



# Due Diligence Report

## Hollylea Road, Leumeah

2A – 14 Hollylea Road, Leumeah NSW 2560

DUE DILIGENCE

### PREPARED FOR

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# DUE DILIGENCE REPORT

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## Activity Schedule

Date	Revision	Issue	Prepared By	Approved By
02.10.2018	1	Preliminary	HT/SM	SB/GL

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# 1. INTRODUCTION

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Northrop Consulting Engineers (Northrop) have been engaged by Michael Brown – Planning Strategies to provide high level due diligence reporting services for proposed development of 2A – 14 Hollylea Road, Leumeah NSW, 2560.

The purpose of this report is to;

- Provide high level advice regarding the site constraints and existing services infrastructure to the site. The existing services include Gas, Water, Sewer, Electrical, and Telecommunications infrastructure.

## 1.1 Limitations and Exclusions

The limitations and exclusions of this report are as follows:

- The following assessment is based upon Dial Before You Dig documentation, as well as correspondence with Authorities, and all information provided by the Client.
- Underground routes have not been documented as accurate as possible with the use of a subcontractor with Ground-Penetrating Radar (GPR) technology. If excavation works are to be undertaken in this area, contractors are to undertake their own Dial Before You Dig submission and services searches and not rely on the provided documentation.
- No visual inspection has taken place.

## 2. EXISTING INFRASTRUCTURE

### 2.1 Existing Electrical Infrastructure

The energy authority supplying the sites is Endeavour Energy (EE). There are three (3) existing substations on the northern side of Hollylea Road. They are; Substation S28364, S13404, and S17774. There is also an existing overhead HV infrastructure that reticulates along the southern side of Hollylea Road. In the case that a new substation is required, pending the capacity of the local HV infrastructure, the presence of existing HV infrastructure close to the site would minimise the cost of installation. Feedback from EE will be required to determine the required infrastructure modification/installation to supply the site.

#### 2.1.1 Substation S28364

This substation is located in front of lot 101 DP625317 (refer to Figure 1). Based on the desktop assessment, information retrieved from EE GIS indicates that the Substation S28364 is feeding the southern properties of Hollylea Road and the property across the Plough Inn Road. The last load reading from EE was taken on 14/02/2017 showing that the capacity of the substation is 500kVA and has been utilised as high as 375kVA (refer to Figure 2).



Figure 1 - Pad mount Substation S28364 – Google Streetview (Captured May 2017)

Equipment Reference: DS28364

Reference Description: HOLLYLEA RD - LEUMEAH

Component Code: TX Transformer Modifier Code: T1 TX POSITION 1

Position: Type: MD MDI Readings

Start Date: Alarm Indicator: <All> Find

Date	Time	KVA-CALC (KV)	KVA-RATED (H)	MDI-A (AMPS)	MDI-B (AMPS)	MDI-C (AMPS)	MDI-RATIO (R)	Alarm District	Alarm Workord
14/02/2017	12:00:00 PM	375.0	500	500.0	500.0	500.0	0.75		
24/03/2016	12:00:00 PM	60.0	500	80.0	80.0	80.0	0.12		
28/06/2013	12:00:00 PM	144.0	500	192.0	192.0	192.0	0.29		
10/05/2012	12:00:00 PM	375.0	500	500.0	550.0	450.0	0.75		
8/04/2011	12:00:00 PM	12.0	500	16.0	16.0	16.0	0.02		

Figure 2 – Endeavour Energy Monitoring History (Captured Aug 2018)

#### 2.1.2 Substation S13404

This substation is located on lot SP52950, in front of the existing premises (refer to Figure 3). Based on the desktop assessment, information retrieved from EE GIS showing that the Substation S13404 is feeding both

northern and southern properties on Hollylea Road. The last load reading from EE taken on 16/01/2018 showing that the capacity of the substation is 500kVA and has been utilised as high as 360kVA (refer to Figure 4).

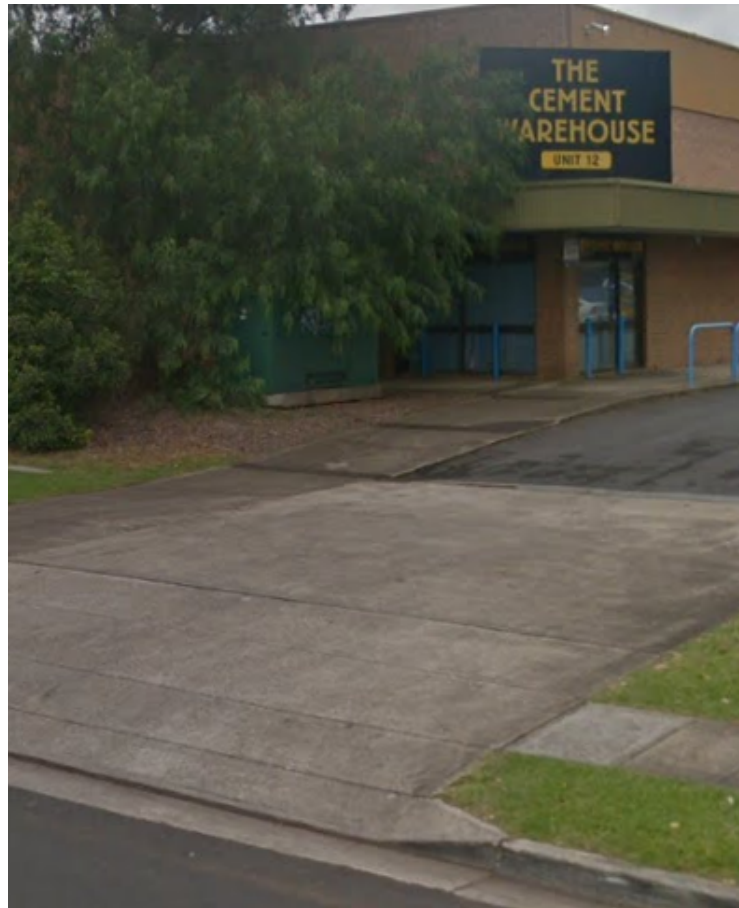


Figure 3 – Pad mount Substation S13404 – Google Streetview (Captured May 2017)

Equipment Reference:	DS13404								
Reference Description	HOLLYLEA RD - LEUMEAH								
Component Code:	TX	Transformer	Modifier Code:	T1	TX POSITION 1				
Position:			Type:	MD	MDI Readings				
Start Date:			Alarm Indicator:	<All>	End				
Date	Time	KVA-CALC (KV)	KVA-RATED (H)	MDI-A (AMPS)	MDI-B (AMPS)	MDI-C (AMPS)	MDI-RATIO (R)	Alarm District	Alarm Workord
16/01/2018	12:00:00 PM	360.0	500	640.0	320.0	480.0	0.72		
15/02/2017	12:00:00 PM	475.0	500	600.0	700.0	600.0	0.95		
5/06/2015	12:00:00 PM	200.0	500	320.0	320.0	160.0	0.40		
28/06/2013	12:00:00 PM	344.0	500	544.0	288.0	544.0	0.69		
10/05/2012	12:00:00 PM	700.0	500	1200.0	600.0	1000.0	1.40		
12/07/2011	12:00:00 PM	344.0	500	448.0	448.0	480.0	0.69		
16/04/2010	12:00:00 PM	552.0	500	768.0	720.0	720.0	1.10		
30/03/2009	12:00:00 PM	282.5	500	470.0	280.0	380.0	0.57		
8/05/2008	12:00:00 PM	464.0	500	720.0	560.0	576.0	0.93		
9/05/2007	12:00:00 PM	372.0	500	624.0	400.0	464.0	0.74		
4/05/2006	12:00:00 PM	428.0	500	608.0	512.0	592.0	0.86		
28/04/2005	12:00:00 PM	372.0	500	480.0	480.0	528.0	0.74		
17/03/2004	12:00:00 AM	202.0	500	340.0	200.0	270.0	0.40		
26/02/2003	12:00:00 AM	364.0	500	576.0	400.0	480.0	0.72		
24/01/2003	12:00:00 AM	340.0	500	640.0	320.0	400.0	0.68		
14/04/2002	12:00:00 AM	360.0	500	576.0	416.0	448.0	0.72		
7/05/2001	12:00:00 AM	348.0	500	480.0	416.0				

Figure 4 - Endeavour Energy Monitoring History (Captured Aug 2018)



### 2.1.3 Substation S17774

This substation is located on lot 1205 DP634148, in front of the existing premises (refer to Figure 5). Based on the desktop assessment, information retrieved from EE GIS showing that the Substation S17774 is solely feeding lot 1205. The last load reading from EE taken on 01/02/2017 showing that the capacity of the substation is 500kVA and has been utilised as high as 280kVA (refer to Figure 6).



Figure 5 - Pad mount Substation S17774 – Google Streetview (Captured May 2017)

Equipment Reference: DS17774

Reference Description: HOLLYLEA RD LEUMEAH

Component Code: TX Transformer Modifier Code: T1 TX POSITION 1

Position: Type: MD MDI Readings

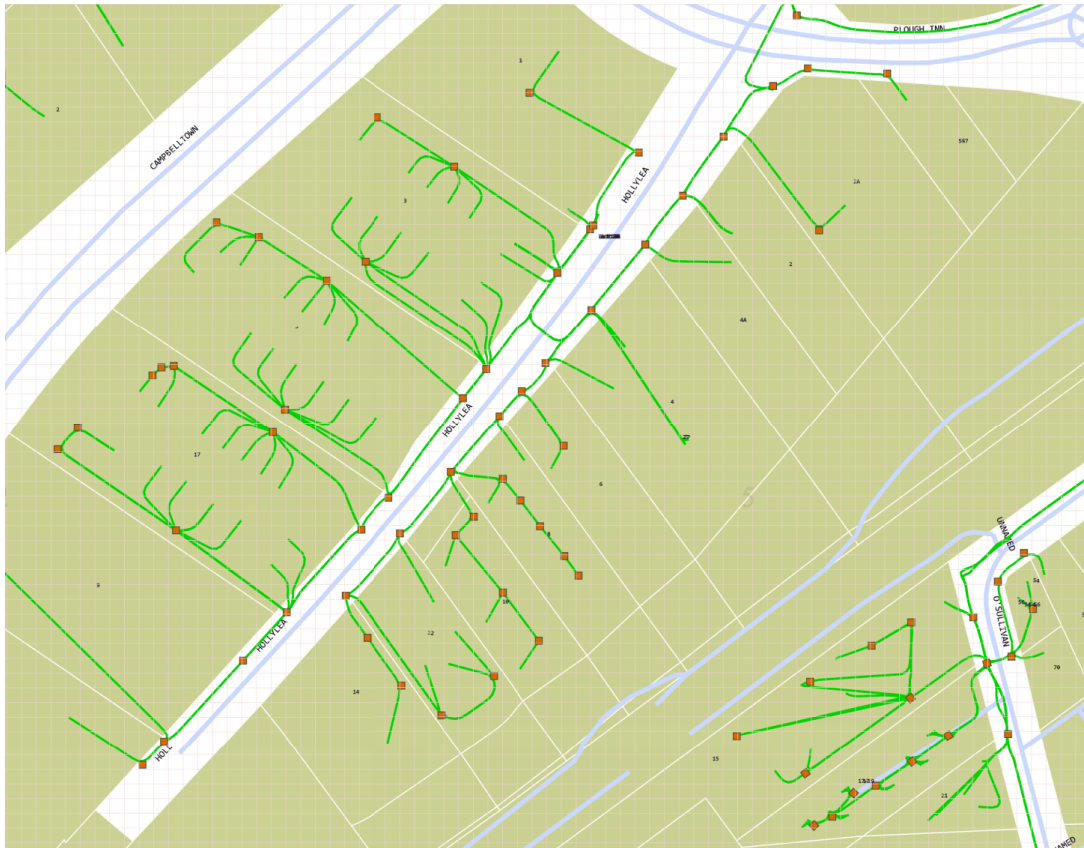
Start Date: Alarm Indicator: <All> Find

Date	Time	KVA-CALC (KV)	KVA-RATED (H)	MDI-A (AMPS)	MDI-B (AMPS)	MDI-C (AMPS)	MDI-RATIO (R)	Alarm District	Alarm Workord
1/02/2017	12:00:00 PM	280.0	500	480.0	480.0	160.0	0.56		
24/03/2016	12:00:00 PM	240.0	500	320.0	320.0	320.0	0.48		
28/06/2013	12:00:00 PM	352.0	500	480.0	496.0	432.0	0.70		
10/05/2012	12:00:00 PM	380.0	500	528.0	560.0	432.0	0.76		
12/07/2011	12:00:00 PM	400.0	500	480.0	560.0	560.0	0.80		
16/04/2010	12:00:00 PM	368.0	500	480.0	544.0	448.0	0.74		
30/03/2009	12:00:00 PM	356.0	500	544.0	512.0	368.0	0.71		
8/05/2008	12:00:00 PM	320.0	500	448.0	448.0	384.0	0.64		
9/05/2007	12:00:00 PM	388.0	500	528.0	560.0	464.0	0.78		
4/05/2006	12:00:00 PM	252.0	500	352.0	336.0	320.0	0.50		
28/04/2005	12:00:00 PM	448.0	500	640.0	576.0	576.0	0.90		
14/03/2004	12:00:00 AM	132.0	500	180.0	200.0	150.0	0.26		
26/02/2003	12:00:00 AM	380.0	500	480.0	560.0	480.0	0.76		
24/01/2003	12:00:00 AM	372.0	500	480.0	528.0	480.0	0.74		
14/04/2002	12:00:00 AM	352.0	500	448.0	480.0	480.0	0.70		
7/05/2001	12:00:00 AM	396.0	500	480.0	560.0	544.0	0.79		
29/09/2000	12:00:00 AM	192.0	300	250.0	240.0				

Figure 6 - Endeavour Energy Monitoring History (Captured Aug 2018)

## 2.2 Existing Telecommunications Infrastructure

Upon review of indicative plans supplied by NBN DBYD, the plans show that the sites are currently served by telecommunications infrastructure present on site (as can be seen in Figure 7 below).



*Figure 7 - NBN Dial Before You Dig Indicative Plans - Received 28.02.2018*

Relocation of the existing infrastructure on site will be required to ensure that all buildings within the proposed development are adequately serviced. NBN services are currently available to the development site.



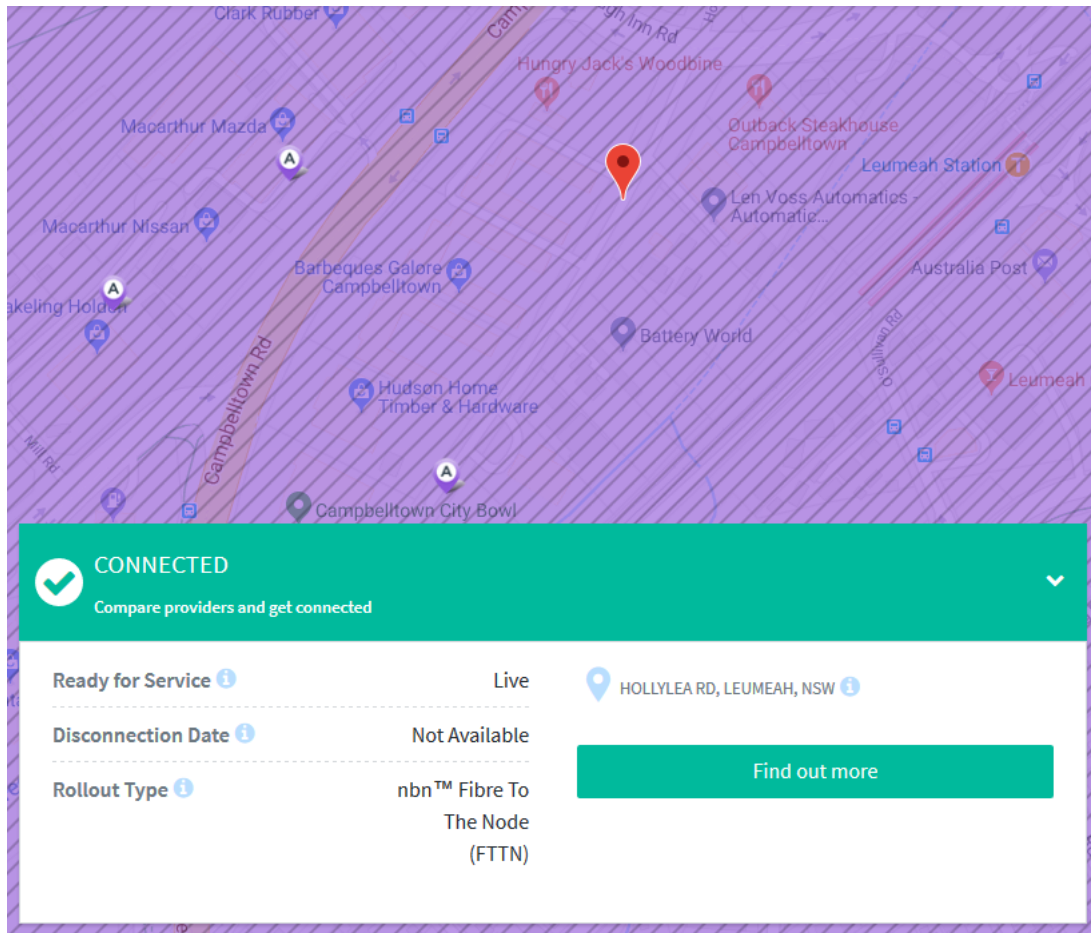


Figure 8 - Finder NBN Availability Tracker – Hollylea Road

## 3. EXISTING HYDRAULIC INFRASTRUCTURE

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### 3.1 Sydney Water Sewer Infrastructure

The development has access to the following Sydney Water sewer mains:

- DN 1,200 sewer main traversing the centre of the site.

Refer to [Appendix A](#) for Infrastructure Mapping.

Due to the location of the existing sewer main, it is likely that any proposed development will be built over, adjacent, or in close proximity to Sydney Water's assets. Subsequently, any proposed development will need to take into consideration Sydney Water's requirements outlined in their Technical Guidelines for Building Over and Adjacent to Pipe Assets.

Engagement of a Sydney Water accredited will be required to process a Building Plan Approval Application, and also to design any augmentations to Sydney Water's assets, if required.

The proposed point/s of connection to existing sewer mains is subject to assessment and approval by Sydney Water under a Section 73 application post Development Application.

### 3.2 Sydney Water Potable Water Infrastructure

The water supply network serving the proposed site is supplied by the Marcarthur Water Delivery System.

The development has access to the following Sydney Water potable water mains:

- DN 300 Cast Iron Cement Lined water main located within the southern side of Leumeah Road.

Refer to [Appendix A](#) for Infrastructure Mapping.

The proposed point/s of connection to existing water mains is subject to assessment and approval by Sydney Water under a Section 73 application post Development Application.

### 3.3 Jemena Natural Gas Infrastructure

The development has access to the following Jemena natural gas mains:

- DN 50 Nylon, 210kPa gas main located within the northern side of Hollylea Road;
- DN 150, high pressure gas main located within the southern side of Hollylea Road. Northrop notes that connections to these mains to service private developments is typically not permitted by Jemena.

Refer to [Appendix B](#) for Infrastructure Mapping.

The proposed point/s of connection to existing natural gas mains is subject to assessment and approval by Jemena under a connection application post Development Application.

## 4. APPENDIX A – SYDNEY WATER INFRASTRUCTURE

