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Infrastructure Servicing Report

**Lot 23 DP 1244350
Minmi Road, Fletcher**

Client:
Kingston Minmi Road Pty Ltd
C/- Barr Planning

Date:
February 2022

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	24/11/2021	AL	AV
B	Revised Issue	16/02/2022	AL	AV

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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1.0 INTRODUCTION

ADW Johnson has been engaged by Barr Planning to form part of a consultant team to seek a rezoning of the Kingston Minmi Road Pty Ltd owned land at 505 Minmi Road, Fletcher. 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

ADW Johnson has been engaged by Kingston Minmi Road Pty Ltd C/- Barr Planning to prepare this Infrastructure Servicing Report to support the Gateway Determination for an amendment to the Newcastle Local Environmental Plan 2012 in relation to the subject site at Lot 23 DP 1244350. The site is located off Minmi Road, Fletcher and hereafter shall be referred to as 'The Site' **Figure 1** shows The Site location.

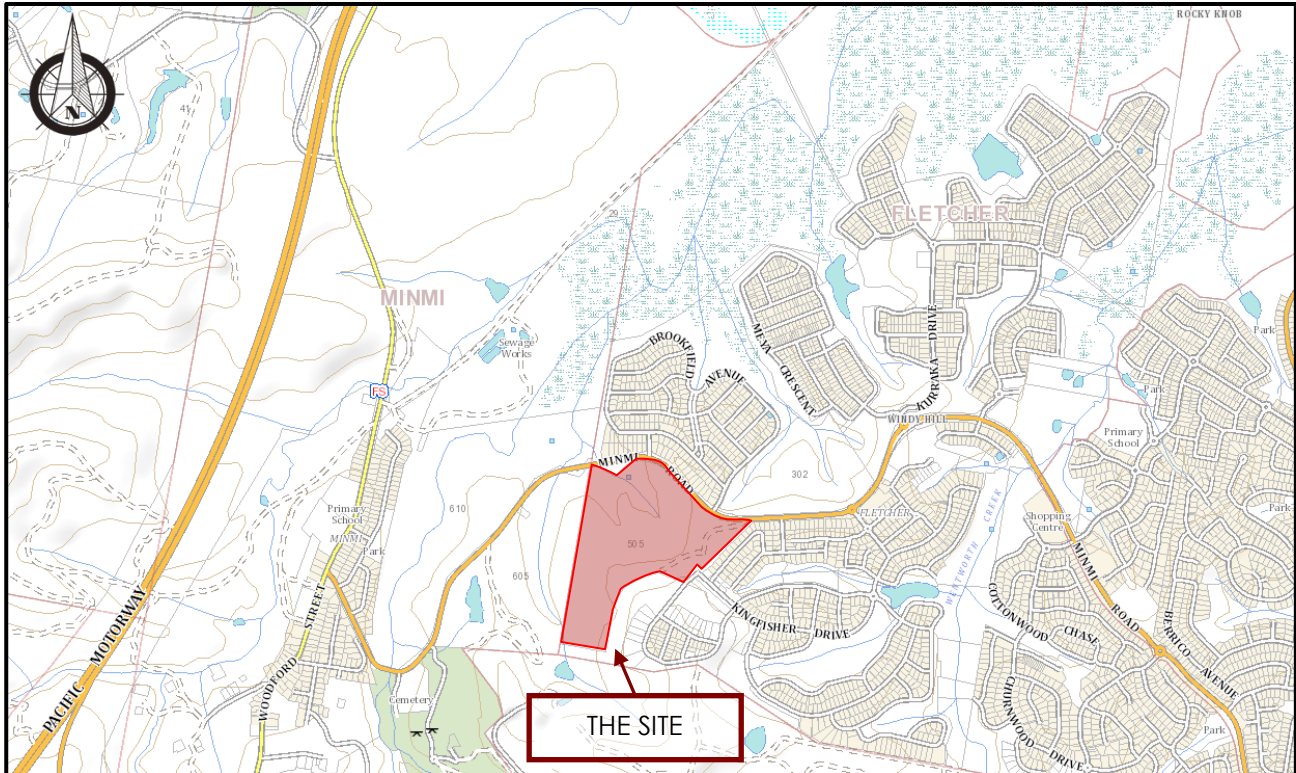


Figure 1 – Site Locality
(Six Maps, 2021)

2.1 INTENDED LAND USE

The project lead, Barr Planning, have prepared an *Indicative Amended Zoning and Street Layout Plan* demonstrating the potential layout of the development. The development includes access connections to Minmi Road, and Kingfisher Drive, Fletcher, with the development of 110-130 residential lots including associated roads and infrastructure.

The Preliminary Site Plan is shown in **Figure 2**.



Figure 2 – Proposed Site Layout
(Barr Planning, 2021)

2.2 PRELIMINARY DEVELOPMENT DEMANDS

The anticipated development water and wastewater demands have been calculated in accordance with the equivalent tenement (ET) calculation matrix (WSA 02-20143.1 Hunter Water Edition Appendix HW N, detailed within **Tables 1** and **2**, with ET conversion rates.

Table 1 – Potable Water Demands

Development	Lots	ET	AVERAGE DAY DEMAND (kL/day)
Western Precinct	80	80	56
Eastern Precinct	50	50	35
Total	130	130	90.82

Table 2 – Wastewater Demands

Development	Lots	ET	ADWF (L/s)	R	PDWF (L/s)	SA (L/s)	PWWF (L/s)
Western Precinct	80	80	0.88	3.4	2.98	4.64	7.62
Eastern Precinct	50	50	0.55	3.7	2.02	2.90	4.92
Total	130	130	1.43	3.12	4.46	7.54	12.00

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.

Preliminary Servicing Advice has sought from 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 detailed in **Appendix A**. Whilst the Hunter Water Corporation preliminary advice is attached in **Appendix B**.

4.0 POTABLE WATER SUPPLY

The public roadways proposed for access connection points to The Site are well serviced with 200 mm diameter PVC-O water mains. Distribution watermains within Minmi Road, and Kingfisher Drive are part of the *South Wallsend System*, fed from the *South Wallsend Reservoir*.

A plan is attached to **Appendix A** showing the location of the water mains in the surrounding residential areas, detailing two (2) points of connection, satisfying Hunter Water's *Security of Supply* requirements for residential subdivisions over 100 lots.

Preliminary network assessment and 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. Preliminary servicing advice from HWC is provided in **Appendix B**.

Known water level parameters of the *South Wallsend Reservoir* allow for some general service pressure conditions to be adopted for the site:

- Lots above RL 62m will likely require the construction of a booster pump to provide adequate pressure; and
- Lots below RL 22m will likely require the construction of a pressure reducing valve to provide adequate pressure.

The full site is able to be serviced by water infrastructure. Due to the proximity to, and capacity within the existing water network, water infrastructure works to service the site are considered minimal with regard to typical development practices.

5.0 WASTEWATER

The proposed development is located within Hunter Water Corporation's service area and forms part of the existing Shortland Sewer Treatment Plant (STP) catchment.

Upon review of DBYD searches, and previously prepared (and approved) wastewater strategies (for The Site and adjacent sites), no existing sewer infrastructure is readily available allowing for a traditional gravity sewer point of connection. This is primarily due to the natural topography and there being no gravity sewer mains available for connection.

Previous strategies have proposed several non-traditional connection options, each of which may be utilised to service the site. As such, it is recommended that, in concurrence with a Development Application, a *Local Wastewater Servicing Strategy* is prepared, in collaboration with Hunter Water Corporation to assess the viability and preferability of each of the following options:

- **GHD (Strategy 2011 – The Site):** Drain The Site, via a local gravity network, to a new wastewater pump station that pumps into the existing gravity sewer system immediately to the east of the subject land, in the Kingfisher Drive/Hebrides Road area:
 - Further investigations need be undertaken to ensure sufficient capacity within the existing gravity sewer network;
 - GCA 2011 indicates that minor downstream augmentation of the existing gravity sewer network would allow for approximately 155 ET (recent adjacent development is likely to have utilised some of this capacity); and
 - This strategy was conditionally approved by HWC January 2012.
- **GCA (Strategy 2016 – Adjacent Site):** The wastewater strategy for 610 Minmi Road residential development has been approved by HWC. This strategy proposes to provide a WWPS (Minmi 3 WWPS under construction at the time of writing this paper) ultimately constructing a new rising main and gravity network, in the following three (3) stages:
 - *Minmi 3 WWPS Stage 1* – Constructed to ultimate civil requirements (anticipated 2023);
 - *Minmi 3 WWPS Stage 2* – Pump upgrade and new rising main constructed approx. 1800m along Minmi Road and discharging into the Maryland 1 WWPS catchment (anticipated 2027);
 - *Minmi 3 WWPS Stage 3* – Pump upgrade, along with gravity sewer upgrades in the Maryland 1 WWPS catchment and an upgrade to Maryland 1 WWPS (anticipated 2033); and
 - The construction staging, and anticipated timing, for this WWPS provides opportunity to liaise with HWC and the adjacent developer (Winten (No 21) Pty Ltd) to assess the viability of either: draining via traditional gravity network to the proposed Minmi 3 WWPS, or providing a new WWPS on The Site and pumping 'in common' with the proposed Stage 2 new rising main.
- **ADW Johnson (Detailed Design 2013 – Adjacent Site):** Fletcher 3 WWPS was constructed 2013 within Outlook Estate to the north of The Site. Fletcher 3 pumps 'in common' with Minmi 1A to Fletcher 4 WWPS and ultimately draining to Shortland WWTW. Preliminary assessment has concluded the plausibility of making connection from The Site to Fletcher 3 WWPS, via the following:

- Drain The Site, via a local gravity network, to a new wastewater pump station that pumps into the existing gravity sewer system immediately upstream of Fletcher 3 WWPS (likely requires existing downstream augmentation); and
- It should be noted, **GCA 2016** proposes to divert approximately 430 ET out of the common rising main utilised by Minmi 1A and Fletcher 3. This, with a Fletcher 3 Pump upgrade, may be utilised by The Site.

Preliminary advice received from Hunter Water concluded that the proposed western development precinct is located within the Proposed Minmi 3 WWPS catchment which can be staged to provide sufficient capacity to receive wastewater from the proposed development, whilst Fletcher 3 WWPS has existing capacity for the eastern development precinct.

The full site is able to be serviced by wastewater infrastructure. Due to its proximity to, and capacity within the existing network, wastewater infrastructure works to service the site are considered to be complex, however possible, with regard to normal development practices.

6.0 ELECTRICITY

Lot 1 DP 270583 within Outlook Estate to the north of The Site currently has an 11kV High Voltage (HV) Underground Overhead pole providing a HV connection point of Outlook Estate. This High Voltage Main services the surrounding residential areas. This pole appears to be the optimal point of connection for the proposed development (with required augmentation and approximately 100m of *lead-in* HV main to The Site).

Adjacent development within 610 Minmi Road (Lot 3 DP 1230960) is also proposing a HV extension from approximately 100m west of the above mentioned overhead main. This may also provide a point of HV connection (with required augmentation and approximately 200m of *lead-in* HV main to The Site).

Input will be required from an electrical engineer to confirm the number of substations required to service the proposed development, and confirmation of supply capacity.

Ausgrid will not provide conclusive servicing advice to the development until a service application is made.

The full site is able to be serviced by electrical infrastructure. Due to the proximity, electrical infrastructure works to service the site are considered reasonable with regard to typical development practices.

7.0 TELECOMMUNICATIONS

The proposed development is within the NBN footprint and is eligible for supply via the NBN network. NBN's underground pit and pipe infrastructure extends to the development boundary along Minmi Road and provide an ideal connection point with no expected lead in works.

An additional point of connection can be found with Kingfisher Drive, Minmi.

NBN will not provide conclusive servicing advice to the development until a connection application is made.

The full site is able to be serviced by telecommunication infrastructure. Due to the proximity telecommunication infrastructure works to service the site are considered minimal with regard to typical development practices.

8.0 GAS

A dial before you dig plan from Jemena shows that there are domestic gas services in the neighbouring streets.

Jemena's underground pipe infrastructure extends to the development boundary along Minmi Road, via a DN160 transfer main. Additionally, Kingfisher Drive contains a DN 32 domestic main, available for connection with confirmation to Jemena regarding supply capacity.

Jemena will not provide conclusive servicing advice to the development until a connection application is made.

The full site is able to be serviced by gas infrastructure. Due to the proximity gas infrastructure works to service the site are considered minimal with regard to typical development practices.

9.0 CONCLUSION

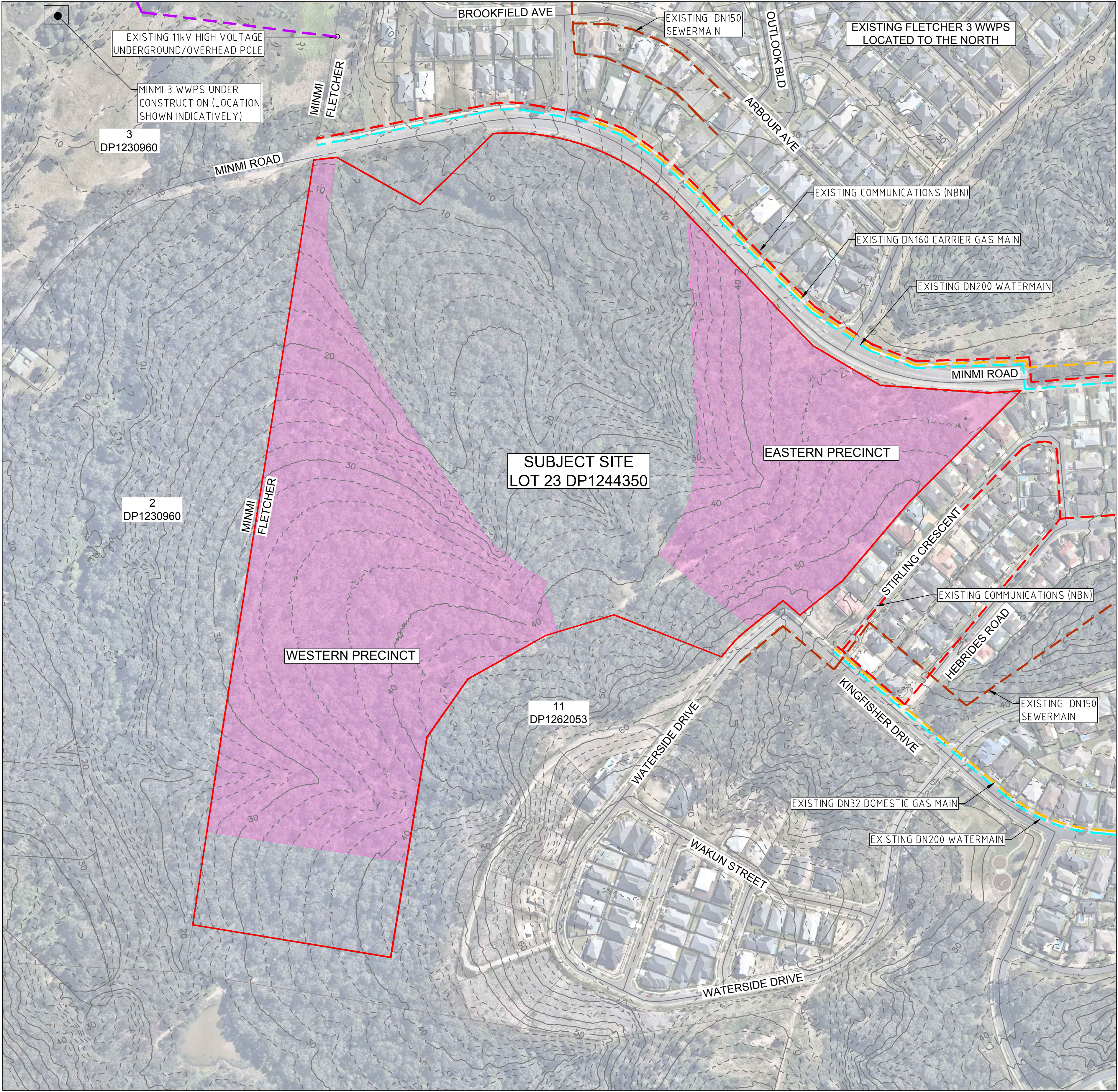
In summary, the proposed development of 505 Minmi Road, Fletcher will be adequately serviced by the surrounding infrastructure and as such there are no constraints to the proposed rezoning due to the provision of services.

Appendix A

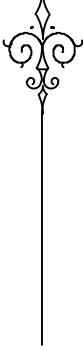
SITE SERVICES PLAN WITH DBYD INFORMATION

240276-ESK-001 TO 002(A)

100mm AT FULL SIZE
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MGA



LEGEND:

- EXISTING OVERHEAD HIGH VOLTAGE
- EXISTING COMMUNICATIONS (NBN)
- EXISTING WATERMAIN
- EXISTING SEWER MAIN (GRAVITY)
- EXISTING GAS
- PROPOSED DEVELOPMENT AREA
- SITE BOUNDARY
- EXISTING SURFACE CONTOURS

NOTE:

- IRRELEVANT EXTERNAL SERVICES HAVE BEEN OMITTED FOR CLARITY.
- EXISTING SERVICE LOCATIONS OBTAINED FROM GIS SOURCES – FURTHER INVESTIGATIONS ARE REQUIRED TO CONFIRM THEIR EXACT LOCATION.

PLAN
SCALE 1:2000

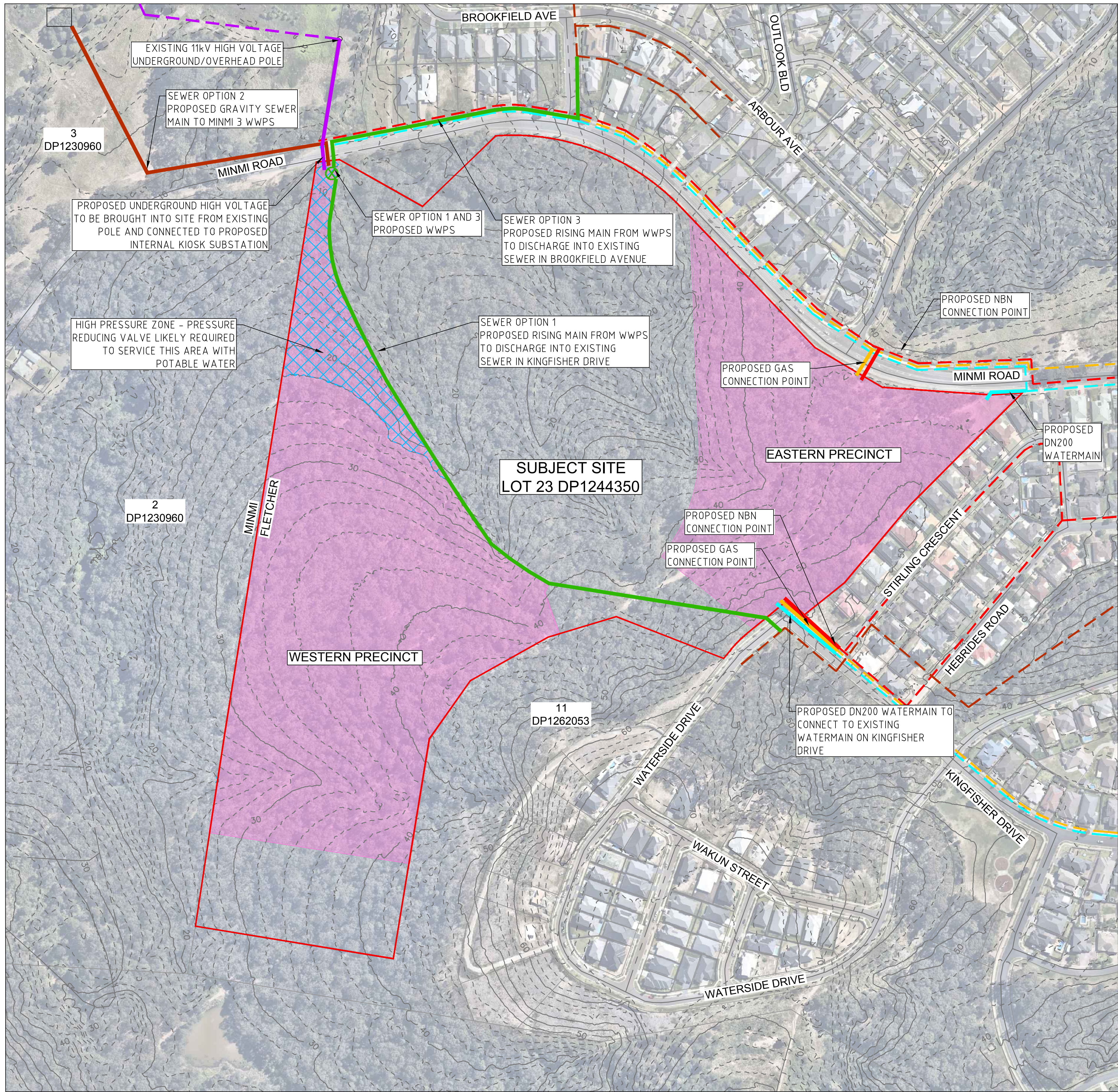


NOT FOR CONSTRUCTION

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								BARR PROPERTY & PLANNING Continual Progress				EXISTING SERVICES PLAN			
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100mm AT FULL SIZE
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MGA



LEGEND:

- PROPOSED GAS
- PROPOSED WATERMAIN CONNECTION
- PROPOSED SEWER RISING MAIN (PRESSURE)
- PROPOSED SEWER MAIN (GRAVITY)
- PROPOSED UNDERGROUND HIGH VOLTAGE
- PROPOSED COMMUNICATIONS (NBN)
- EXISTING OVERHEAD HIGH VOLTAGE
- EXISTING GAS
- EXISTING WATERMAIN
- EXISTING SEWER MAIN (GRAVITY)
- EXISTING COMMUNICATIONS (NBN)
- PROPOSED DEVELOPMENT AREA
- HIGH PRESSURE ZONE (PRESSURE REDUCING VALVE MAY BE REQUIRED)
- SITE BOUNDARY
- EXISTING SURFACE CONTOURS

NOTE:

- IRRELEVANT EXTERNAL SERVICES HAVE BEEN OMITTED FOR CLARITY.
- EXISTING SERVICE LOCATIONS OBTAINED FROM GIS SOURCES - FURTHER INVESTIGATIONS ARE REQUIRED TO CONFIRM THEIR EXACT LOCATION.
- INTERNAL DISTRIBUTION OF PROPOSED SERVICES IS NOT SHOWN FOR CLARITY.

PLAN
SCALE 1:2000

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY	SCALES	CLIENT		PROPERTY DESCRIPTION		PROJECT			
A	25.11.2021	INITIAL ISSUE	I.B.	A.L.	A.L.	A.V.	0 50 100 A1 / A3 1:2000 / 1:4000	Hunter Office Unit 7/335 Hillsborough Rd Warners Bay N.S.W. 2282 Phone: (02) 4978 5100 Fax: (02) 4978 5199 email: hunter@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398		LOT 23 DP1244350 505 MINMI ROAD, FLETCHER		505 MINMI ROAD PROPOSED SUBDIVISION			
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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
enquiries@hunterwater.com.au
hunterwater.com.au

14 Feb 2022

KINGSTON MINMI ROAD PTY LTD
C/- ADW Johnson Pty Ltd
UNIT 7, 335 HILLSBOROUGH ROAD
WARNERS BAY NSW 2282

PRELIMINARY SERVICING ADVICE APPLICATION

Property Address:	505 MINMI RD, FLETCHER NSW 2287
Lot & Plan number:	Lot 23 DP 1244350
Development Description:	Preliminary Servicing Application for Torrens Title Subdivision of 1 lot into 130 lots
Hunter Water Reference:	2021-1914

Hunter Water offers the following preliminary servicing advice for the provision of water and sewerage facilities for the development detailed above.

General information on water and sewer issues relevant to the proposal are included in this correspondence. This information is indicative only and based on Hunter Water's knowledge of its system performance and other potential developments in the area at the present time. This advice may change substantially due to a range of factors and a detailed analysis of available capacity will be undertaken upon lodgement of a [Development Application](#) to Hunter Water.

When you have development approval, you may submit this Development Application to determine the formal requirements for the development. Hunter Water will then issue a Requirements Letter including an offer for network capacity. You will need to comply with each of the requirements in this Letter for the issue of a [Section 50 Compliance Certificate](#) for the development.

Financial Requirements

A reimbursement contribution may be required towards the cost of any water and sewer infrastructure that is constructed by a third-party developer and utilised to serve this development. Reimbursements include GST and cannot be determined until the connection points are defined and a Development Application is submitted.

Water Supply

The nominal water connection points for your development is the 200mm watermain in Minmi Road. Water is supplied from the Elmore Vale Reservoirs.

There is sufficient capacity in the local water network to service the proposed development, however you will be required to provide at least two water connections into your development to ensure security of supply requirements are met. A connection to the 200mm watermain on Kingfisher Drive should be sufficient in this regard.

Wastewater Transportation

The nominal sewer connection points for your development are the:

- 150mm sewermain in Arbour Avenue – Fletcher 5 WWPS catchment;
- Future sewermain within the adjacent development by Winten – Minmi 3 WWPS catchment.

There is sufficient capacity in the local wastewater reticulation networks to service the proposed development. Any sewer flows to the Minmi 3 WWPS will require completion of the wastewater pump station, currently under construction by others. It is anticipated that this asset will be completed within the next 18 months.

Wastewater Treatment

Wastewater discharge to Shortland Waste Water Treatment Works (WWTW) is the most feasible option and there is sufficient capacity to service this development.

Delivery of Developer Works

Developer works will need to be delivered under [Developer Works Deeds](#) executed by the Developer and Hunter Water.

All developer works are to be designed by an [Accredited Design Consultant](#) and constructed by an [Accredited Contractor](#).

Environmental Requirements

Hunter Water may require a [Review of Environmental Factors](#) (REF) to be submitted in accordance with the provisions of Environmental Planning and Assessment Act 1979 for the delivery of developer works. Hunter Water will assess the REF as a determining authority under provisions of Part 5 of the Act.

Entry Requirements

The proposed investigation works may require entry to another property. You will need to arrange for entry and have evidence of consent by way of a signed [Entry Permit](#) with the affected landowner.

These preliminary requirements are not commitments by Hunter Water and maybe subject to significant change prior to this development proceeding.

If you have any enquiries, please contact your designated assessment officer below.

<p>Wesley Jones – Land Development - Development Services T: 02 4979 9676 E: wesley.jones@hunterwater.com.au</p>
