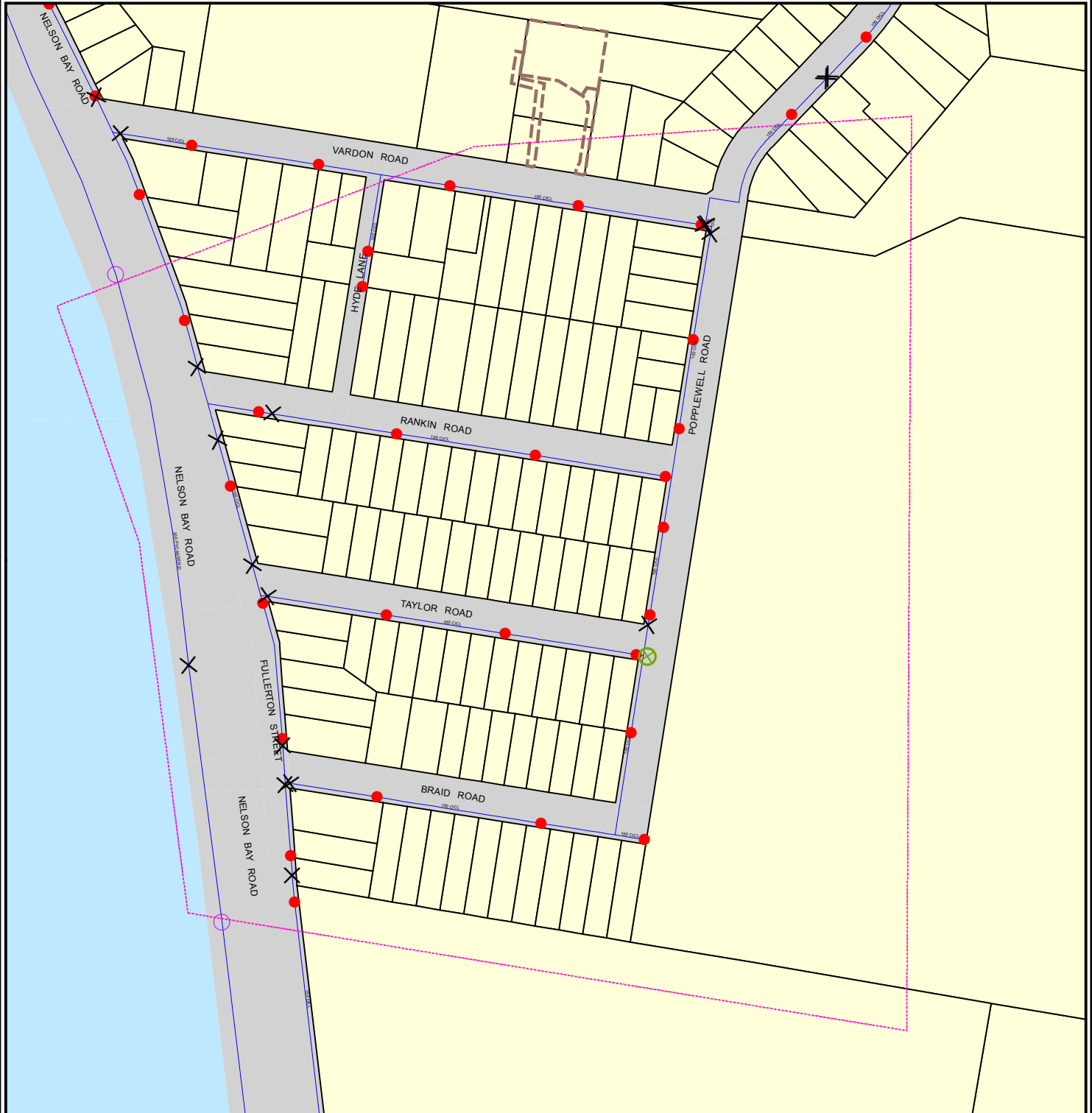


APPLICANT: *Mr Andrew Williams*

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SEWER/WATER/RECYCLED WATER/
ELECTRICAL - UTILITY DATA
© HUNTER WATER CORPORATION 2016

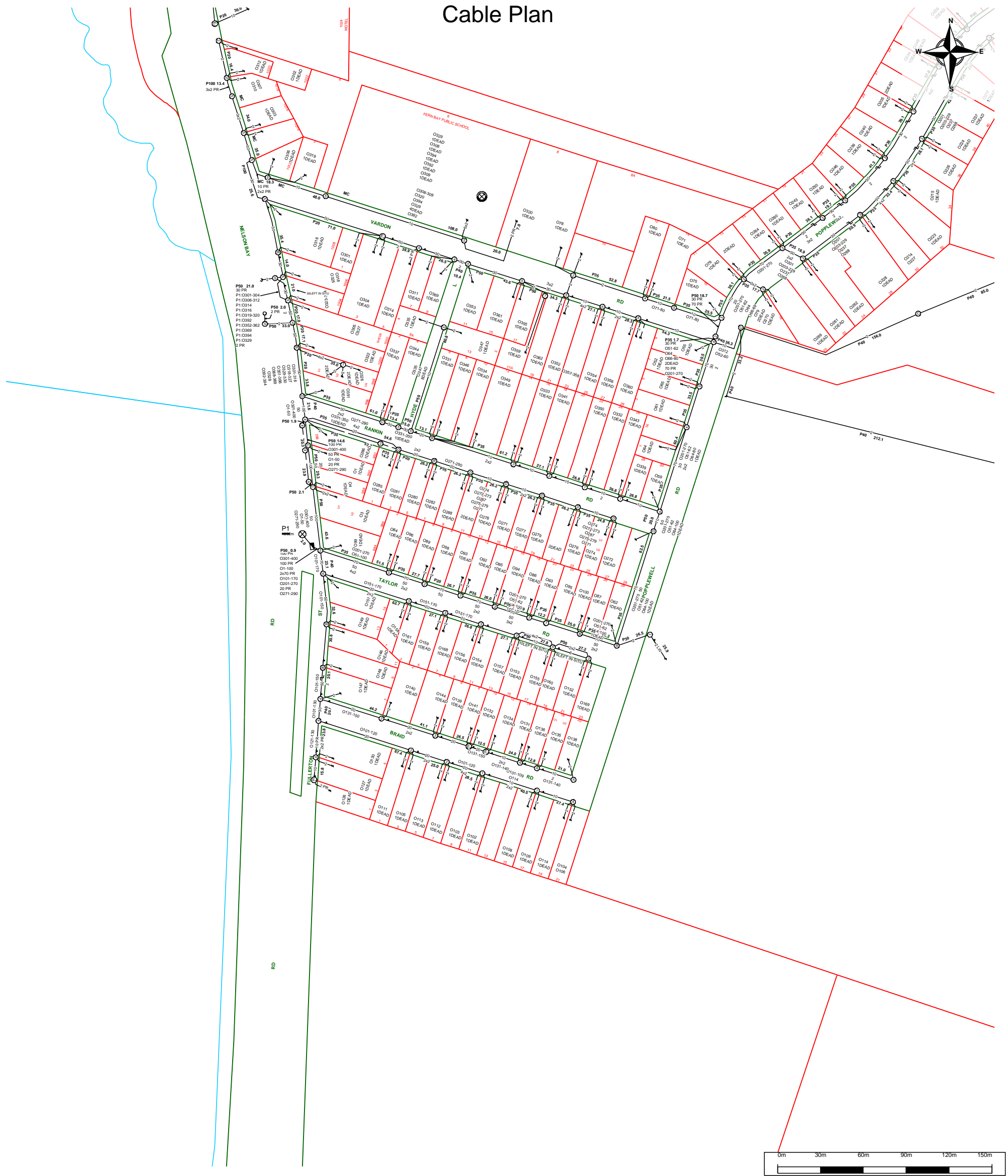
CADASTRAL DATA © LPI OF NSW 2016

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AND THE CORPORATION ACCEPTS NO RESPONSIBILITY FOR ITS ACCURACY.
REFER TO ATTACHED ADVICE SHEET FOR FURTHER WARNINGS.

Cable Plan



For all Telstra DBYD plan enquiries -
email - Telstra.Plans@team.telstra.com
For urgent onsite contact only - ph 1800 653 935 (bus hrs)

TELSTRA CORPORATION LIMITED A.C.N. 051 775 556

Generated On 22/09/2016 20:36:03

Sequence Number: 55856581

CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance.

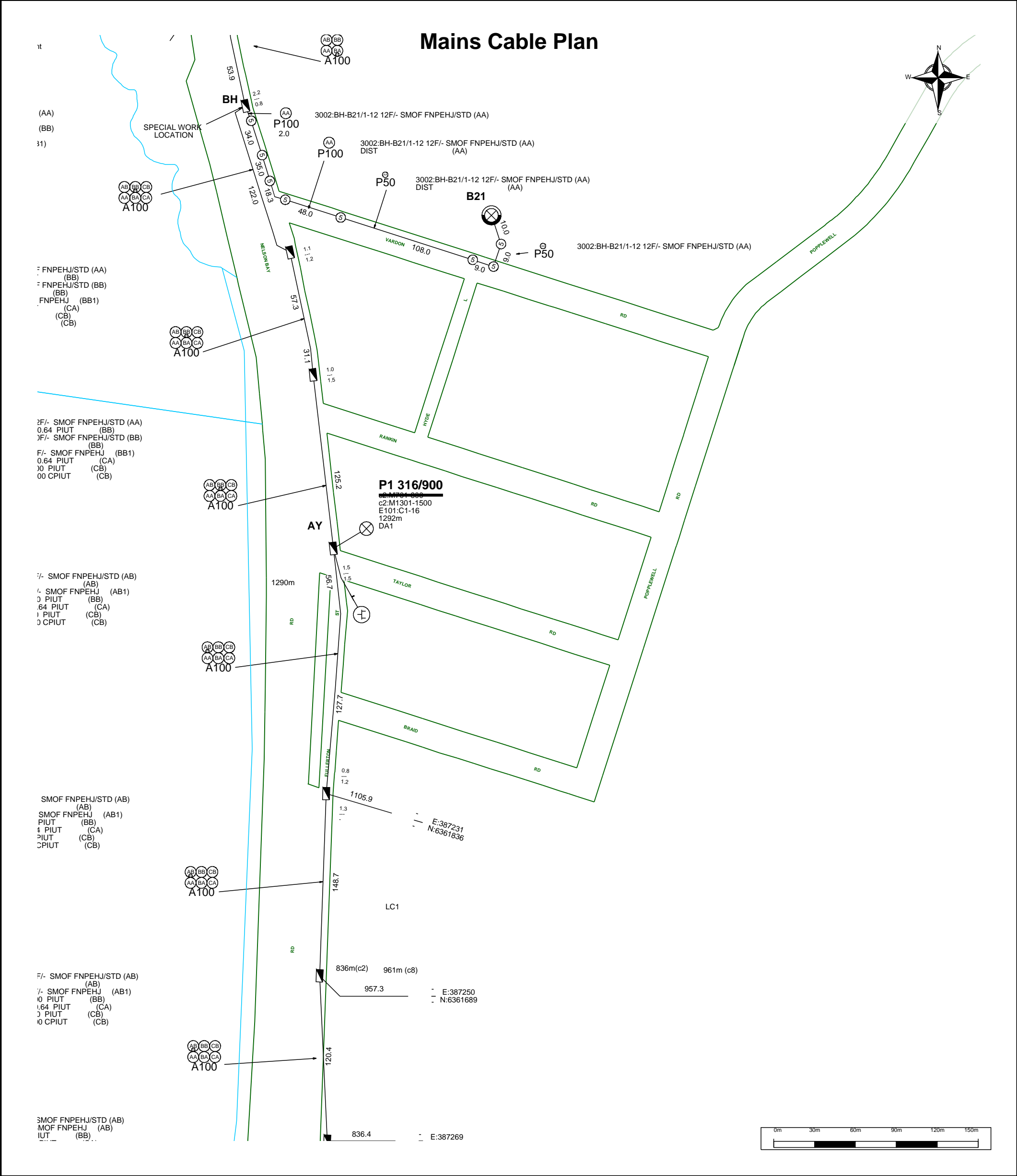
The above plan must be viewed in conjunction with the Mains Cable Plan on the following page


WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



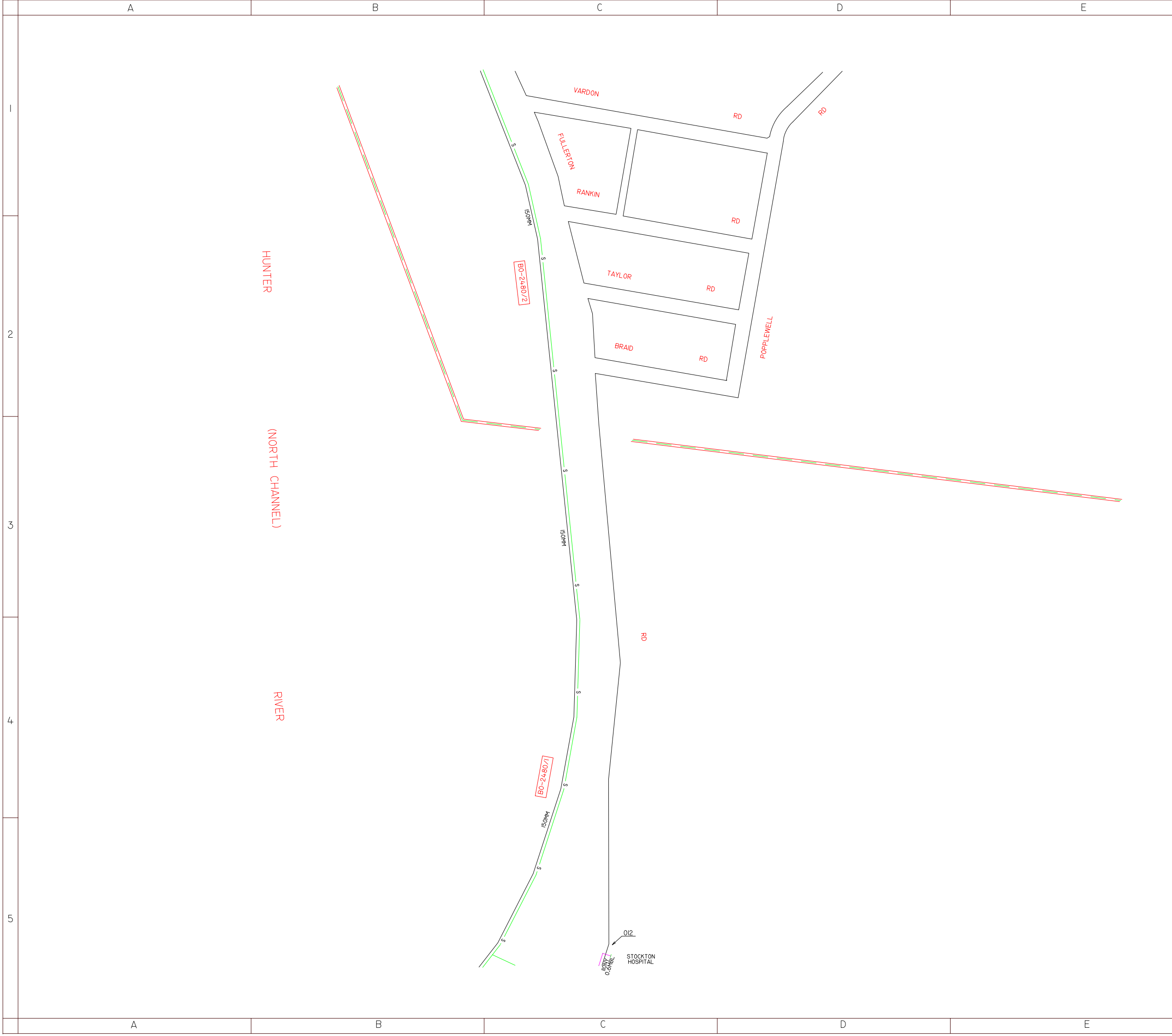
| | | |
|--|---|---|
|  | For all Telstra DBYD plan enquiries - email - Telstra.Plans@team.telstra.com For urgent onsite contact only - ph 1800 653 935 (bus hrs) | Sequence Number: 55856581 |
| | Generated On 22/09/2016 20:36:08 | CAUTION: Fibre optic and/ or major network present in plot area. Please read the Duty of Care and contact Telstra Plan Services should you require any assistance. |

WARNING - Due to the nature of Telstra underground plant and the age of some cables and records, it is impossible to ascertain the precise location of all Telstra plant from Telstra's plans. The accuracy and/or completeness of the information supplied can not be guaranteed as property boundaries, depths and other natural landscape features may change over time, and accordingly the plans are indicative only. Telstra does not warrant or hold out that its plans are accurate and accepts no responsibility for any inaccuracy shown on the plans.

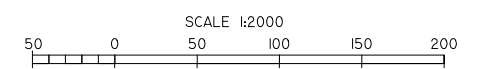
It is your responsibility to locate Telstra's underground plant by careful hand pot-holing prior to any excavation in the vicinity and to exercise due care during that excavation.

Please read and understand the information supplied in the duty of care statement attached with the Telstra plans. TELSTRA WILL SEEK COMPENSATION FOR LOSS CAUSED BY DAMAGE TO ITS PLANT.

Telstra plans and information supplied are valid for 60 days from the date of issue. If this timeframe has elapsed, please reapply for plans.



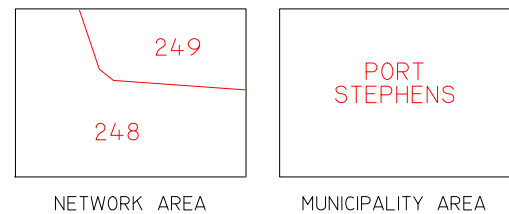
FULLERTON COVE 4D



THIS MAP UPDATED ON 22/12/06
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES
SCALED FROM THIS PLAN MAY NOT BE ACCURATE.
DATE ALTERED:..... BY:.....

| | | |
|------|------|------|
| FC4A | FC4B | FC5A |
| FC4C | FC4D | FC5C |
| FC7A | FC7B | - |

ADJOINING MAPS



NETWORK AREA MUNICIPALITY AREA

Jemena

KEY

MAX ALLOWABLE OPERATING PRESSURE

| | | |
|---------------|----------------|----------|
| — T — | TRUNK PIPELINE | 7000 kPa |
| — P — | PRIMARY MAIN | 3500 kPa |
| — S — | SECONDARY MAIN | 1050 kPa |
| — 400 — | NETWORK MAIN | 400 kPa |
| — 300 — | NETWORK MAIN | 300 kPa |
| — 210 — | NETWORK MAIN | 210 kPa |
| — 100 — | NETWORK MAIN | 100 kPa |
| — 30 — | NETWORK MAIN | 30 kPa |
| — 7 — | NETWORK MAIN | 7 kPa |
| — 2 — | NETWORK MAIN | 2 kPa |
| ← - - - - - → | PROPOSED MAINS | |

| | |
|-------------|--|
| PR II-2 3 | STEEL MAIN PROJECT NUMBER |
| | PRESSURE MONITORING STATION |
| | VALVE |
| | SYSTEM PRESSURE REGULATOR |
| | SIPHON |
| | NETWORK NODE |
| | NETWORK VALVE NODE |
| | VALVE NUMBER |
| 6NB | 6 INCH CAST IRON MAIN |
| 150MM | 150MM STEEL MAIN |
| 110MM PE/NY | 110MM POLYETHYLENE/NYLON MAIN |
| 6NB 50MM NY | 50MM NYLON INSERTED INTO 6NB MAIN CAST IRON MAIN |
| 1.2MBL | DISTANCE IN METRES OF MAIN FROM BOUNDARY LINE |
| 1957 | YEAR LAID |
| - + + + - | MUNICIPALITY BOUNDARY |
| == | NETWORK BOUNDARY |
| | HOUSE NUMBER |

FULLERTON COVE 4D

Appendix B

ADVICE FROM HUNTER WATER CORPORATION



Hunter Water Corporation
ABN 46 228 513 446

PO Box 5171
HRMC NSW 2310
36 Honeysuckle Drive
NEWCASTLE NSW 2300
1300 657 657 (T)
(02) 4979 9625 (F)
enquiries@hunterwater.com.au
hunterwater.com.au

20 SEP 2016

23 September 2016

Our Ref: 2016-1041/3.004

Defence Housing Australia
C/- ADW Johnson Pty Ltd
7/335 Hillsborough Road
Warners Bay NSW 2282

Attention: Mr Lincoln Gibbs

Dear Lincoln

PRELIMINARY SERVICING ADVICE FOR PROPOSED DEVELOPMENT
Lots 100, 101 DP 1152115 & Lot 5 DP 233358 338 Fullerton Street Stockton & 5 Popplewell Road Fern Bay

Thank you for your request for Hunter Water's preliminary servicing advice for the provision of water and sewer services to the proposed development of the proposed 1 into 244 Community Title lot subdivision at Lots 100, 101 DP 1152115, 5 Popplewell Road, Fern Bay and 1 into 105 Community Title lot subdivision at Lot 5 DP 233358 338 Fullerton Street Stockton.

General information on water and sewer issues relevant to the proposal is included in this correspondence. This information is based on Hunter Water's knowledge of its system performance and other potential development in the area at the present time.

Preliminary servicing advice is not a commitment by Hunter Water and may be subject to significant change prior to the development proceeding. General information on the provision of Hunter Water funded and delivered infrastructure may also be provided. This advice may also change substantially due to a range of factors. In particular, you should note that water and sewer systems are dynamic by nature and, as such, capacity availability and system performance varies over time. As a consequence, the advice provided herein regarding servicing availability is indicative only. A detailed analysis of available capacity will be undertaken upon lodgement of an application for a Notice of Formal Requirements.

If you proceed with a development application you will need to lodge a further application with Hunter Water to then determine the formal requirements that shall apply. Hunter Water will then issue a **Notice of Formal Requirements**. You will need to comply with each of the requirements in this Notice for the issue of a Section 50 Compliance Certificate for the specific development.

Hunter Water anticipates that the development will place an additional demand of approximately 349 Equivalent Tenements (ET) on the water supply and wastewater transportation systems and has reviewed system capacity and performance on this basis. As a result, Hunter Water's preliminary servicing advice is as follows:

244 Community Title lots, 5 Popplewell Road, Fern Bay

Water

The site of the proposed subdivision is located in the Newcastle Water Supply System, and is supplied from the North Lambton 1 Reservoir. The property has a frontage to a 100mm Cast Iron Cement Lined (CICL) water main along Popplewell Road, (please refer to Figure 1 attached).

It is noted that security of supply will need to be provided for this development in accordance with Hunter Water's design guidelines.

There is currently sufficient capacity available in these mains to serve the proposed development, however, capacity availability and system performance varies over time. A detailed analysis will be undertaken upon lodgement of an application for a **Notice of Formal Requirements**.

Wastewater Transportation

The development is located within the Fern Bay 1 Waste Water Pump Station (WWPS) catchment which is within the Shortland Waste Water Treatment Works Catchment. There is currently sufficient capacity within the Fern Bay 1 WWPS to serve the proposed development however connection of the development will exhaust the available capacity. Please note that allocation of capacity is subject to a development having determination of a Section 50 application and having a valid development consent issued by the relevant consent authority.

It appears that flows from parts of the development may need to be pumped to access the existing sewer infrastructure, (please refer to Figure 2 attached).

In order to allow connection of this development, a local developer funded servicing strategy should be prepared to investigate the infrastructure required to service this development and any augmentations to Hunter Water's existing wastewater network. It is suggested that the servicing strategy investigate how the development will gravitate wastewater to the existing network - or if a new WWPS is required.

105 Community Title lot subdivision 338 Fullerton Street Stockton

Water

The site of the proposed subdivision is located in the Newcastle Water Supply System, and is supplied from the North Lambton 1 Reservoir. The property has frontage to a 100mm Cast Iron Cement Lined (CICL) water main along Fullerton Street to which connection is permitted, (please refer to Figure 3 attached).

It is noted that security of supply will need to be provided for developments that exceed 100 lots in accordance with Hunter Water's design guidelines.

There is currently sufficient capacity available in these mains to serve the proposed development, however, as noted elsewhere in this correspondence, capacity availability and system performance varies over time. A detailed analysis will be undertaken upon lodgement of an application for a **Notice of Formal Requirements**

Wastewater Transportation

The development lot is located in the Stockton 4 WWPS catchment, (please refer to Figure 4 attached). There is insufficient pumping and emergency storage capacity within this station to accept flows to cater for this development. Furthermore a sewermain extension will be required to connect the property to the Stockton 4 WWPS.

It will be necessary to complete a developer funded sewer servicing strategy to ascertain the optimal means to connect to Hunter Water's sewer system. The strategy should address, but not be limited to, the following matters:

- Adjacent development areas;
- Existing asset constraints;
- Pump and emergency storage upgrades to Stockton 4 WWPS
- Development staging and timing; and
- Alternative connection points.

Wastewater Treatment

The proposed development falls within the Sortland Wastewater Treatment Works (WWTW) catchment which has sufficient capacity for the proposed developments.

Financial Contribution

Dependent on the connection points and utilisation of infrastructure, it may be necessary to pay a reimbursement towards capacity uptake in infrastructure assets constructed by other developers. Hunter Water administers reimbursements for a maximum period of 15 years following hand over to Hunter Water.

It is not possible to calculate reimbursement values at this time due to the tentative nature of information, connection points etc, and accordingly such calculations are usually deferred until definitive information is available.

Environmental Assessment

Please note that a Review of Environmental Factors will be required for any works external to a particular development site, or where the service design includes infrastructure or activities that may have environmental impacts that would not have been specifically addressed in the consent authorities assessment and determination of the proposed development. Examples may be the construction of new or augmented water and sewer pump stations, sewer vents, trunk mains, reservoirs, development in a Wastewater Treatment Plant buffer zone, or development in a water reserve. Furthermore, a Controlled Activity Approval will be required from the NSW Office of Water for any excavation within 40m of a water body or should groundwater be present.

Prior to commencement of environmental assessment please contact the Hunter Water Developer Services Group to confirm the scope and need for such an assessment. It is recommended to meet and agree these matters prior to the developer engaging the services of a design or environmental consultant. In addition, please refer to the Hunter Water Review of Environmental Factors Guidance Notes, located in the Building & Development section of the Hunter Water website. The document provides the minimum requirements and an example template for the preparation of a REF.

Should you require further clarification or assistance please do not hesitate to contact me on 4979 9476.

Yours Sincerely



Paul McKoy
Developer Services Engineer

Attachments:

- Figure 1** - Water Supply Connection Point - 5 Popplewell Road
- Figure 2** - Sewer Infrastructure - 5 Popplewell Road
- Figure 3** - Water Supply Connection Point - 338 Fullerton Street
- Figure 4** - Sewer Infrastructure - 338 Fullerton Street

Figure 1 - Water Supply Connection Point - 5 Popplewell Road



Figure 2 - Sewer Infrastructure - 5 Popplewell Road



Figure 3 - Water Supply Connection Point - 338 Fullerton Street



Figure 4 - Sewer Infrastructure – 338 Fullerton Street

