

Wilton South East Precinct Stage 1—

Utilities Servicing Infrastructure Report



FOR / Civil Engineering Services

CLIENT / Walker Corporation

DOCUMENT NO / S17119-RPT-C-001 REV /2 DATE / 20/12/2018

bgeeng.com—

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Document Control

Revision	Date	Description	Prepared	Reviewed	Approved
0	09/05/2018	Draft	AZ	TW	РН
1	30/05/2018	For Submission	AZ	TW	РН
2	20/12/2018	Re-issued for DA	TW	HMcM	TW



1 EXECUTIVE SUMMARY

BG&E have been engaged by Walker Corporation to prepare the Utilities Servicing Report to support the proposed Stage 1 Development Application (DA) subdivision at the Wilton South East Precinct.

Wilton South East Precinct is located in the south-eastern corner of the Greater Wilton Junction Release Area and will be delivered across a number of stages. Stage 1 comprises of 696 residential lots across a range of residential densities (small to large lot, terrace, villa and courtyard) with associated roads and open space (active, local and passive) and an employment super lot.

Stage 1 is the proposed subdivision of the proposed lot 102 in DP 1232553.

In 2014 BG&E prepared the Integrated Servicing Strategy for the Wilton Junction Rezoning Submission on the behalf of the Wilton Landowner's consortium.

The Infrastructure Servicing Strategy involved extensive consultation with the servicing authorities.

Under the State Environmental Planning Policy (Sydney Region Growth Centres) 2006, Appendix 14, clause 7.1 council must be satisfied that any public utility infrastructure that is essential for the proposed development is available or that adequate arrangements have been made to make that infrastructure available when it is required.

A public utility infrastructure includes infrastructure for any of the following:

- (a) the supply of water,
- (b) the supply of electricity,

(c) the disposal and management of sewage.

The conclusion of the Infrastructure Servicing Strategy investigations and subsequent liaison with the respective servicing authorities is that with respect to public utility infrastructure:

- Potable Water Infrastructure is available with capacity to service the proposed Stage 1 development
- Sydney Water has agreed to service to the south east precinct and are currently finalising their preferred short term and long term servicing solution
- Wastewater infrastructure capacity is available to service the development at the Bingara Gorge Wastewater plant
- Electricity infrastructure has capacity to service the proposed development

With respect to other infrastructure:

- Gas is available to service the development, subject to commercial arrangements being reached with Jemena
- Telecommunications infrastructure will be provided by NBN to service the development.



2 INTRODUCTION

2.1 Background

Walker Corporation is proposing the first stage of the Wilton South East Precinct comprising 696 residential lots within the overall Greater Wilton Junction Release Area.

The Greater Wilton Junction Release Area will deliver between 11,000 to 13,000 dwellings, employment lands, a Town Centre, two (2) local shopping villages, five (5) schools and 64 Ha of open space for some 36,000 residents.

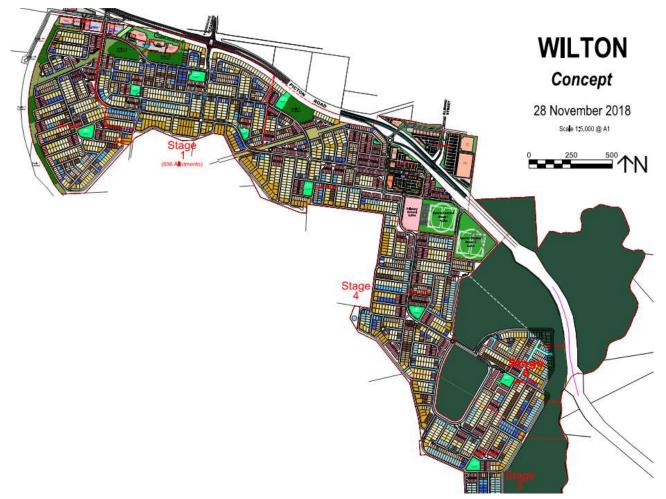


Figure 1 - Overall Concept of Wilton South East Development

Wilton South East Precinct is located in the southern-eastern corner of the Greater Wilton Junction Release Area and will include around 3400 lots across a total of six (6) stages. Stage 1 (which is the subject of this report) includes approximately 696 lots across a range of residential densities (small to large lot, terrace, villa and courtyard) with associated roads and open space (active, local and passive).

2.2 Scope of Work

This reports considers the ability to provide public utility infrastructure services and other infrastructure services for the proposed Wilton South East Precinct Stage 1 development.

The proposed development comprises 696 residential lots located to the south of Picton Road with access from a new fourth leg to the existing intersection with Pembroke Parade.

3 SITE CHARACTERISTICS

3.1 Location

The site is located within the suburb of Wilton, within the Wollondilly Shire Council Local Government Area (LGA).



Figure 2 - Site Location

3.2 Existing Site Information and description

Stage 1 of the subject site is described as lot 75 in DP 83731, lot 51 in DP 626650, lot 16 in DP 253158 and lot 25 in DP 253158. The site covers an area of approximately 54 ha. The site is currently generally clear, undulating and rising to the south.

4 INFRASTRUCTURE SERVICING STRATEGY

BG&E have undertaken earlier infrastructure investigations for the subject site in 2014. The findings and assumptions have been adopted from the Wilton Junction Infrastructure Servicing and Staging Plan (BG&E 2014).

A Dial Before You Dig (DBYD) enquiry was undertaken on 15th February 2018 for the proposed development at Wilton Junction Stage 1 (Job ID 13713525).

The relevant utility authorities are:

- Sydney Water Corporation (SWC) Potable Water and Waste Water;
- Endeavour Energy (EE) Electrical reticulation;
- Jemena Gas reticulation;
- APA Trunk Gas mains; and
- Telstra & National Broadband Network (NBN) Telecommunications.

Existing utility services can be found at Appendix A. A consolidated coordination plan of existing service utilities infrastructure can be found at Appendix E.

4.1 Water Services

Sydney Water Corporation (SWC) currently services the Wilton locality with potable water.

Extensive engagement with SWC has been undertaken to date with regards the proposed servicing strategy for the Wilton Junction Stage 1 development, and the wider Wilton Junction.

Correspondence with Sydney Water Corporation (dated 30 November 2018 – Attached as Appendix B) indicates that Sydney Water's Growth Servicing Plan 2017-22 includes the Wilton growth area and that infrastructure delivery will be undertaken by the landholders entering into a Commercial Agreement under Sydney Water's Precinct Acceleration Protocol Funding Guidelines.

SWC have completed strategic planning for servicing the Wilton growth area and will finalise the preferred servicing option in early 2019. Upon completion this assessment will identify what assets are required, and identify the short term and long term servicing strategy. Following the adoption of this strategy detailed design will be undertaken and necessary approvals will be obtained by Sydney Water.

Upon granting of Development Consent for Stage 1, an application will be made to SWC to acquire a Notice of Requirements, which will inform the detailed design.

4.1.1 Existing Potable Water Network

The Macarthur Water Filtration Plant (WFP) currently supplies potable water to the townships of Appin, Wilton and Douglas Park via the Appin Water Distribution System. This WFP is situated on Wilton Road, between Broughton Pass and Appin about 9 km to the east of Wilton.

The Macarthur Water Filtration Plant has adequate capacity to service the proposed Wilton South East Precinct Stage 1 development.

4.1.2 Proposed Potable Water Servicing Strategy

SWC have confirmed, via letter dated 30 November 2018 (Attached as Appendix B), that the SWC servicing investigation indicates that the *trunk drinking water system has adequate capacity to accommodate the proposed development.*

The developer is committed to entering into a commercial agreement with Sydney Water to fund the delivery of necessary interim and long term trunk water infrastructure.

4.1.3 Existing Recycled Water

The subject site is not currently serviced with recycled water.

4.1.4 Proposed Recycled Water

Sydney Water does not currently operate any recycled water services within the development area. Based on the Metropolitan Water Directorate, there is one water recycling system in operation at Wilton.

In this regard, Sydney Water is investigating the use of recycled water as part of the servicing strategy for Wilton Junction Stage 1 development. It should be noted however that recycled water is *not* an essential service.

4.1.5 Existing Waste Water

The site is not currently serviced by SWC waste water infrastructure. Refer to Appendix A for existing services plans.

4.1.6 Proposed Waste Water

SWC have confirmed that interim servicing options to cater for this proposal are being developed as a part of their options planning study.

Sydney Water has agreed to service Wilton South-East Precinct. The developer is providing funding to Sydney Water to develop its preferred design under an early works agreement. The preferred design will have both an interim and a long term solution.

The developer is committed to entering a commercial agreement with Sydney Water to fund the delivery of necessary interim and long term trunk water, recycled water (if required) and waste water infrastructure.

The developer will also deliver all water, recycled water (if required) and wastewater reticulation work, within the development plus connect the water and wastewater reticulation to the relevant connection trunk infrastructure.

4.2 Electricity

Endeavour Energy (EE) in conjunction with TransGrid services the existing development at Greater Macarthur. TransGrid's Macarthur Bulk Supply Point (BSP) supplies EE's distribution zone substations within the Wilton Junction area via 66 kV feeders.

4.2.1 Existing Electrical Network

Preliminary analysis indicates that EE and TransGrid have the following zone substations (ZS) within the Greater Macarthur area:

Endeavour Energy

- Douglas Park Switching Station (connection point);
- Maldon ZA (11 kV);
- Wilton ZS (11 kV); and
- Bingara Gorge Substation (66 kV) (privately owned).

<u>TransGrid</u>

- Nepean Transmission Substation;
- Macarthur Bulk Supply Point (BSP); and
- Macarthur Feeder (132 kV).

Refer to Figure 3 below for the existing regional electrical network.

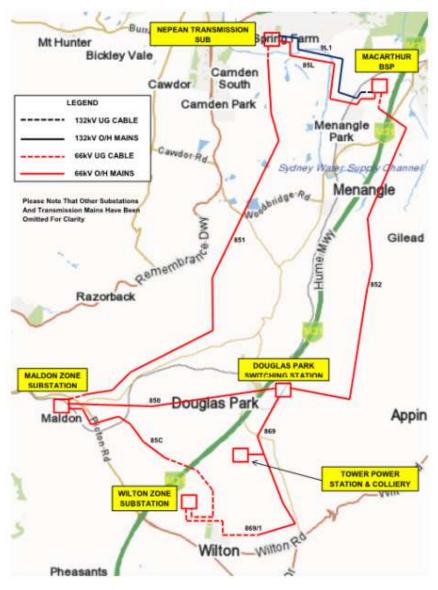


Figure 3 - Regional Electrical Network

4.2.2 Proposed Electrical Servicing Strategy

Endeavour Energy (EE) has previously carried out technical review (ENL2671) – attached as Appendix C, for the proposed development at Wilton Junction. The preliminary analysis indicated that the Wilton zone substation (ZS) may have sufficient capacity to accommodate the future demand of the entire Wilton Junction development. It is anticipated that the ultimate development, including the residential, commercial areas, the sewage treatment plant and the school sites, will be serviced via four (4) new 11 kV feeders from Wilton ZS.

Note that each feeder notionally can support approximately 800 dwellings, it is envisaged that Wilton Junction Stage 1 development, which compromises a total number of 696 residential lots, can be supplied via the existing Condell Park Road 11 kV feeders (WT1215) from Wilton ZS.

EE has identified the following requirements for the Stage 1 development:

- The ring-main distribution substations must be tied back onto the Condell Park Road 11 kV feeder (WT1215), to provide an alternate supply (no radial connections);
- The initial 11 kV network will be configured to meet the ultimate 11 kV configuration for the total Wilton development;

• When the Stage 1 development is completed, a new 11 kV feeder or feeders will be established to provide electrical supply to the remaining stages.

The proponent, will undertake the necessary work to connect to the electrical network and would accept a condition of consent requiring connection to the Endeavour Energy system.

Meetings and consultation with Endeavour Energy (EE) have been carried out on a regular basis. Once development consent is granted, EE will need to revisit the evaluation to validate the proposed servicing strategy.

4.3 Natural Gas

Jemena is the service provider in the vicinity of the project area through a combination of high pressure and reticulation mains.

APA Group has assets within Wilton Junction Stage 2 development area, including two high pressure gas transmission pipelines (HPGTP) and associated infrastructure

4.3.1 Existing Gas Network

Service searches indicate that there is a limited gas reticulation within the study area, primarily within Wilton and Appin. The Wilton Meter station is the closest station for future gas reticulation.

To provide gas however, the existing take off point will need to be upgraded or an additional take point will be required.

Refer to Figure 4 for Jemena trunk gas mains.

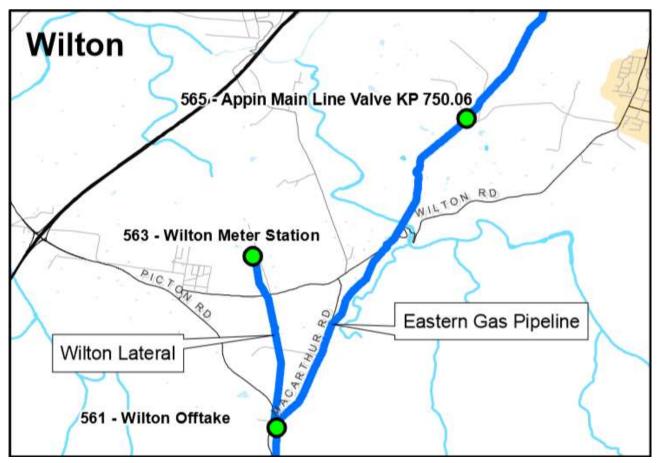


Figure 4 - Jemena Trunk Gas Mains

With regards to the existing APA assets (Moomba-Wilton & Moomba-Botany Gas Lines) within the project area, those high pressure lines are running in a 24m-wide easement through Wilton South East Precinct. Each

of the pipes are located approximately 6m from the edge of the easement and range in depth from approximately 750mm to 1.2m. APA correspondence is attached as Appendix D.

Refer to discussion below.

4.3.2 Proposed Natural Gas Servicing Strategy

Jemena have been contacted to advise on the availability of natural gas supply. Discussions between Walker Corporation and Jemena have confirmed that:

Jemena can supply off the mains supplying Bingara Gorge and sufficient capacity exists without the need for any upgrades.

4.4 APA

Whilst not necessary for connection, the Stage 1 site is traversed by the High Pressure Gas Transmission Pipelines. In managing HPGTPs, APA have provided their requirements for developer works within the easement. Refer to Section 3.8 of the *'Wilton South East Precinct Stage 1 and Stage 2 Bulk Earthworks Strategy Report'* BG&E 20 December 2018.

4.5 Telecommunication

With the government announcement of National Broadband Network (NBN Co), Telstra will no longer be deploying copper infrastructure as standard practice. All new greenfield developments will required fibre-to-the-premises (FTTP) infrastructure to be installed.

NBN Co will act as the wholesale provider if new developments constructed within, or adjacent to NBN Co's fibre footprint.

4.5.1 Existing Telecommunication Network

Service searches indicate that an existing telecommunication network presents in the vicinity of the development area. Telstra has existing assets in a combination of aerial and buried optic cable whereas National Broadband Network (NBN) is currently operating at Appin.

4.5.2 Proposed Telecommunication Network

NBN Co and WALKER CORPORATION PTY LIMITED have entered into an agreement in relation to the installation of fibre infrastructure at AYCA-2QQZCR South Wilton covering Stage 1.

Refer to Appendix D for related email correspondence in support of the proposed servicing strategy.

Current NBN rollout is delivering infrastructure to the Wilton area in mid-2019.

5 CONCLUSION

The proposed Wilton South East Precinct Stage 1 Development can be adequately serviced from the existing infrastructure, with minor upgrades as required by the relevant service authorities. Provision of earthworks, road, and stormwater drainage for Wilton South East Precinct is planned to be provided in accordance with Wollondilly Shire Council's design and construction specifications to facilitate residential development. The site can be provided with utility services by extension of existing or planned utility mains in the vicinity.

APPENDIX A

Existing Services

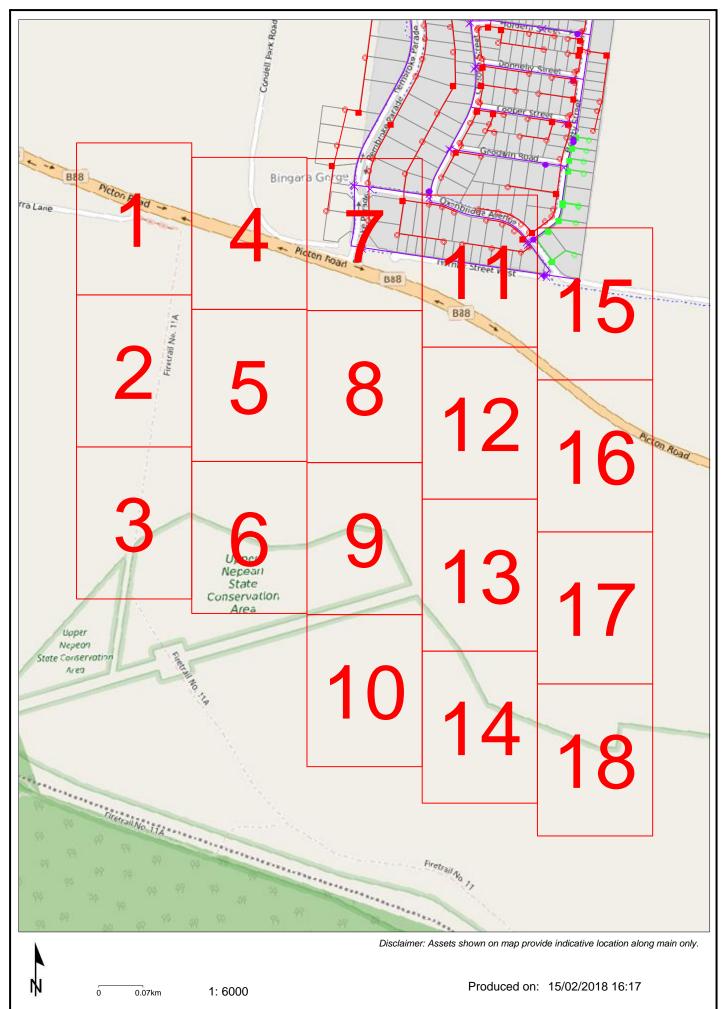


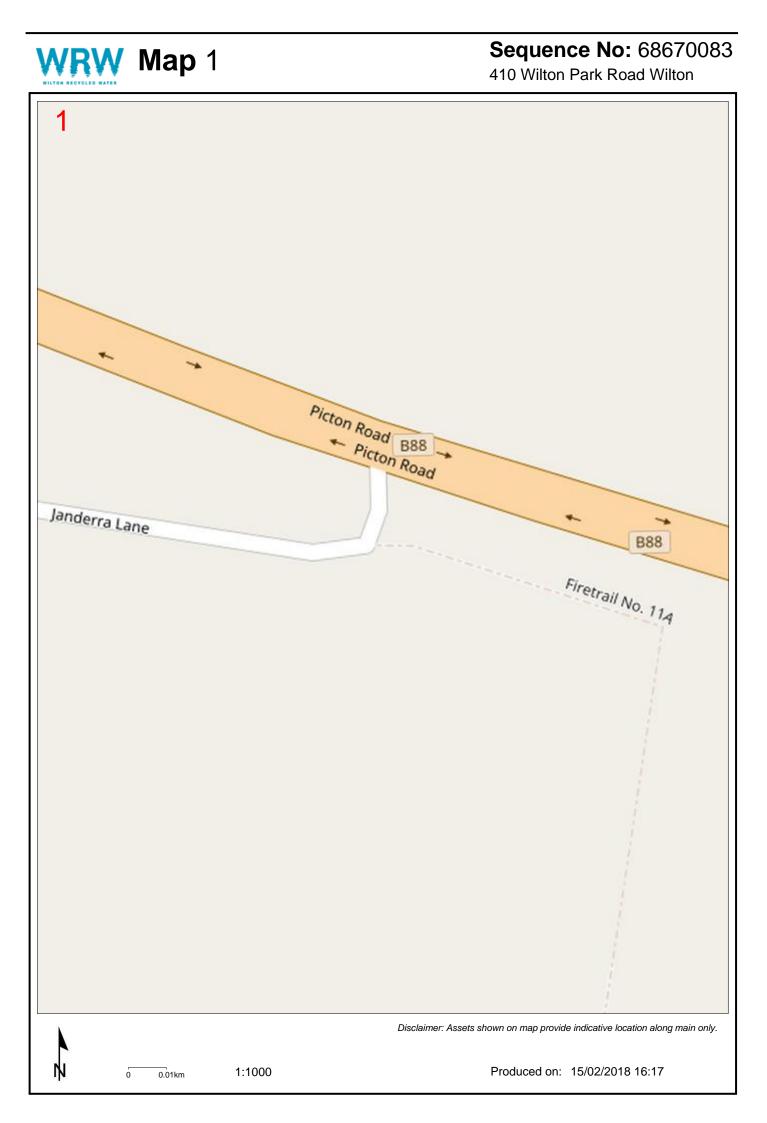
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		SYDNEY WATER CORPORATION		

WRW Overview Map

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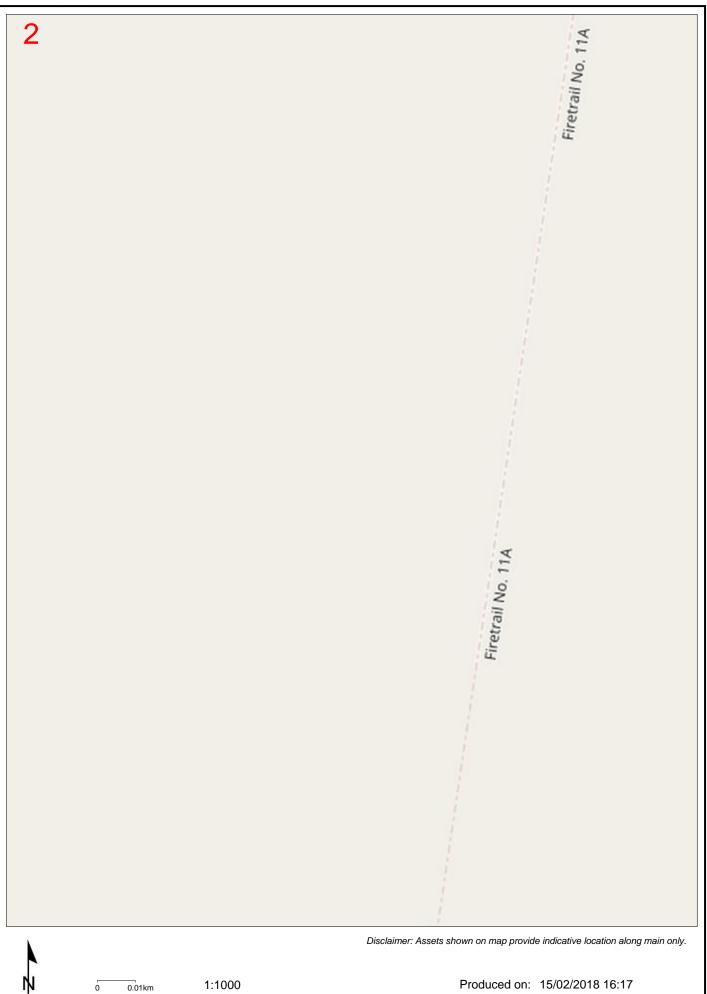


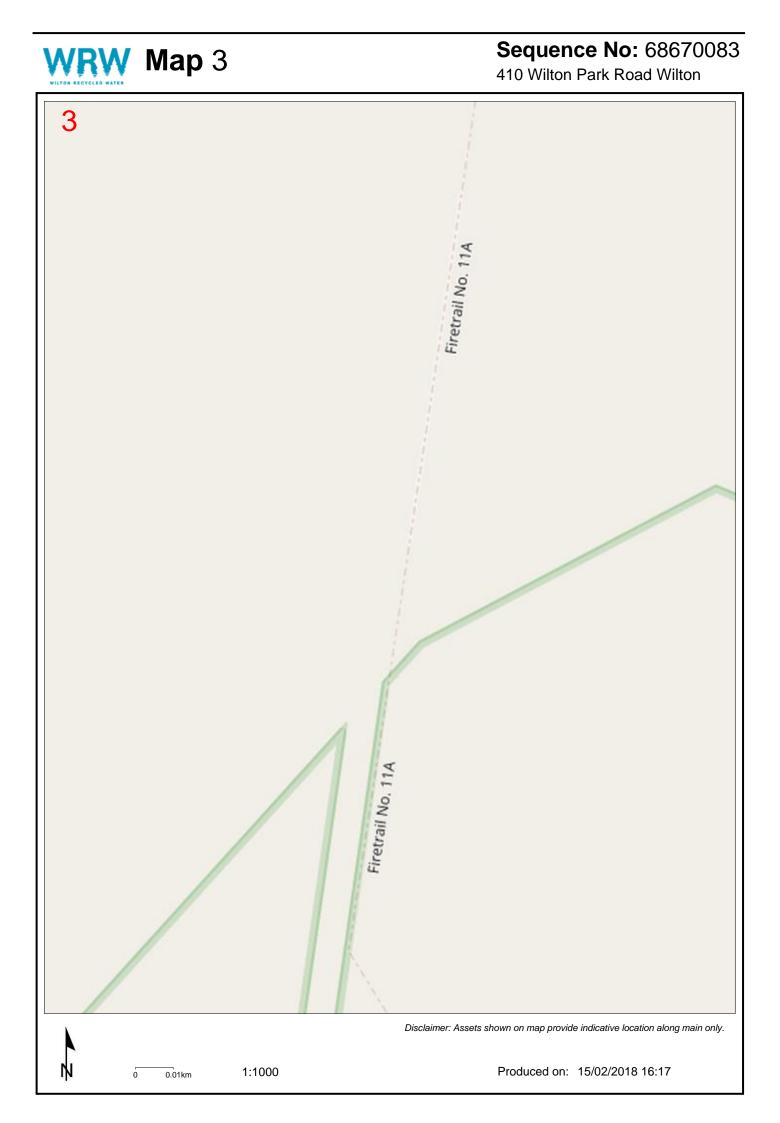


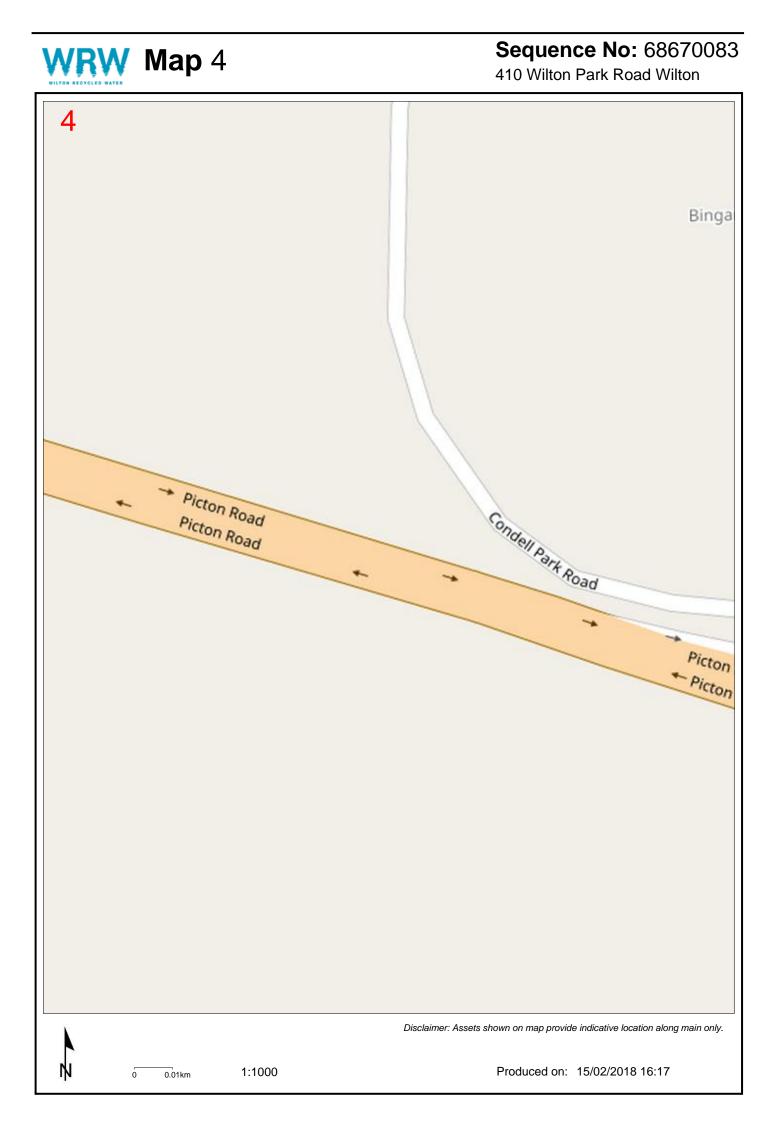


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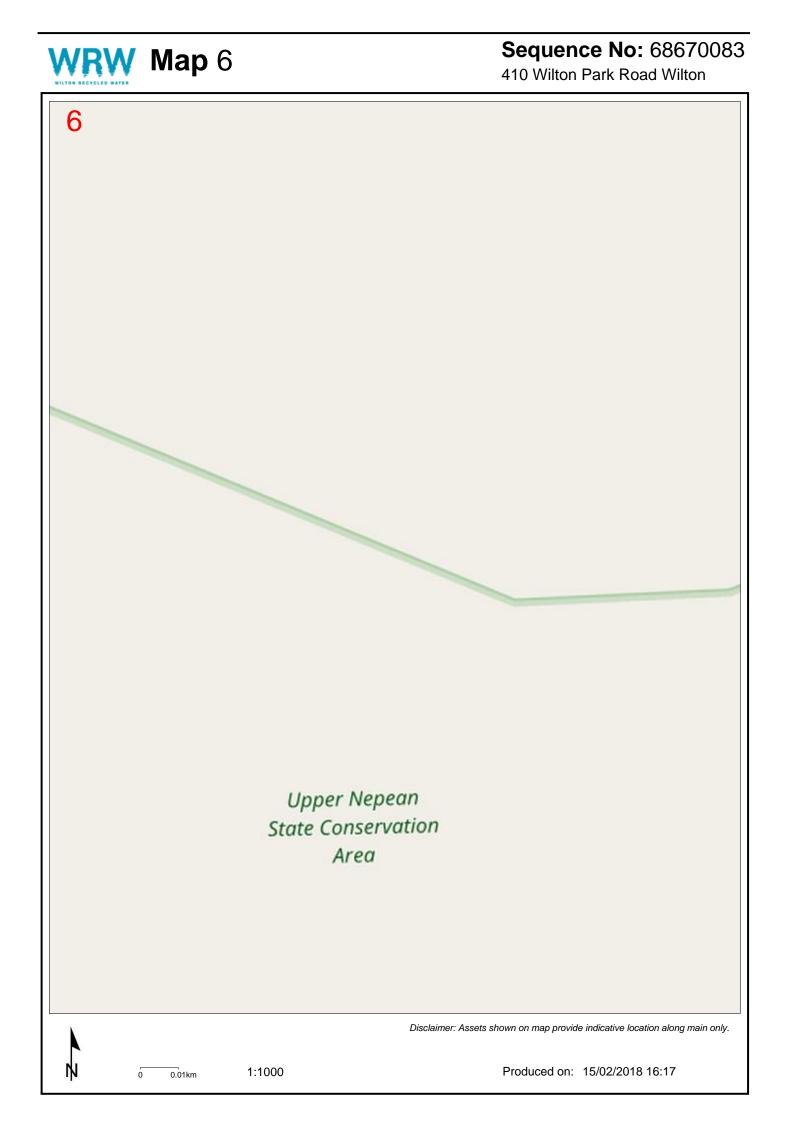
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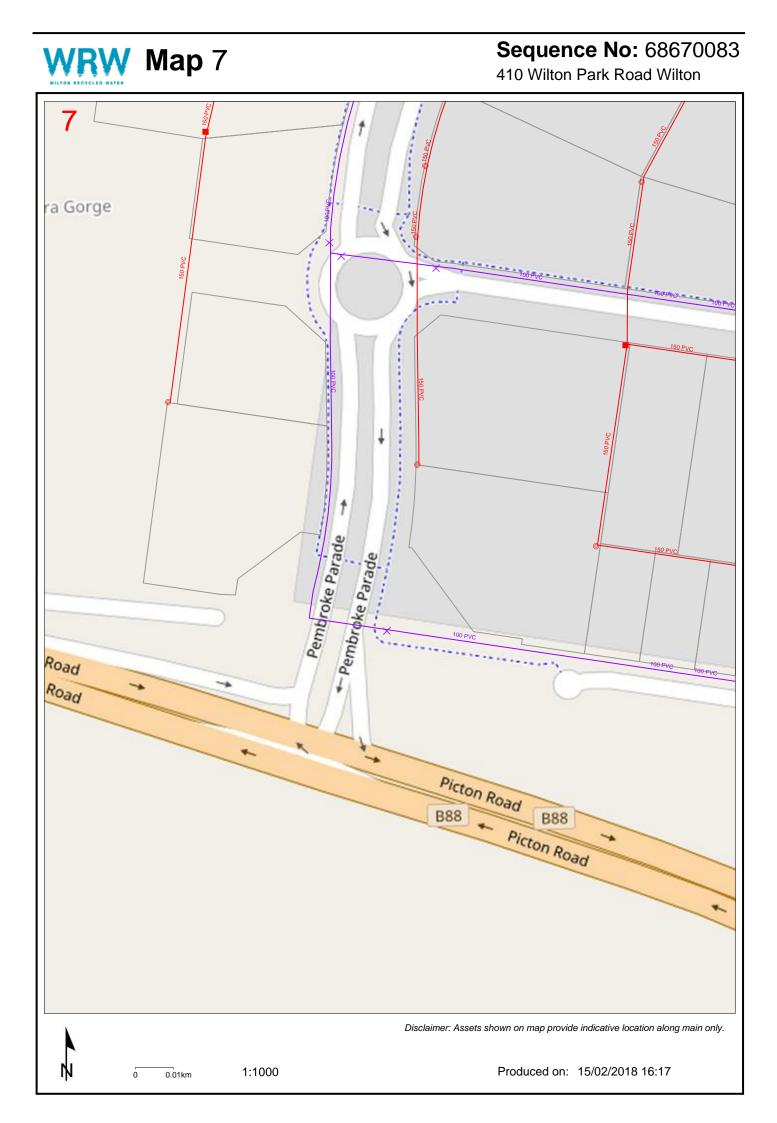
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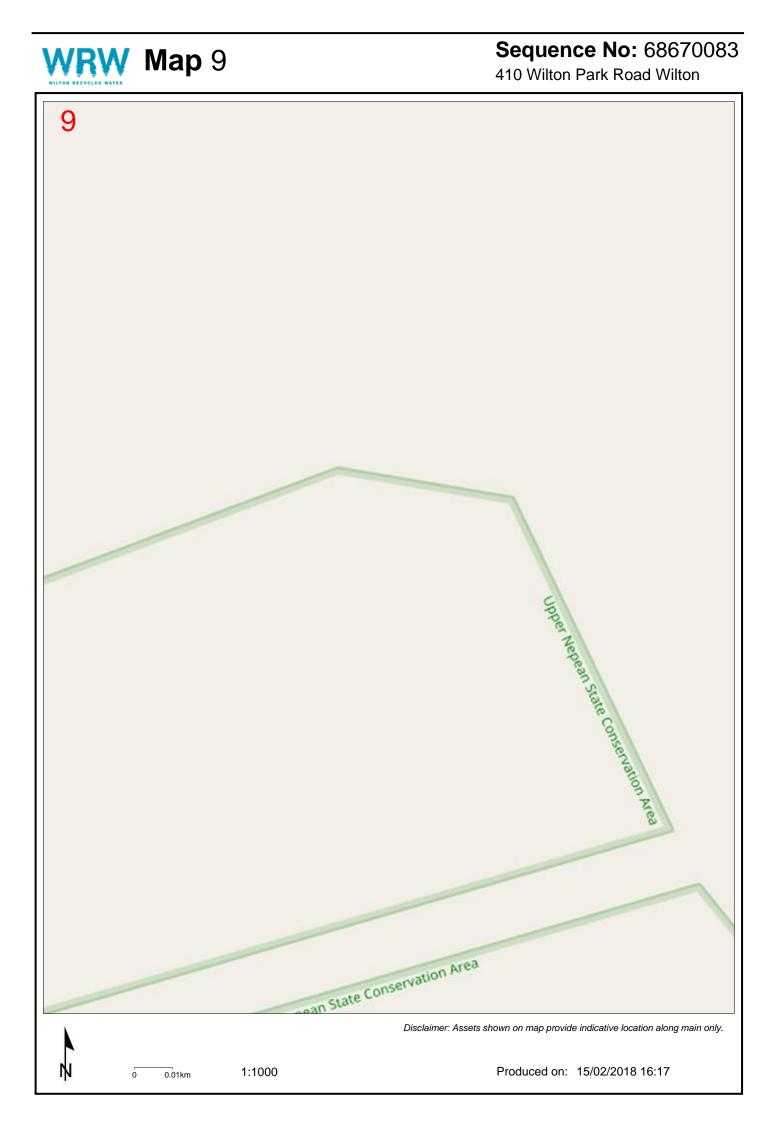
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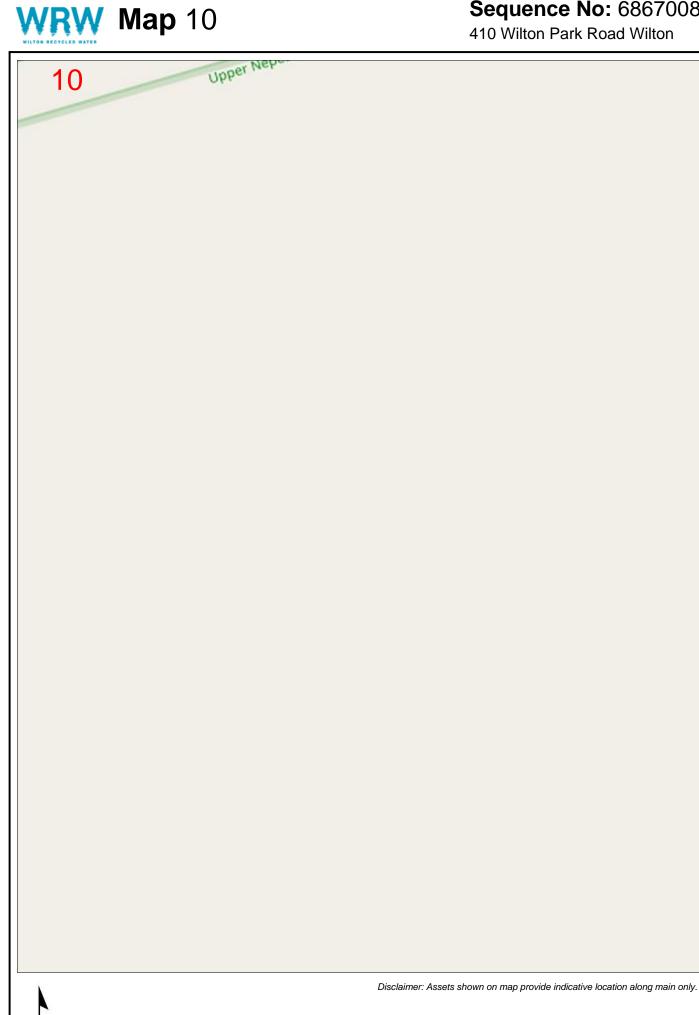
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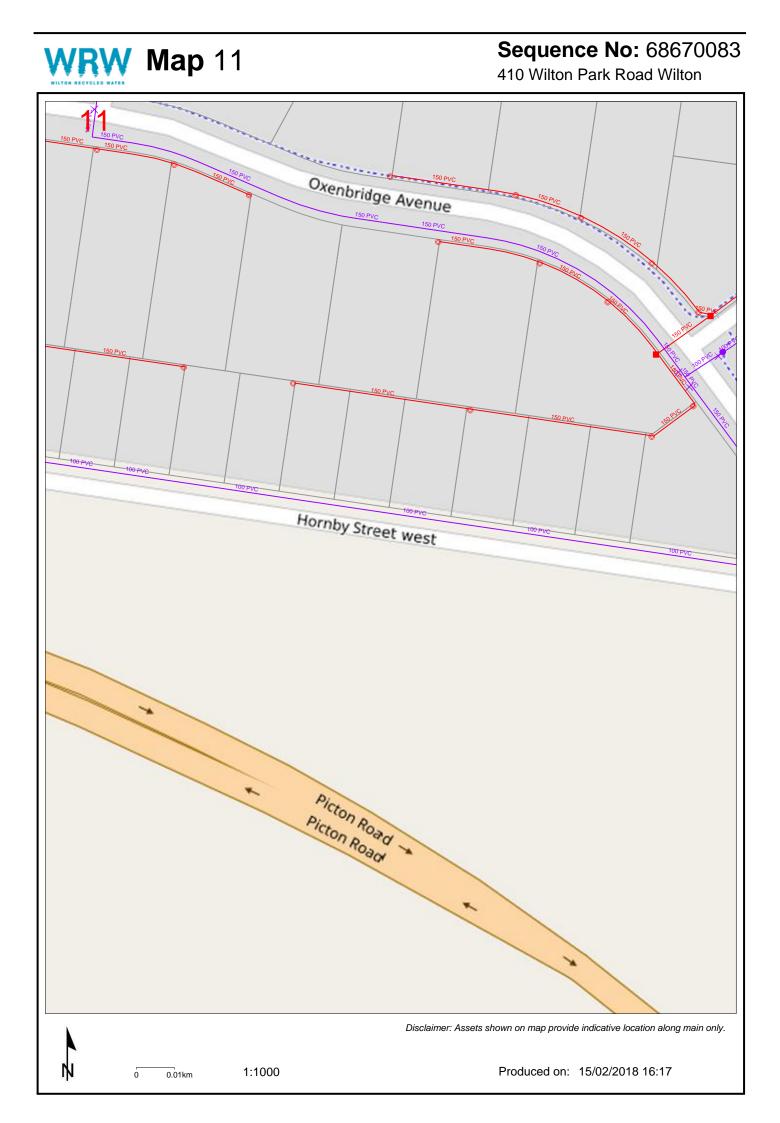
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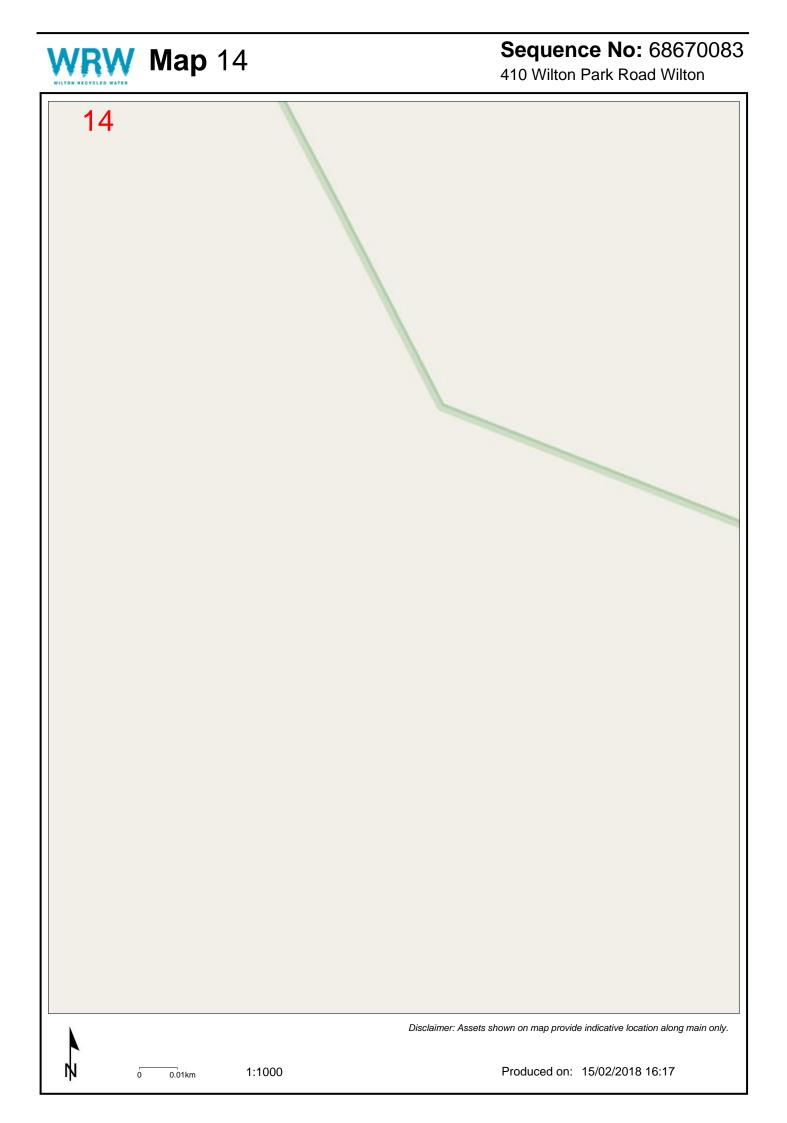
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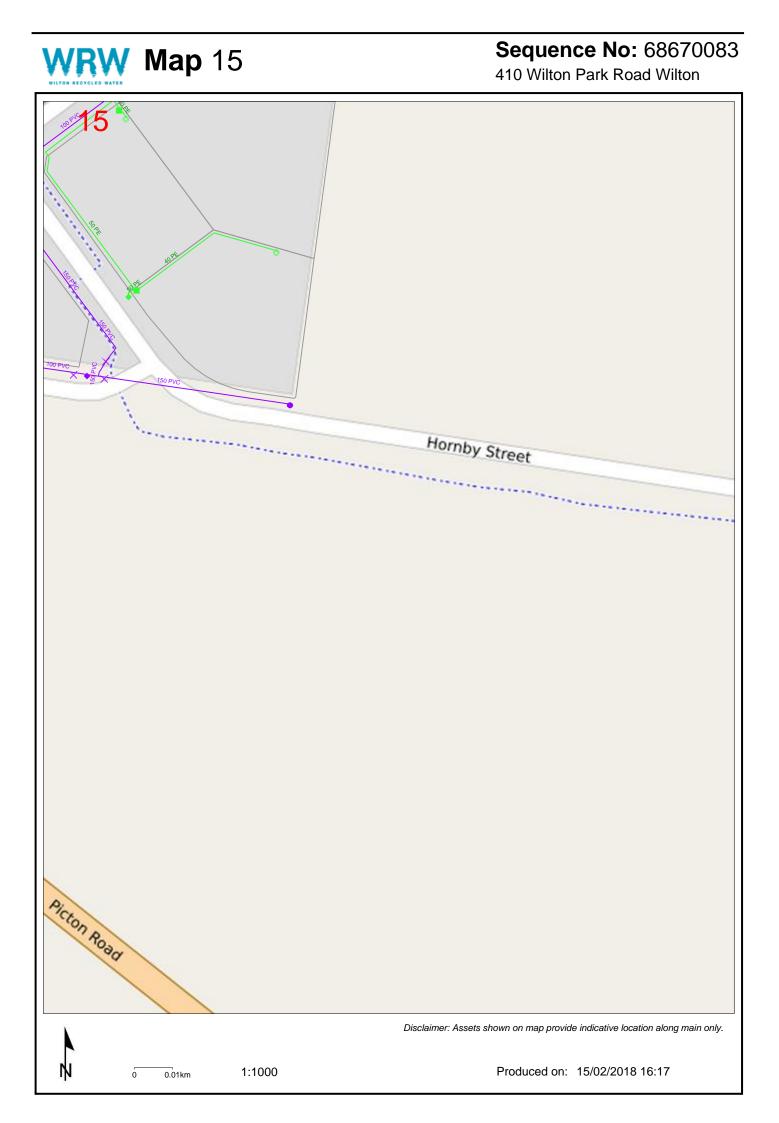
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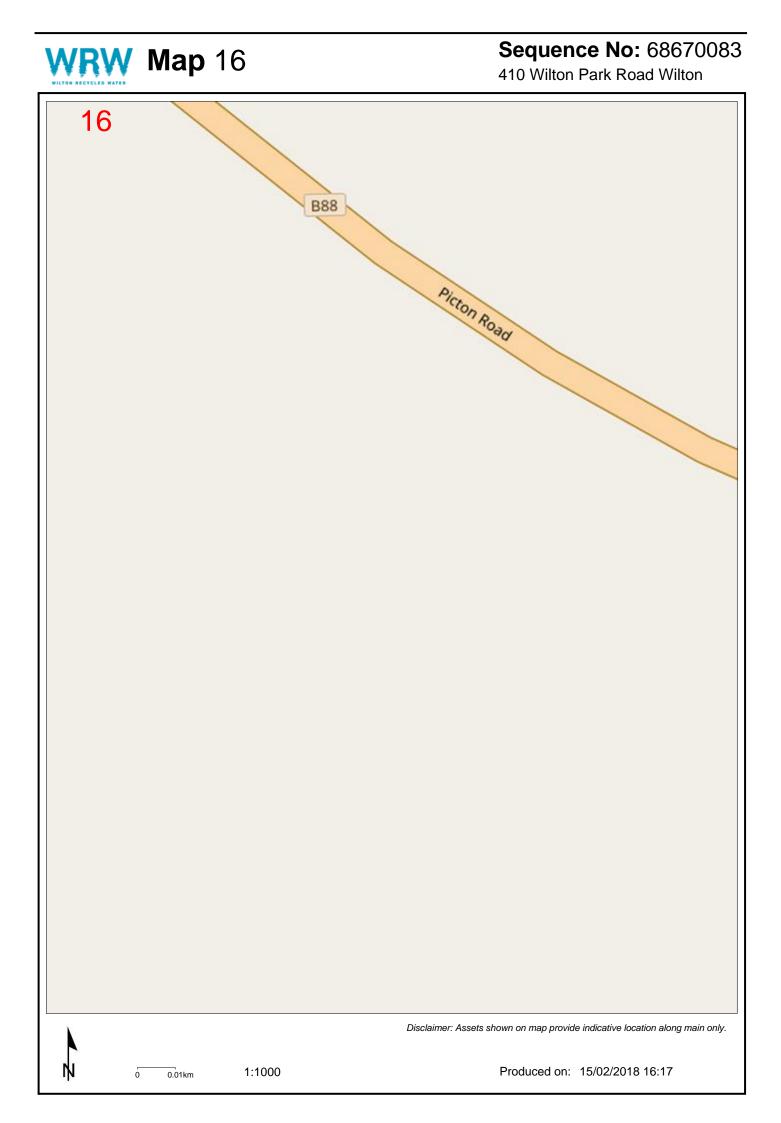
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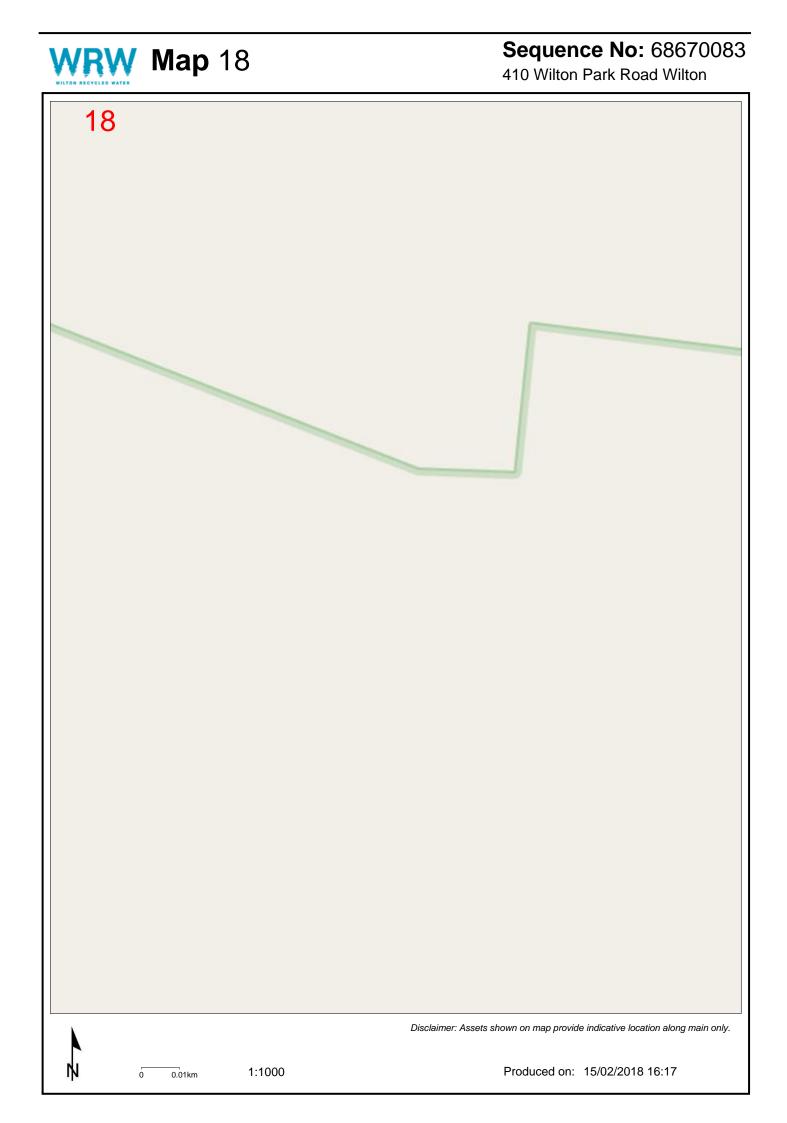
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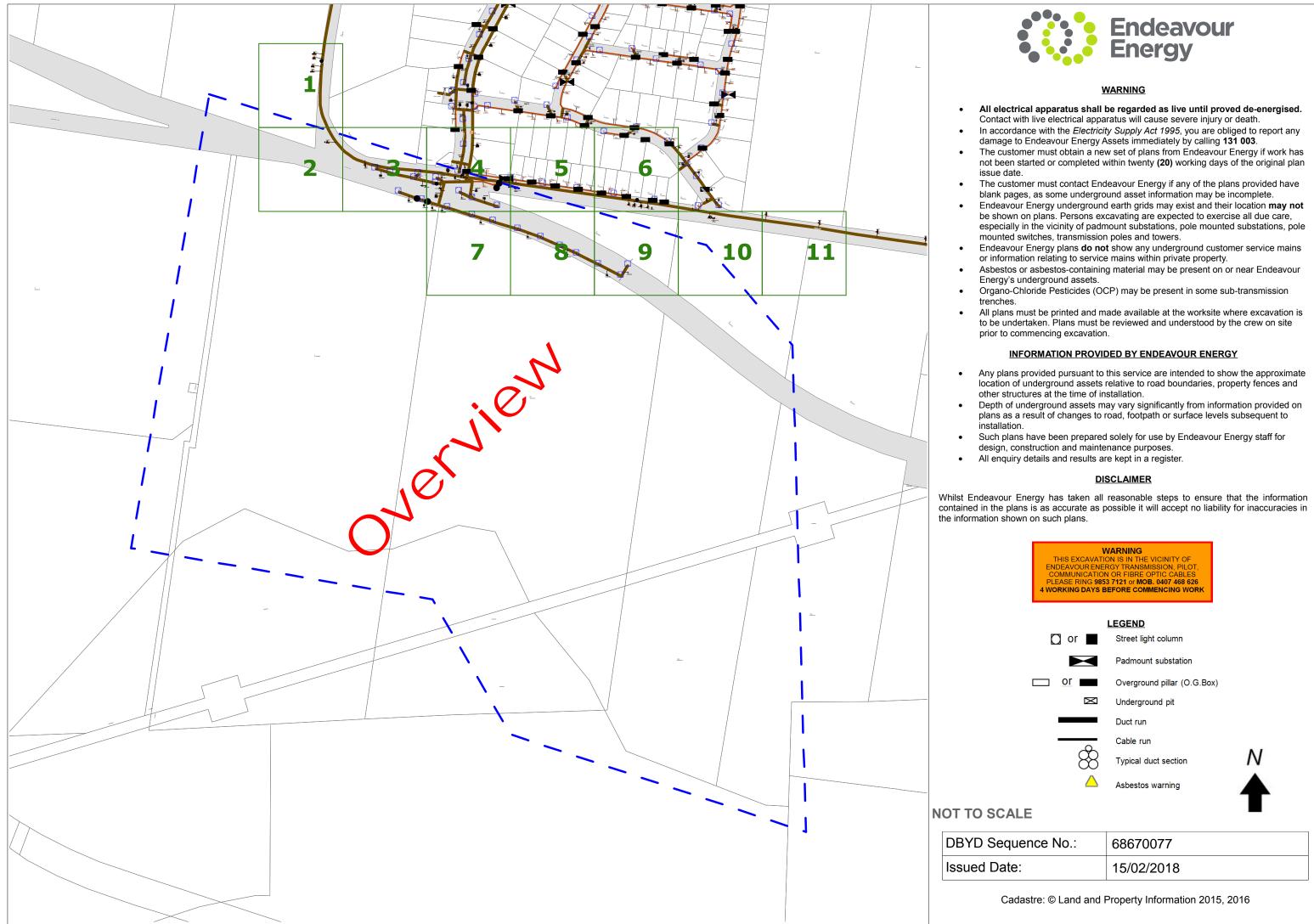
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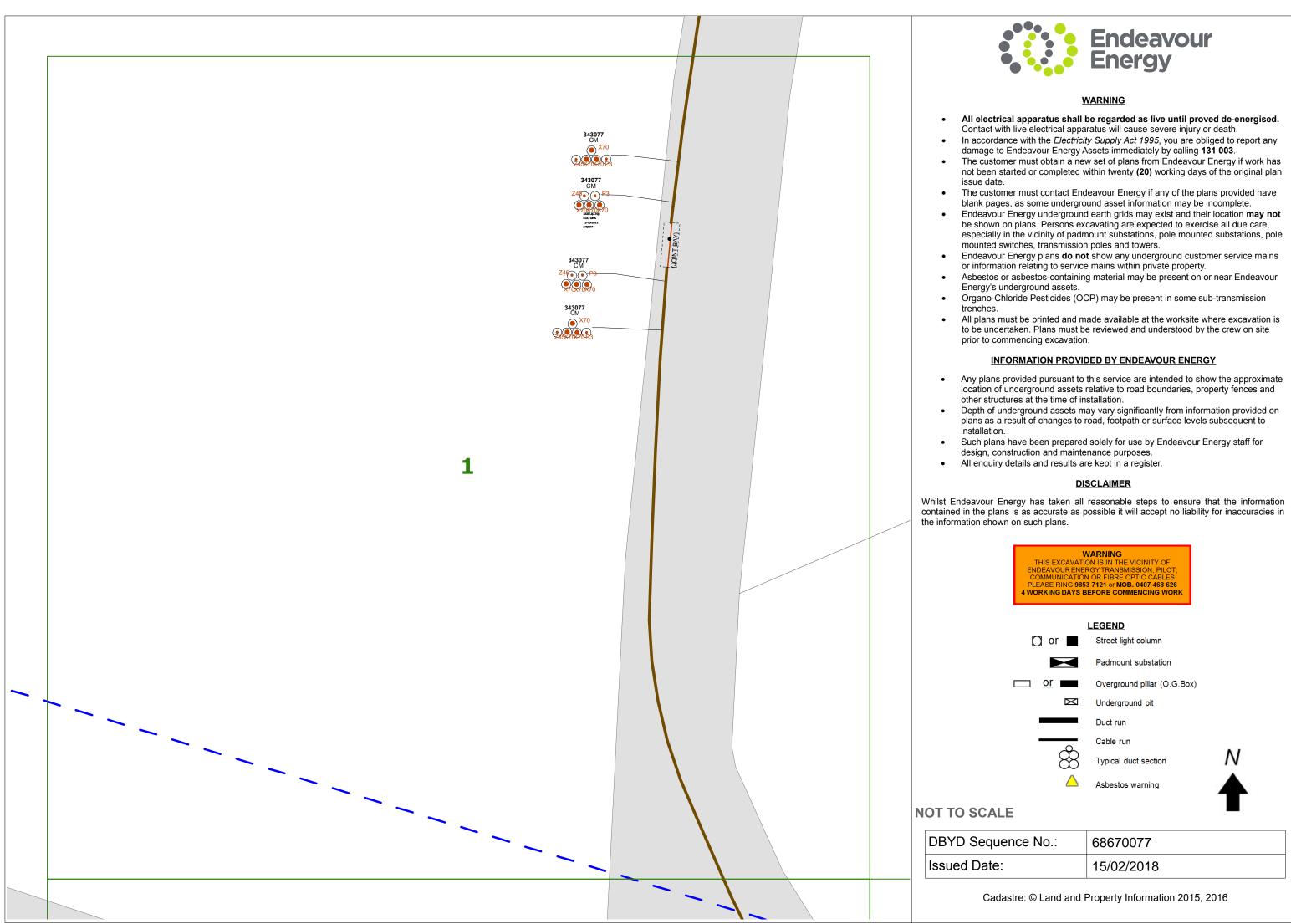


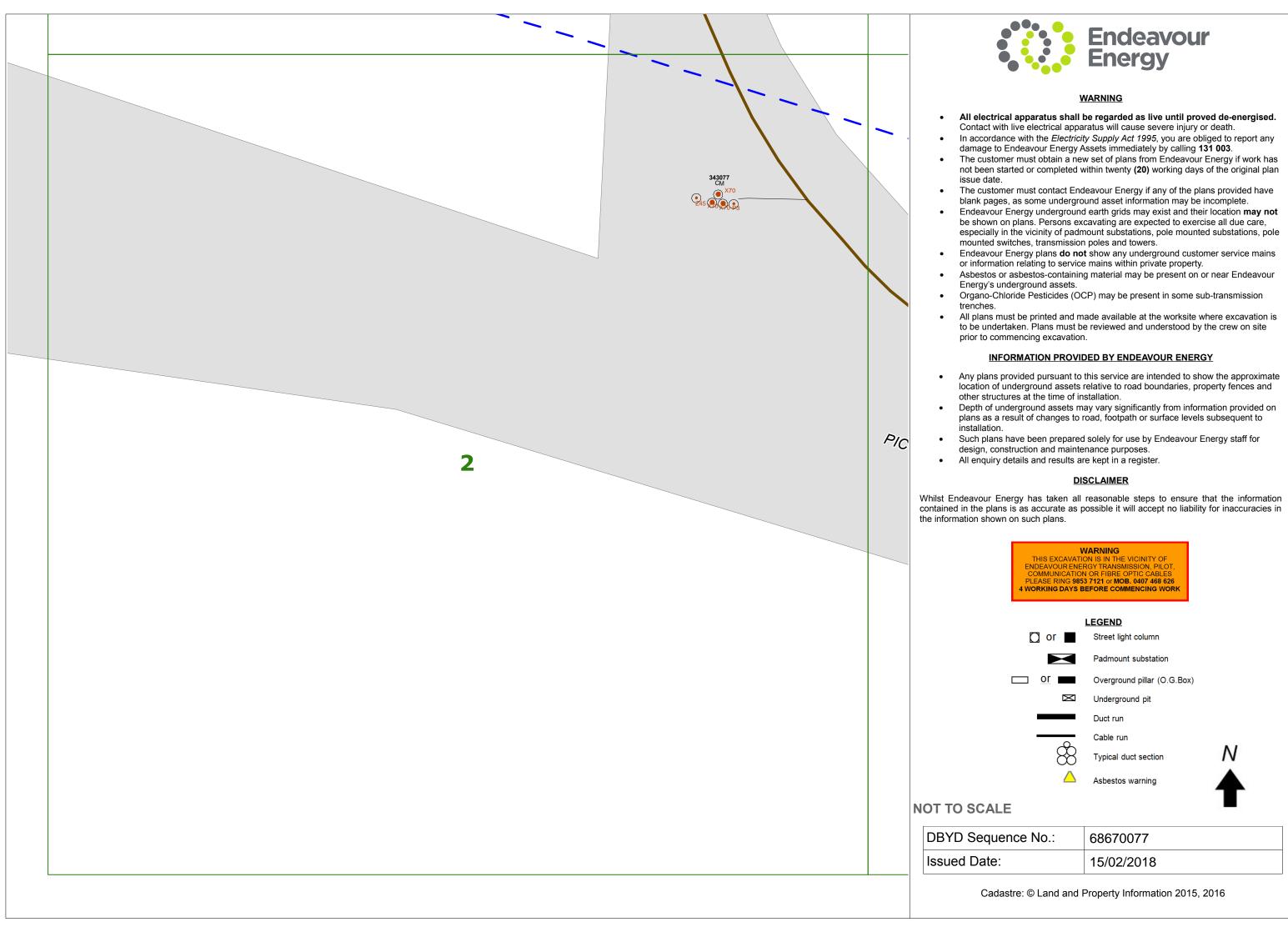
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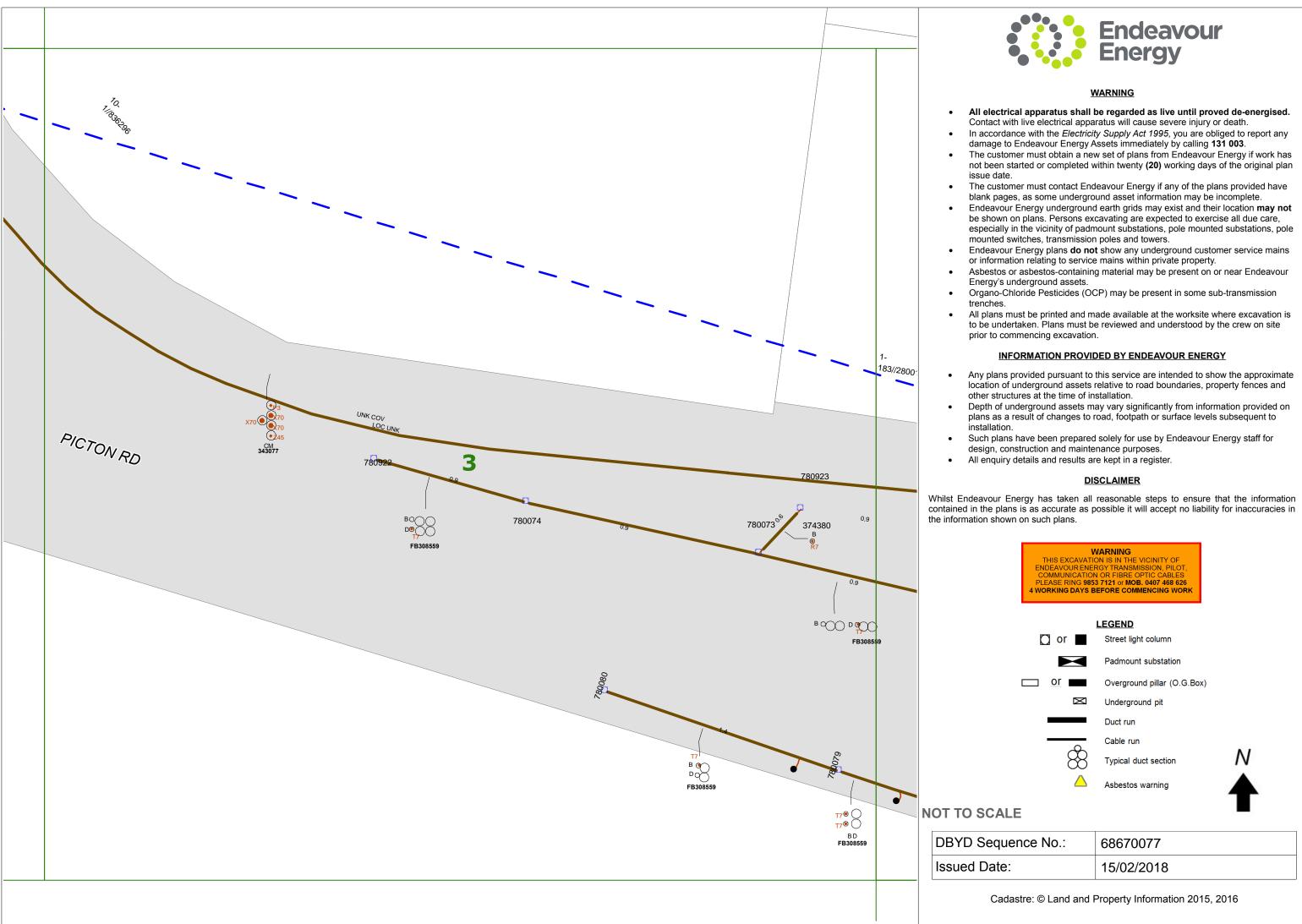
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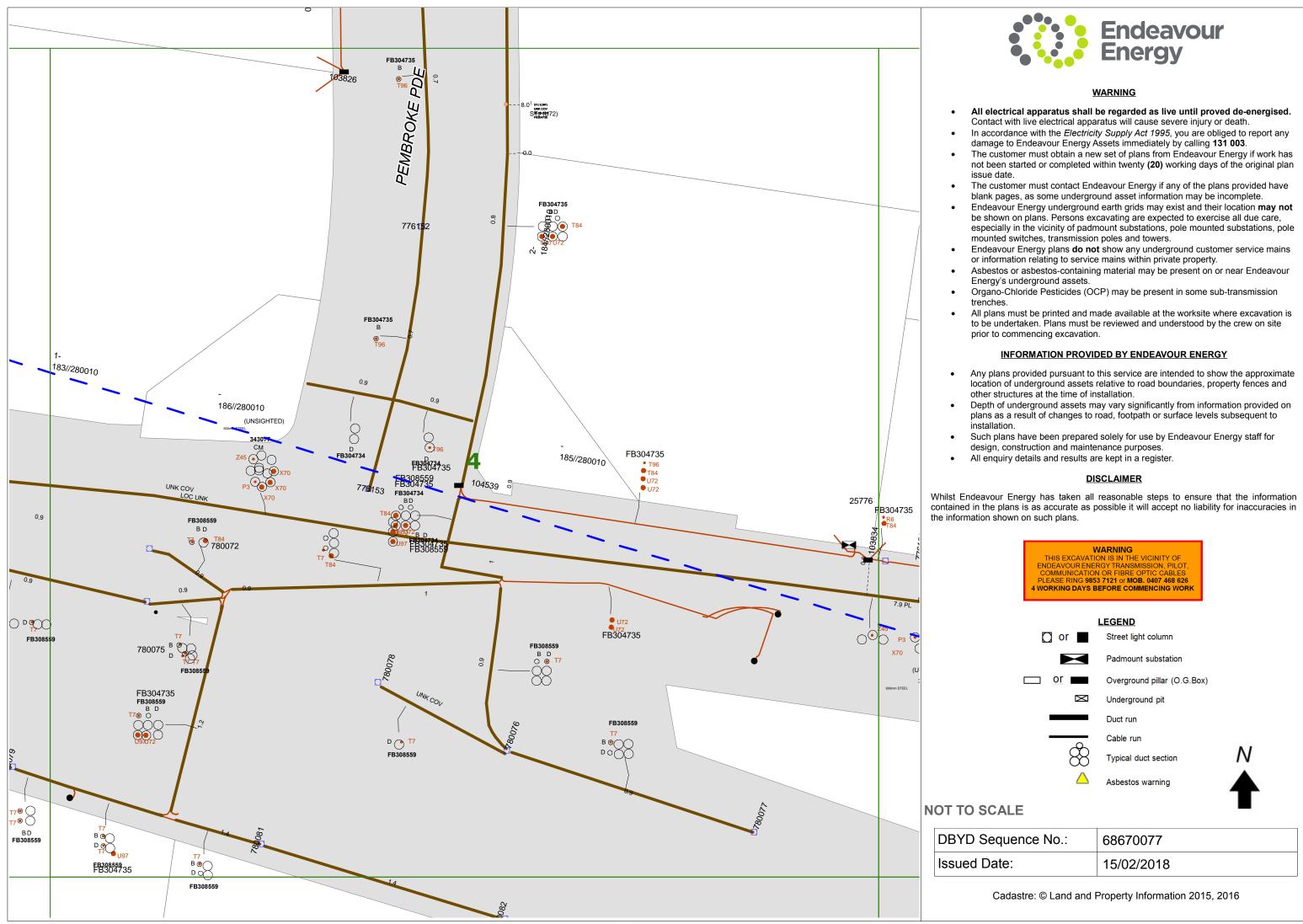


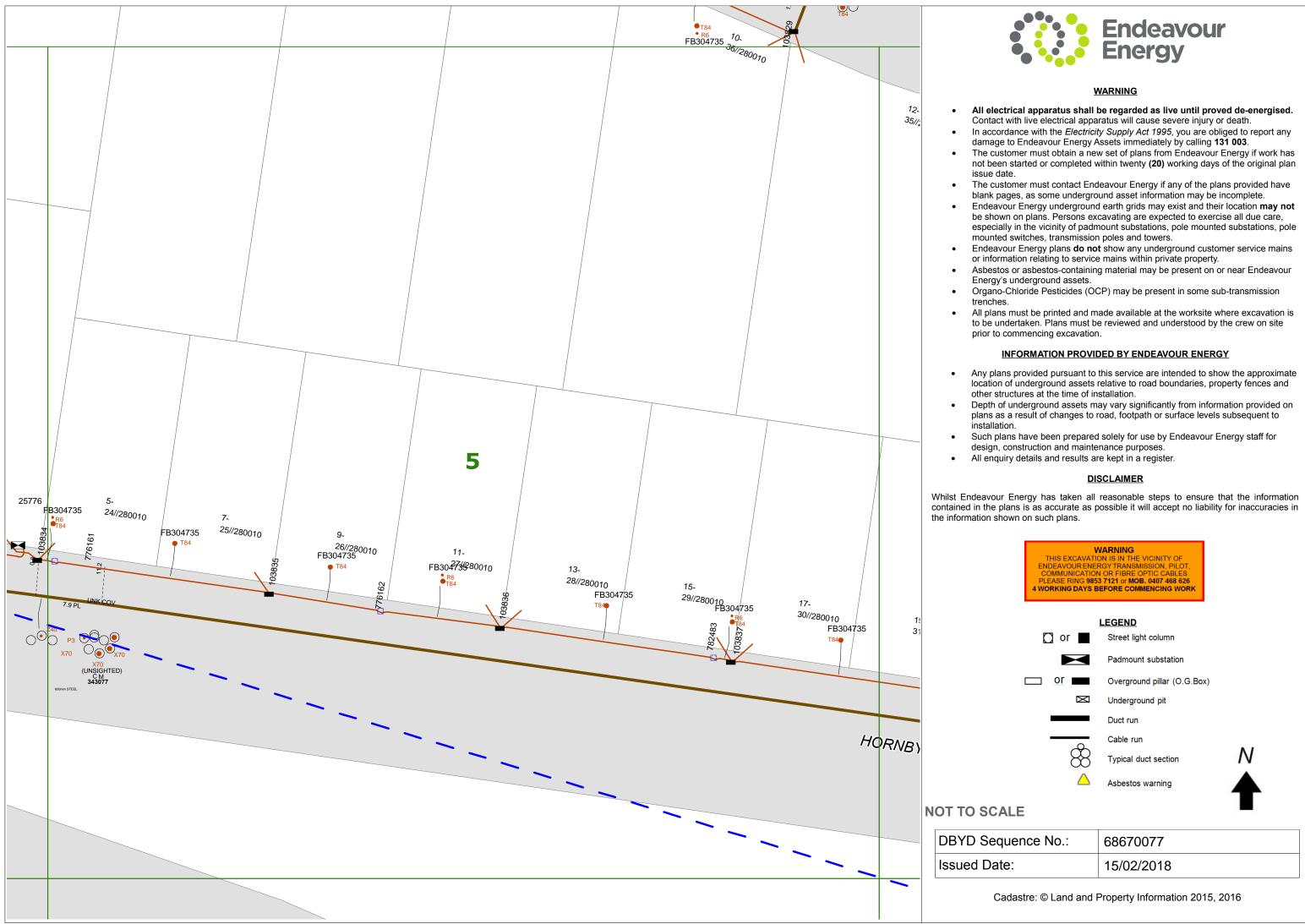


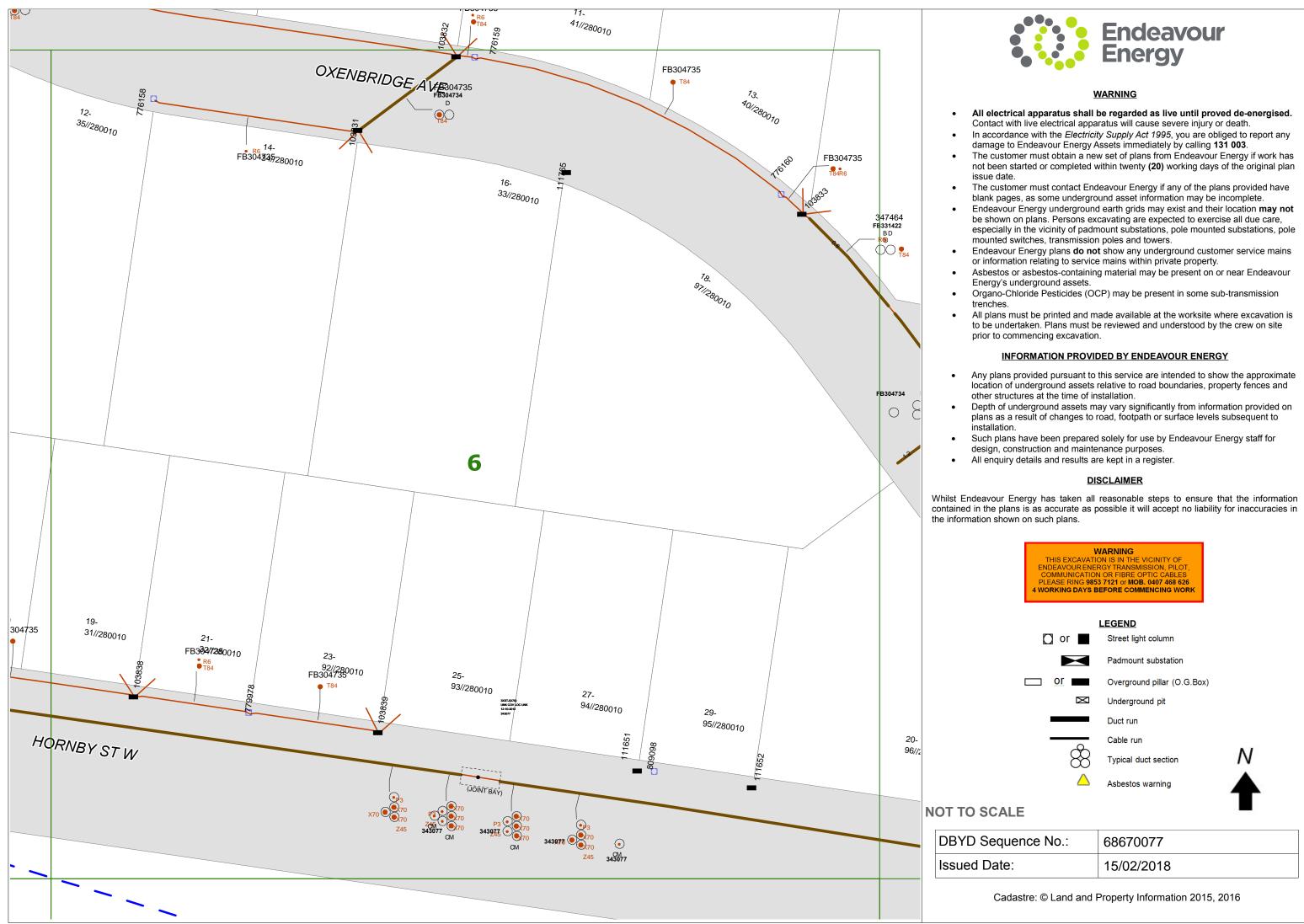


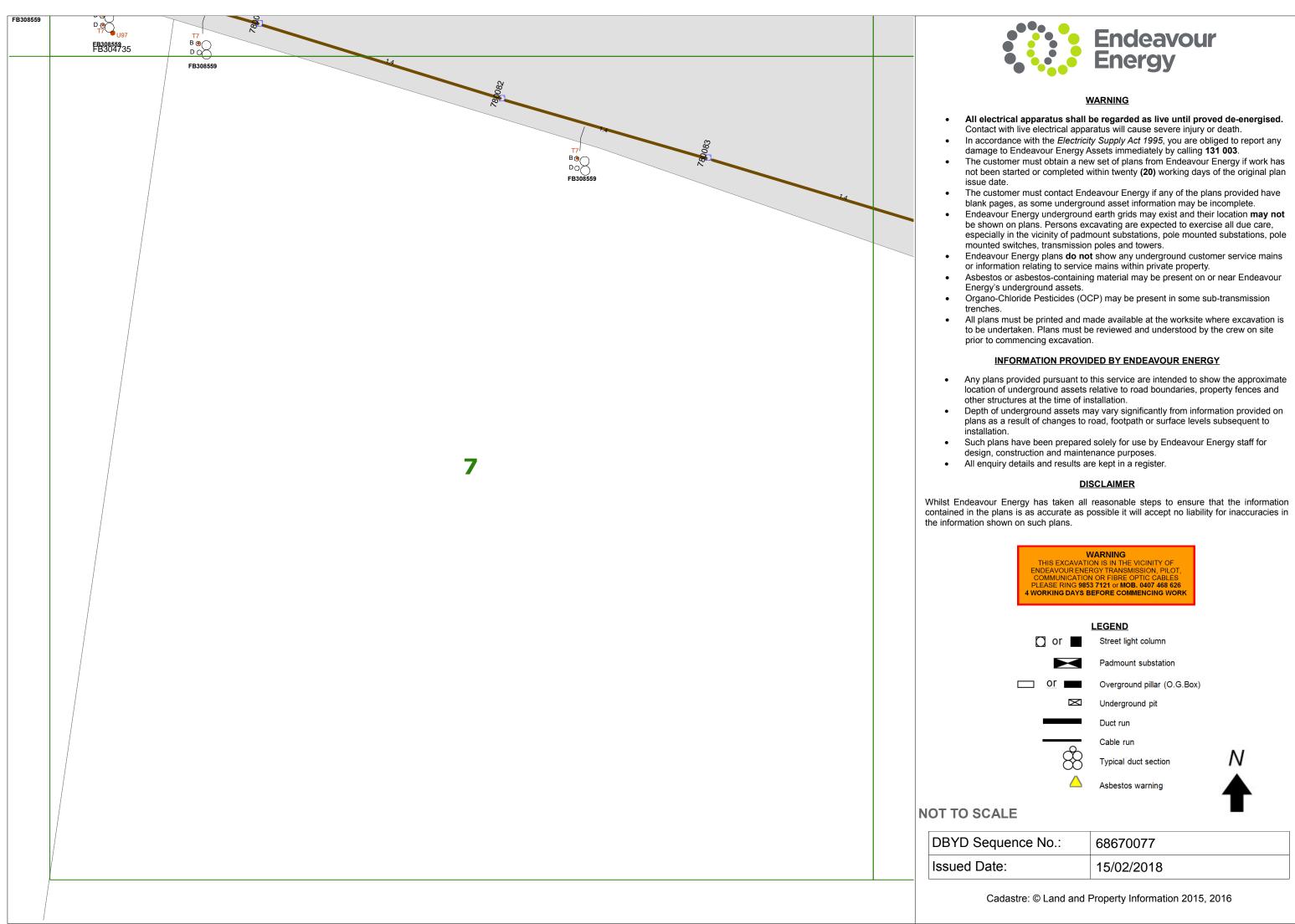


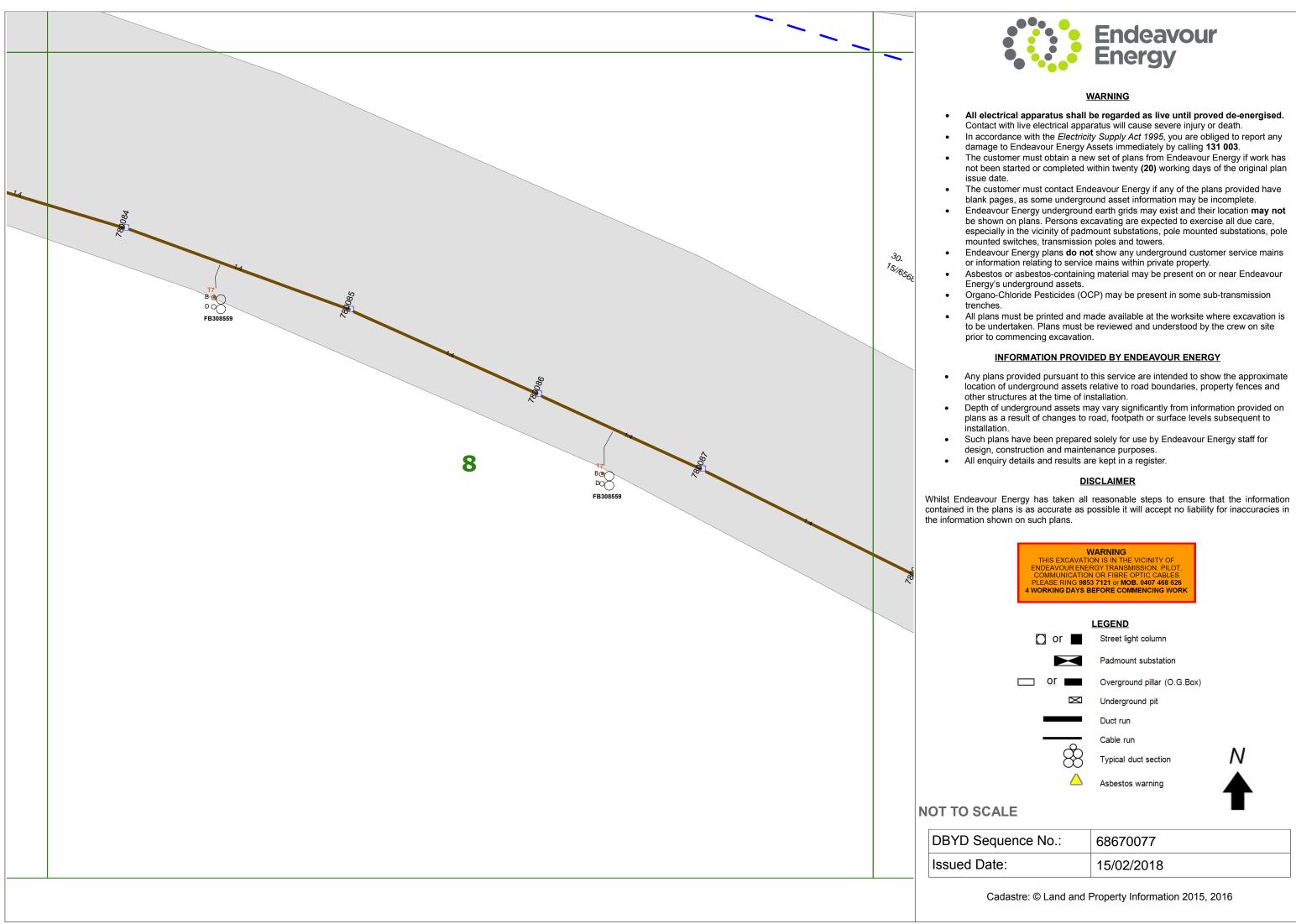


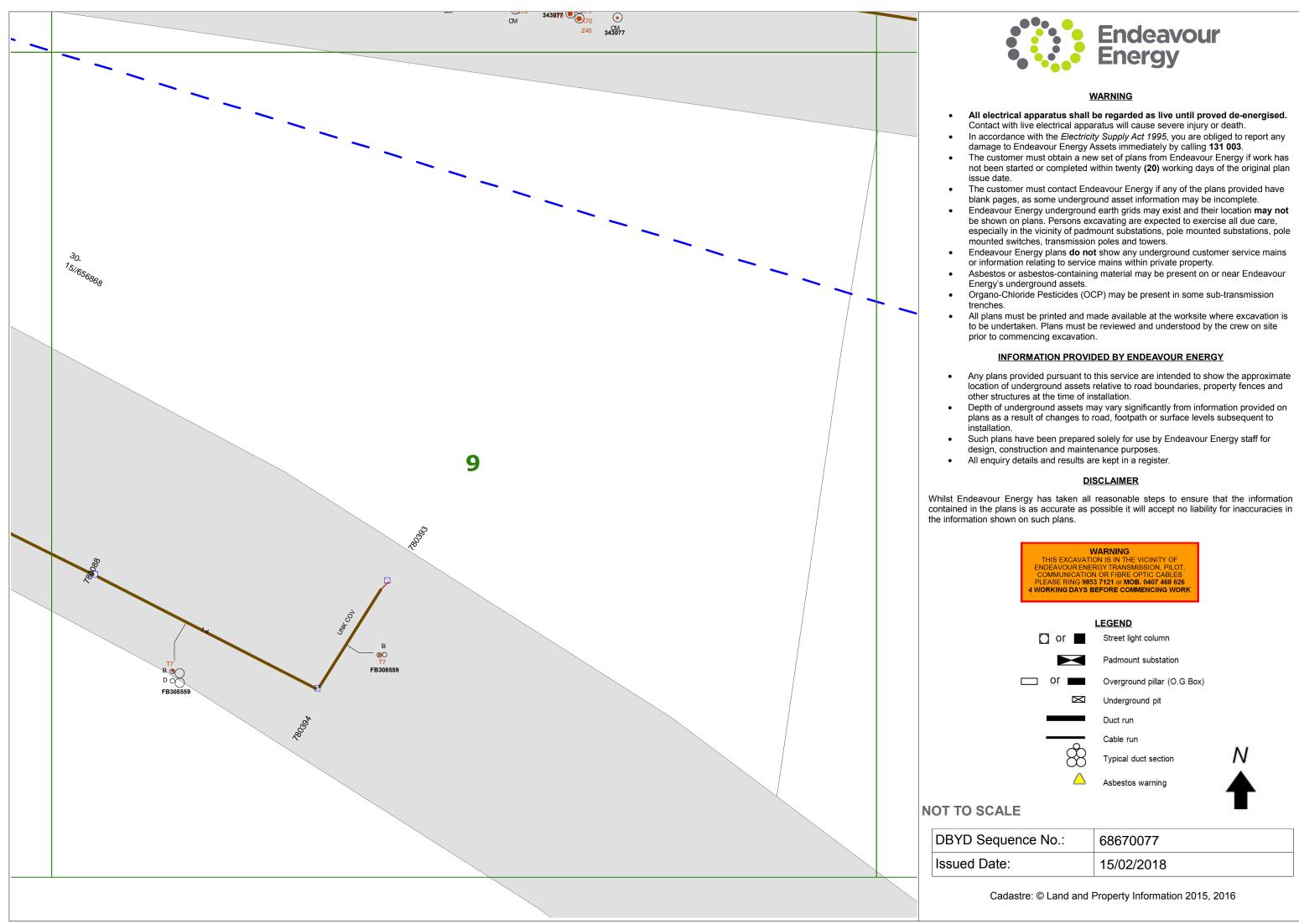


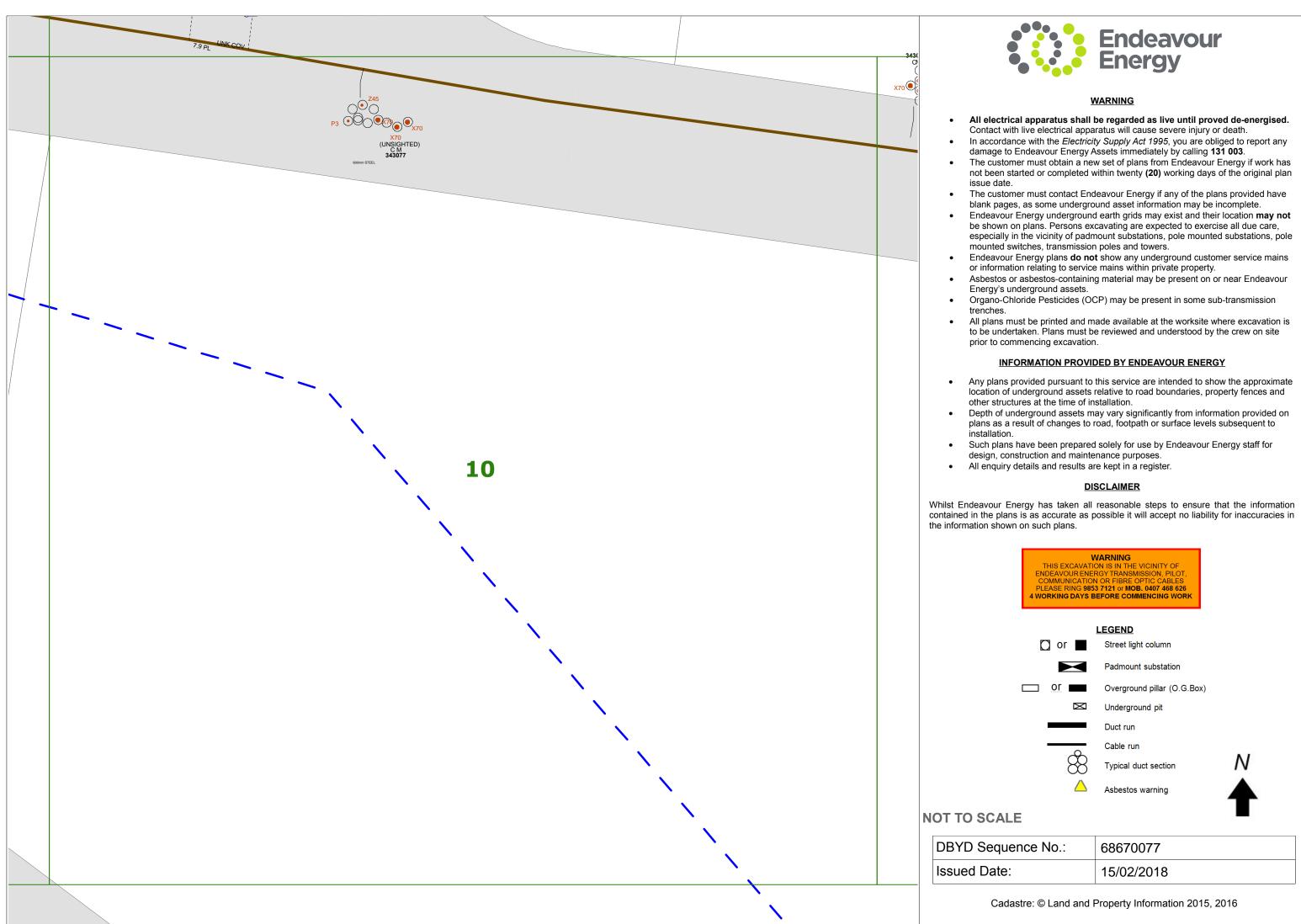


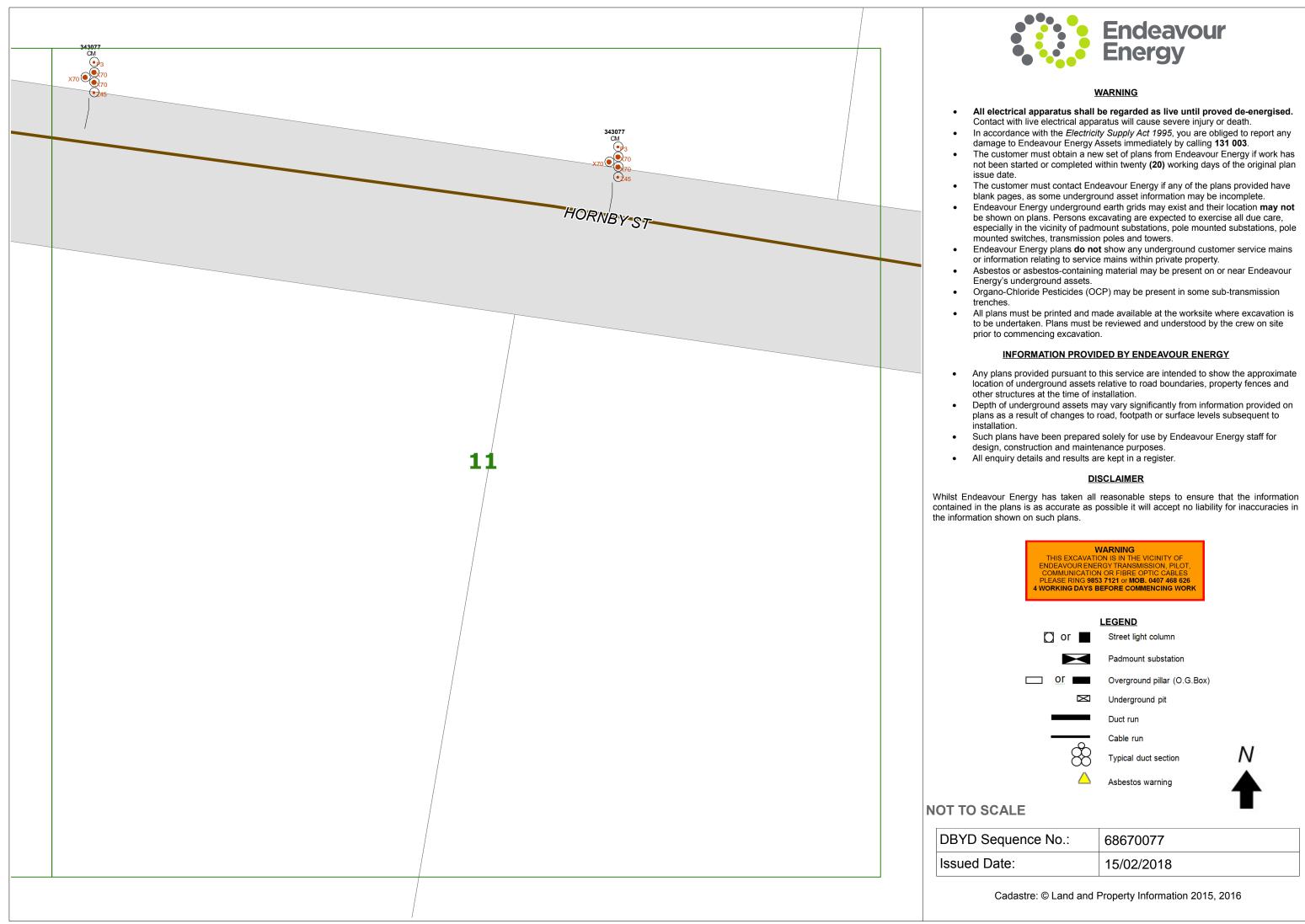




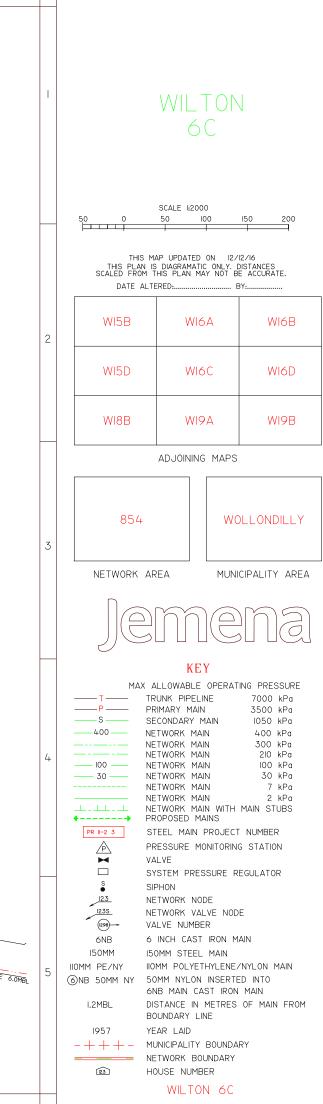
















<u>Please Note:</u> For some DBYD enquiries, you **might** receive <u>2 responses</u> from the APA Group. Please read both responses carefully as they will relate to different assets. It is your responsibility to action all requirements set out in APA Group responses.

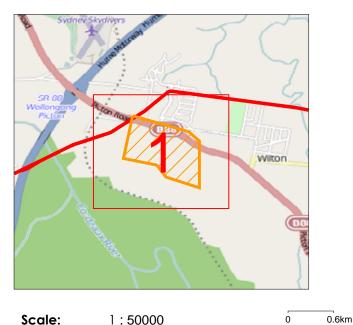


For your immediate information THERE IS AN APA GROUP HIGH PRESSURE GAS TRANSMISSION PIPELINE AND/OR ASSOCIATED INFRASTRUCTURE in the area of your proposed works. Please DO NOT proceed until the next steps below are completed.

Issued Date: 15/02/2018

From:

Infrastructure Protection Officer APA Group



	Phone:	1800 103 452
	Email:	APAProtection@apa.com.au
	Company:	BG&E
	Phone:	0297703300
	Email:	ada.zou@bgeeng.com
	RE:	DBYD Seq No: 68670080
	Validity:	This response is valid for 30 days from the Issued Date
	Utility ID:	70509
	Worksite Address:	410 Wilton Park Road Wilton
	Please Check:	Have you received 2 responses from APA? Refer to statement at top of page.
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💷 Next step:

Pease contact an APA Infrastructure Protection Officer immediately on **1800 103 452** (Mon-Fri 8.00am – 5.00pm AEST) to discuss the exact nature and extent of your works.

DO NOT ATTEMPT TO PHYSICALLY LOCATE THE PIPELINE. Although the route of the pipeline is marked out by warning signs it shall not be inferred that the pipe is buried under and in a straight line between signs. No depths on the pipeline should be assumed. Only an **APA Group representative** can locate the pipeline and is required to be scheduled for locations. APA Group also operates natural gas transmission pipelines on behalf of Australian Gas Networks.

Damage to a high pressure natural gas transmission pipeline could result in:-

- possible explosion and fire;
- possible injury or loss of life;
- substantial repair and gas restoration liability damage costs;
- ✤ gas escaping at pressures of up to 15,000 kPa; and
- loss of gas to thousands of customers.

Thank you for your interest in maintaining a safe and secure gas pipeline network.

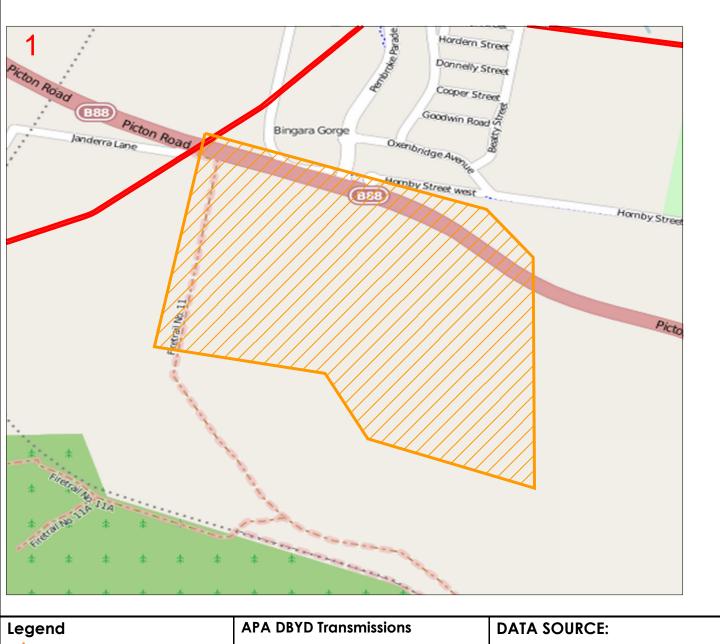
Please note that this is **not** an approval to carry out work within the APA Group pipeline easement.

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- N DBYD Requests
- N APA Group Pipelines
- N ☑ APA Group Associated Infrastructure

Scale: 1: 10000

Dial Before You Dig Enquiry DATE: 15/02/2018 SEQUENCE NO: 68670080

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Sydney Water Letter



30 November 2018

Our Ref: Case 175286

Andrew Golden Senior Development Assessment Planner Wollondilly Shire Council 62-64 Menangle St, Picton NSW 2571

RE: Proposed Development at 1000 Picton Road, WILTON - DA 010.2018.339.1

Dear Mr Golden,

Thank you for notifying Sydney Water of the development application listed above. We have reviewed the application and provide the following information to assist in your assessment of the proposal.

Sydney Water's Growth Servicing Plan 2017-22 includes the Wilton growth area and subject to options planning being completed confirms that water services can be provided to the Wilton South East Precinct.

Sydney Water completed strategic planning for servicing the Wilton growth area and began assessment to identify the preferred servicing options earlier this year. Once servicing option is completed later this year detailed design and delivery will be undertaken by the landholders entering into a Commercial Agreement under Sydney Water's Precinct Acceleration Protocol Funding Guidelines.

We expect to complete options planning by the end of 2018. This will identify what assets are needed and when, and identify how to get services to and from the development in the short to medium term. Following options planning, concept design and detailed design of the preferred option will need to be completed. The proponents will then be required to deliver infrastructure to their development. Further information about drinking water, wastewater and recycled water for the proposal is included below.

Drinking Water

• Our servicing investigation indicates that the trunk drinking water system has adequate capacity to accommodate the proposed development. This will be confirmed at the end of our options planning study.



Wastewater

- There is currently no available wastewater service for the proposed development site.
- Interim servicing options to cater for this proposal are being developed as a part of our options planning study.

Recycled Water

• There are currently no services facilitating recycled water. Options planning will determine whether recycled water will become feasible at this location.

If you require any further information, please contact David Demer of the Growth Planning and Development team via <u>david.demer@sydneywater.com.au</u>

Yours sincere

Fernando Ortega A/ Manager, Growth Planning and Development

APPENDIX C

Endeavour Energy Technical Review



22 August 2016

Endeavour Energy Ref: ENL2671 - 2016/03717/001

Walker Corporation Pty Ltd PO Box 4073 SYDNEY NSW 2001

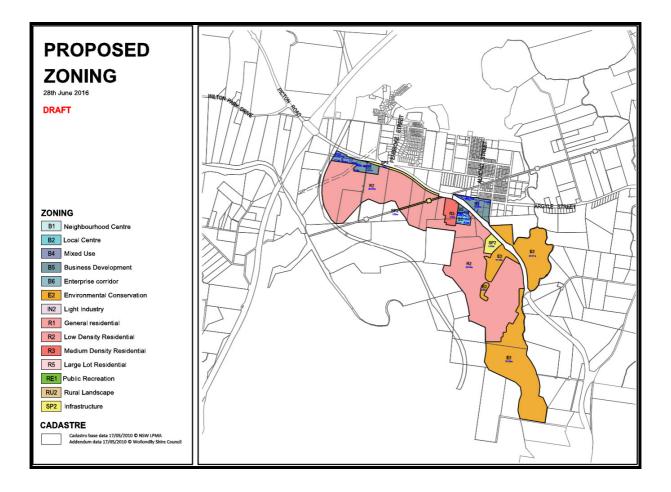
Attention: Stuart Gander

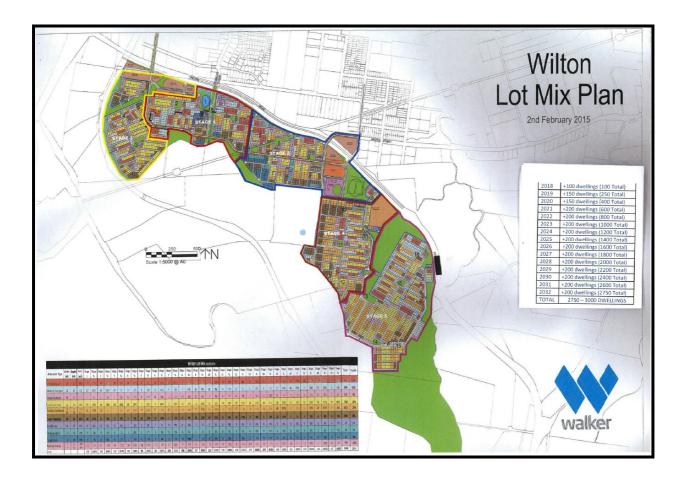
ENL2671 – Supply Enquiry | Wilton Junction Development, 990 Picton Road, WILTON

Dear Stuart,

Thank you for your enquiry regarding the proposed Wilton Junction Development at the above address. This enquiry has been registered under our reference numbers – ENL2671. Please quote this number for all future correspondence.

Endeavour Energy acknowledges that proposed development will yield approximately 2,750 to 3000 residential lots, local centre (B2) and business areas (B5) via from 2018 to 2032.





Remarks:

ZONE	DEVELOPABLE AREA (HECTARES)		
B2	2.58		
B5 EAST	9.63		
B5 WEST	9.06		

Supply Arrangements

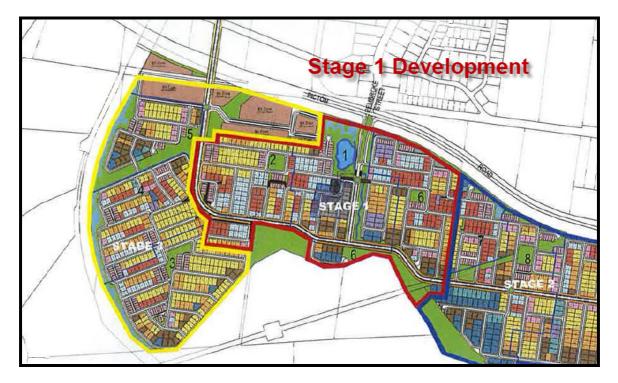
Preliminary analysis indicates that at present nearby Wilton ZS locates in Condell Park Road may have sufficient capacity to cater the required load of proposed Wilton Junction Development. It is foreseeing that four (4) new 11kV feeders will be required to be installing from Wilton ZS to the development site in order to supply the residential, commercial areas, the sewage treatment plant and the school site.

The electrical reticulation to these areas will be in accordance with Endeavour Energy's polices, codes and standards applying at that time.

Initial Stage 1 Supply Arrangements

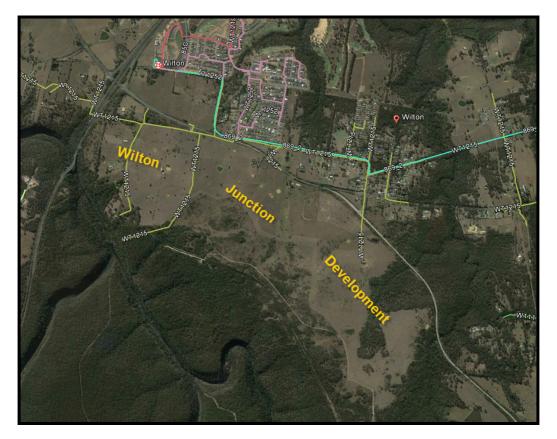
Initially Stage 1 development comprising of sub-stages 1, 2 and 6 with totally 533 lots will be firstly commenced.

Endeavour Energy determines that Stage 1 Development with a total of 533 lots can be supplied from the existing Condell Park Road 11kV feeder, WT1215, ex Wilton ZS.



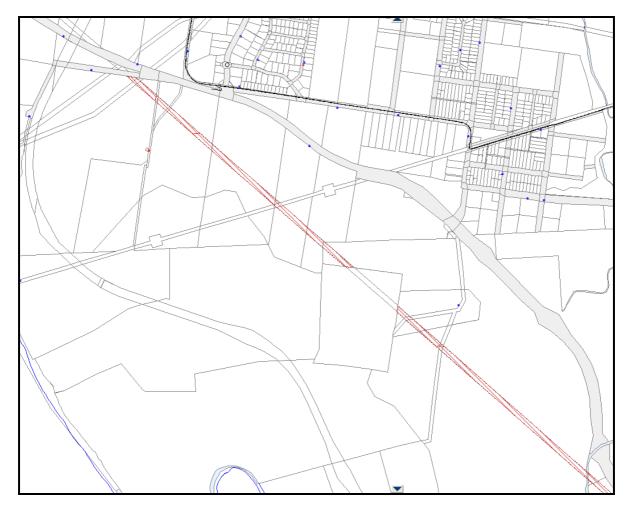
The requirements are:

- The ring-main distribution substations must tied back onto the Condell Park Road 11kV feeder, WT1215, to provide an alternate supply (no radial connections).
- The initial 11kV network will be configured to meet the ultimate 11kV configuration for the total Wilton development.
- When the Stage 1 Development is completed, a new 11kV feeder or feeders will be established to provide electrical supply to the Wilton development.



Release of Transmission Easement

Endeavour Energy confirms that the existing un-used transmission easement across the Wilton Junction development site cannot be released because it must be maintained for possible future transmission lines development.



In order to program this connection, I recommend you to submit an application for Connection of Load and engage the services of a Level 3 ASP to prepare and provide an electrical design to Endeavour Energy in the form of a Proposed Metho of Supply. This activity is customer funded contestable work and you will need to pay for it.

Hope this assists for the meantime and this advice provided is in response to an enquiry only and does not constitute a formal method of supply. An application must be submitted and subsequent designs have been certified or approvals granted will Endeavour Energy reserve capacity on the network.

Should you have any questions regarding this response to your request for technical review, please contact me.

Yours faithfully,

David HD

 David Ho

 Contestable Works Project Manager | Network Connections

 a Direct: (02) 9853 7901 |
 Fax: (02) 9853 7925
 Email: david.ho@endeavourenergy.com.au

APPENDIX D

APA Letter



20 January 2017

APA Ref: 170120_LO_WSEP Your Reference: 16/12618

Gina Metcalfe Senior Project Manager Land Release Department of Planning & Environment GPO Box 39 SYDNEY 2001

By email to: gina.metcalfe@planning.nsw.gov.au

Dear Ms. Metcalfe,

Re: Proposed rezoning of Wilton South East Precinct

Thank you for referring the Wilton South East Precinct planning proposal to APA Group (herein APA] for comment in relation to APA assets identified below and the proposed rezoning of the land for urban development purposes.

APA Group is Australia's largest natural gas infrastructure business with gas transmission pipelines spanning across Australia, delivering approximately half of the nation's gas requirements.

APA has two pipelines located within the Study Area:

Pipeline	Pipeline Licence	Easement Width (m)	Diameter (mm)	Measurement Length (m)			
Moomba – Sydney (ethane)	NSW PL 15	24.385	219.1	590			
Moomba-Wilton (natural gas)	NSW PL 16	24.385	864	665			
Note: measurement length is applied to either side of the pipeline.							

Table 1: Transmission gas pipelines in the area of consideration

APA's role

When considering land use and development proximate to High Pressure Gas Transmission Pipelines (HPGTP's) and associated infrastructure, APA must consider safety as a key priority.

APA has a number of responsibilities and duties to perform under a complex framework of legislation, standards and controls across Federal, State and Local Government landscapes. In discharging these duties, APA needs to regularly review what is happening around its assets, what land use changes are occurring within the pipeline's Measurement Length (ML) and what development is taking place to ensure it remains in a positon to comply with applicable operational and safety standards and legislation whilst meeting its commercial obligations and imperatives. The 'Measurement Length' is explained below.

In addition to the macro level perspective, APA needs to ensure that future land use and development patterns do not inadvertently (or intentionally) erode, reduce or extinguish the current controls and contractual rights and obligations commercially obtained by APA though easement agreements within which pipelines and associated infrastructure are located.

Fundamental APA Mandated Responsibilities

The development and management of the HPGTP network is largely governed by Australian Standard 2885. Without going into detail this framework requires, amongst numerous other obligations, that APA undertake the following:

- A Safety Management Study based on the urban outcomes planned around the pipeline and within the ML;
- Achieve and maintain constant 'line of sight' along the pipeline easement;
- Place templated warning signs at various mandated points including at any change in property description/property boundary;
- Undertake physical patrols of the easement;
- Ensure the easement is maintained free of inappropriate vegetation and structures.

The Measurement Length

In managing HPGTPs and considering land use changes APA must focus on that area geographically defined by the ML. The ML area is essentially the area within which APA is mandated to consider community safety in the event the pipe is impacted in some way and we have a loss of pipeline containment. The ML is the area of safety consequence should a full bore rupture occur. The ML is determined taking account a number of factors including:

- The design criteria of the pipe (driven by the environment within which it was designed for at the time of construction);
- The Maximum Allowable Operating Pressure (MAOP) of the pipe; and
- The depth of the pipe.

Australian Standard 2885 (AS2885) for Pipelines – Gas and Liquid Petroleum requires APA to consider community and operational safety aspects in the event of a change in land use or significant increase in population density within the ML of the pipeline. This consideration is typically undertaken through a Safety Management Study (SMS). Where required, we strongly recommend that Council, the proponent and APA coordinate to undertake an SMS early in the process so that future land use and construction within the ML can be undertaken taking account of any identified safety considerations and in compliance with AS2885 and its enabling legislation.

Roads over easements

We would like to take this opportunity to express to all parties that APA will, in general, no longer accept roads over (read along) our easements as a matter of principle for the following reasons:

- APA easement gets extinguished and therefore APA loses all the attached contractual rights for no benefit;
- There is no agreed mechanism in the place with Councils to provide for the maintenance of APA's easement rights within road reserves in the absence of the easement;
- APA will need Council approval to access the asset in the future or to undertake any duplication/augmentation;
- Additional cost of accessing the asset and making good when in a road reserve;
- Community disruption in having to close a road when accessing infrastructure;
- The number of 3rd parties that also utilise road reserves (water, power etc) and the additional extent of works over, under and around the high pressure gas transmission pipeline;
- The removal of the easement leaves APA to rely on legislation to provide rights to access the pipeline which is a significantly reduced area than currently provided for by easement;
- Access aside, the loss of easement puts future works such as pipeline duplication at significant risk as APA no longer has legal rights to the land in which such works would take place.

All the above significantly increases the risk profile of the pipeline, adds avoidable complexity to APA's compliance requirements under pipeline related legislation and standards and unnecessarily jeopardises APA's future ability to continue to meet increasing community demand for gas.

For all the above reasons, APA will seek that urban development, particularly roads running along the easement, be located outside the easement.

In addition to the above, where roads are required to cross an existing APA easement (perpendicular), we will consent in principal (subject to detailed assessment) on the basis that Council enters into agreement with APA to maintain our legal/commercially obtained easement rights in the area covered by the road.

Referral Response

APA acknowledges that a high level risk assessment has been undertaken in relation to this project and this process identified the following:

- No development can occur within the 40 metre pipeline corridor;
- The change in land use classification (pursuant to AS 2885) from Rural to Residential (R1 to T1 class) will trigger the requirement for a SMS to be undertaken;
- That sensitive uses will need to be located away from the pipelines;

• The Indicative Layout Plan (Rev B dated 19th July 2016) depicts the pipeline corridor largely ensconced in linear open space.

Given the extent of previous work undertaken and, in particular, the risk assessment and the acknowledgement of certain constraints on urban land use and development around APA assets, APA has **no objection in principal** to the rezoning of the subject land to facilitate development generally in accordance with the indicative layout plan submitted, subject to the following comments, observations and recommendations provided under the following headings:

- Further information required
- Comments
- Initial recommended conditions
- Initial recommended notes

Further Information required:

The Planning Proposal report states that an SMS will need to be submitted at subdivision stage. APA requests that this SMS be undertaken prior to the lodgement of any subdivision application given by the time subdivision details have been considered by the applicant and formulated into a detailed planning application, the fundamental role of the SMS in considering land use outcomes within the pipeline ML will be eroded or rendered redundant. By the time a subdivision application is submitted, land use considerations and urban layouts will be considered largely resolved by the applicant which will make any land use changes more difficult to achieve in an urban design sense and avoidably frustrating procedurally.

The Planning Proposal acknowledges sensitive uses need to be kept away from the pipeline. In more specific terms, these pipelines have a Measurement Length of 590 metres and 665 metres respectively. Sensitive uses specifically need to be kept clear of this area. The SMS process can only be effective if it is conducted at land use consideration stage, not once land use decisions have been made (by the applicant at least) and reflected in a pattern of subdivision for which a planning approval is being sought.

For the above reasons APA requests that an SMS process be conducted based on the indicative layout plan and the land uses depicted therein and prior to lodgement of any detailed subdivision applications.

Clause 55 'Development adjacent to corridor' in Division 9 of SEPP (Infrastructure) 2007 states that risks associated with development adjacent to the gas pipeline corridor needs to be assessed and those risks included in determining considerations prior to determining an application for development. Again, it is APA's view that this can only be done through the SMS process and for that process to be effective, it needs to be undertaken prior to lodgement of planning applications.

Comments

- APA acknowledges and accepts in principle the locating of its assets in linear open space.
- APA is concerned with the use of the easement itself for Active Open Space purposes. APA does accept its easements being located adjacent to land to be

used for Active Open Space purposes (subject to safe design outcomes) but not for the easement itself to be used for this purpose. The area identified in the Indicative Layout Plan as being for Active Open Space purposes and located over the easement should be removed from easement. The easement needs to be consistently within land identified for Passive Open Space.

Note: This is an item that would likely be picked up in an SMS process. It is for reasons like this that the SMS needs to be undertaken prior to locking in a pattern of land use and subdivision.

- APA accepts that roads crossing the easement will occur and will do so at greater frequency in urban areas. It is acknowledged that the Indicative Layout Plan has minimised the number road crossing points over the easement.
- APA would prefer that roads, and any other infrastructure, cross the easement at 90 degrees. Oblique road crossings, two of which are proposed, does increase the risk to the pipeline primarily as it is human intuition to believe that the pipe crosses the road at 90 degrees and with oblique crossings this is not the case increasing the potential for the pipelines to be inadvertently struck during any construction/maintenance works. Whilst not ideal, this can potentially be managed with additional protection measures (side slabbing of the pipe in addition to top slabbing) and such measures have additional cost implications.
- Where the pipeline is located under the roadway APA will take the opportunity of
 inspecting the pipelines with respect of the condition of the pipeline coating and
 condition of any joins. Should recoating and any other maintenance works be
 required to the pipeline prior to it being located in a road environment, APA will
 undertake these works at the cost of the developer.
- Where the pipeline is located under the roadway the final finished surfaces must be at least 1.2m minimum above the top of pipe. If slabbing is not considered the most effective protection measure a weight supporting structure type protection may need to be considered to ensure no additional stresses are transferred to the pipes
- Pursuant to AS2885 and API RP1102 road design calculations are to be performed by the Developer to APA's satisfaction. This may include external (independent) engineering consultants to review at the cost of the developer.
- The Indicative Layout Plan identifies Medium Density Residential land use abutting the easement. Given the location of the two sites, it is assumed this is envisaged for rear loaded housing product with direct access to the easement area. This is acceptable in principle but we note from experience that, depending on Council and Australia Post procedures, this may necessitate a footpath to the 'front' (within the APA easement) of the dwellings and a carriageway easement. It would be best to avoid this outcome with any footpath provided external to the easement. If this is not reasonably avoidable, this outcome entails an 'easement on easement' scenario and any such easement agreement will need to be reviewed by APA to ensure it does not adversely impact on APA's ability to freely act upon the rights and benefits of our current easement agreements.
- Whilst considered highly unlikely in this project proximate to the pipeline, a high density residential land use outcome is encouraged to locate outside the ML.

APA considers dwelling yields in excess of 30 dwellings per hectare constitutes high density for this purpose.

- Whilst not apparent on the Indicative Layout Plan, if facilities such as shopping centres and sporting complexes (areas that facilitate large congregations of people) are to be located within the ML, layouts need to be considered which provide for maximum protection to occupants in the event of an ignited gas release. This includes maximising the separation between the pipeline and the buildings, orienting buildings so that people are protected from radiant heat in the event of an ignited gas release, and that escape routes direct people to shelter away from the pipeline.
- All pipeline crossings (services for example) are to be designed to APA's approval, including construction methodologies, so that the pipeline is protected during construction.
- No water courses are to traverse the easement/pipelines and APA prohibits the construction of wetlands on the easement.

Typical recommended conditions

APA understands this is a proposal for rezoning and not a Development Application. For the sake of early disclosure, below are some standard conditions that APA may apply to any future Development Applications. This list is not exhaustive and depending on details and the outcomes of an SMS, may include conditions facilitating the outcomes identified in the 'Comments' section above.

- Restrictions on the use of the easement area within the plan of subdivision will be enforced in accordance with the Creation of Easement and restrictive Covenant Instrument registered on Title. In particular:
 - No structure will be permitted on the easement without prior written approval.
 - Line of sight along the easement (pipeline) must be maintained.
 - 3 metre minimum clearance between the pipeline and any vegetation greater than 0.5m in height must be maintained.
- For all development within 50 metres from the edge of the easement, construction methodology, Safe Work Method Statement (SWMS) for working in the vicinity of high pressure gas transmission pipelines and details of proposed plant and equipment to be utilised during construction for any proposed works, will be required prior to construction for assessment and approval by Council. Council will seek the view of APA Group in considering this matter. The SWMS could form part of a broader Construction Management Plan (CMP).
- Buildings, structures, roadway, pavement, pipeline, cable, fence or any other improvement upon or under the land within the easement must not be constructed without prior consent in writing from APA. Any such improvement within the easement is at the risk of the developer/land manager who will remain liable. APA will not be liable for any costs associated with the reinstatement of any vegetation and/or infrastructure constructed on the easement.
- Any future construction activities must not include the following:

- Significant vibration
- Heavy loadings stored over the pipeline; and
- Heavy vehicle /plant crossings of the pipeline.

Should any proposed activities result in the above then the developer and/or contractor will be required to demonstrate to APA that the pipeline will not be significantly impacted.

- Prior to development commencing, detailed engineering plans for the three proposed roads crossing the pipeline easement must be submitted to and approved by Council. These crossings must not result in any reduction in the cover over the pipeline asset. The Responsible Authority will seek the view of APA VTS Australia in this matter.
- Prior to development commencing, landscape plans depicting any planned landscaping, including the planting of vegetation, on or immediately abutting the high pressure gas transmission easement must be submitted to and approved by the Council and APA Group.
- Prior to the approval of any subdivision that includes the placement of road reserve over the pipeline easement, Council will enter into a co-user agreement with APA Group to provide for the retention of APA's rights as ensconced in existing easement agreements as replacement for the existing easements benefitting APA Group that will be extinguished due to the application of road reserve to be owned by Council.

Initial recommended notes

- The following uses are considered sensitive for the purposes of undertaking an SMS pursuant to Australian Standard AS-2885:
 - Child care centre
 - Cinema based entertainment facility
 - Corrective institution
 - Dependent persons unit
 - Education Centre (including schools)
 - Hospital
 - Place of assembly (including churches)
 - Residential aged care facility
 - Retail premises
 - Retirement village
 - Community centre
 - Service Station
 - High density residential development

- APA may require at any stage in the future access to the pipeline to conduct maintenance. This may involve excavating around the pipeline with significant disturbance to the easement and thus any infrastructure that may be constructed within it.
- APA reserves the right to recover its costs from individual developers should time spent on the project assessing and supervising on ground works exceeds three days.

It is recommended that project managers and/or design engineers have ongoing correspondence with APA in the future to discuss the scope of issues relating to the construction of the new development (including infrastructure) adjacent to and/or across APA's pipeline infrastructure to ensure its assets are thoroughly protected. APA is mandated to ensure that HPGTP's are safely protected to ensure the integrity of its pipeline assets.

APA seeks to work with authorities and development proponents to achieve mutually acceptable and compliant outcomes. Some recent examples of APA easements being utilised as linear open spaces and green links provide outcomes which are beneficial to future urban outcomes and communities whilst not unduly inhibiting APA from achieving compliant community safety outcomes or constraining ongoing operations. Interested parties are strongly encouraged to contact APA early to discuss the process of integrating APA assets into future urban developments.

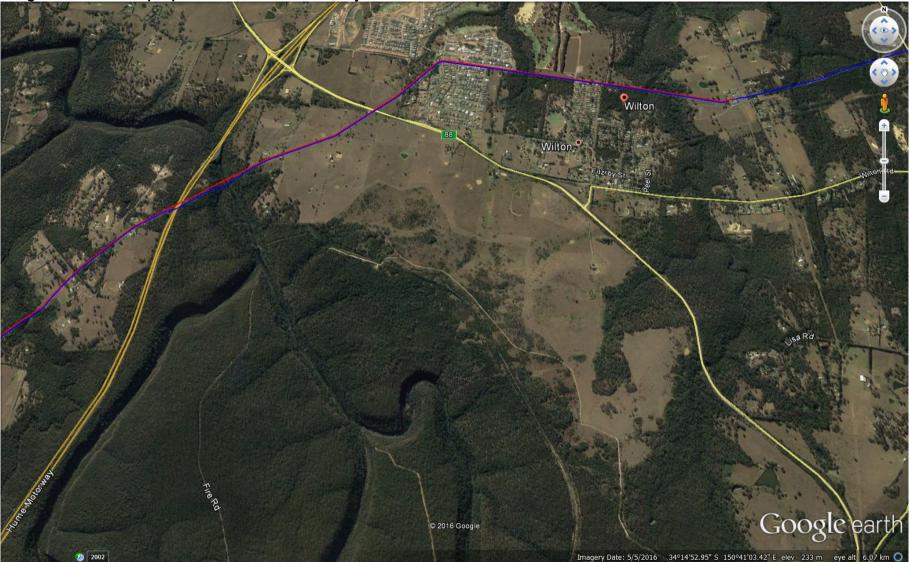
Please contact me on 0472 845 967 or email <u>planningnsw@apa.com.au</u> should you wish to discuss the contents of this correspondence.

Yours faithfully,

/ MN

Phillip McCutcheon Manager Urban Planning Infrastructure Protection & Planning

Figure 1: APA Group Pipeline Assets within the subject site.



APPENDIX E

Infrastructure Plan

