

Utility and Infrastructure Servicing Report



Kiama Longbrush Road Planning Proposal

December 2022



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Version control



Issue	Author	Reviewer	Approver	Date approved
A	PK	PM	PM	21/12/22

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1 EXECUTIVE SUMMARY

J. Wyndham Prince has been engaged by Traders In Purple to prepare a Utilities and Infrastructure Servicing Report to support the Kiama West Planning Proposal.

The site is an approximately 120 hectare consolidated landholding located directly west of the Kiama CBD. It is currently rural in nature and comprises several allotments and portions of unformed crown road.

It is proposed to rezone the site to permit residential development.

This report has reviewed the existing infrastructure services for wastewater, potable and recycled water, electricity, telecommunications and natural gas. These assessments were carried out based upon Before You Dig Australia (BYDA) plans and additional communications with both utility authorities and accredited utility designers to understand the existing and possible new infrastructure that may be required to provide suitable services to the proposed development.

Based on the findings of this assessment and the limitations detailed within, the following conclusions are made:

- Potable water services can be made available to the site by the provision of a 645m DN200 lead-in from Reservoir 0231 to service land below RL 82, and a 1.14km DN200 lead-in from Reservoir 0423 to service land above RL 82.
- Wastewater services can be made available to the site by the provision of a 1.22km DN225 lead in to the north of the site.
- Electrical services with sufficient capacity can be made available to the site via a 2.2km 11kV lead-in from the Kiama Zone Substation.
- Telecommunications supply is available through the NBN Co. This connection is able to be upgraded where needed to suit servicing demands.
- Connection of reticulated gas to the site is not available, however, gas is not considered to be an essential service.

The outcome of this assessment confirms the Kiama West Planning Proposal can be adequately serviced with all essential utility infrastructure and that the provision of services is not expected to be an impediment to future development.

2 INTRODUCTION

This report has been prepared to assess the availability of existing utilities to service the Kiama West Planning Proposal site.

The Planning Proposal seeks to rezone the site from RU2: Rural Landscapes to various Residential zonings to enable the development of 1140 dwellings.

2.1 Existing Site

The site is located on the rural outskirts of Kiama, west of the Princes Highway and approximately 1.7km west of Kiama Train Station and Town Centre. The site is bound by Jamberoo Road to the north, Old Saddleback Road and Longbrush Road to the south, and Greyleigh Drive and Arnold Circuit to the east.

The site comprises several allotments and portions of unformed crown road. The site is adjoining existing residential development to the east, and rural land uses to the north, south and west.

The site contains areas of steep land and is impacted by several watercourses and gullies.

See Figures 1 and 2 below.

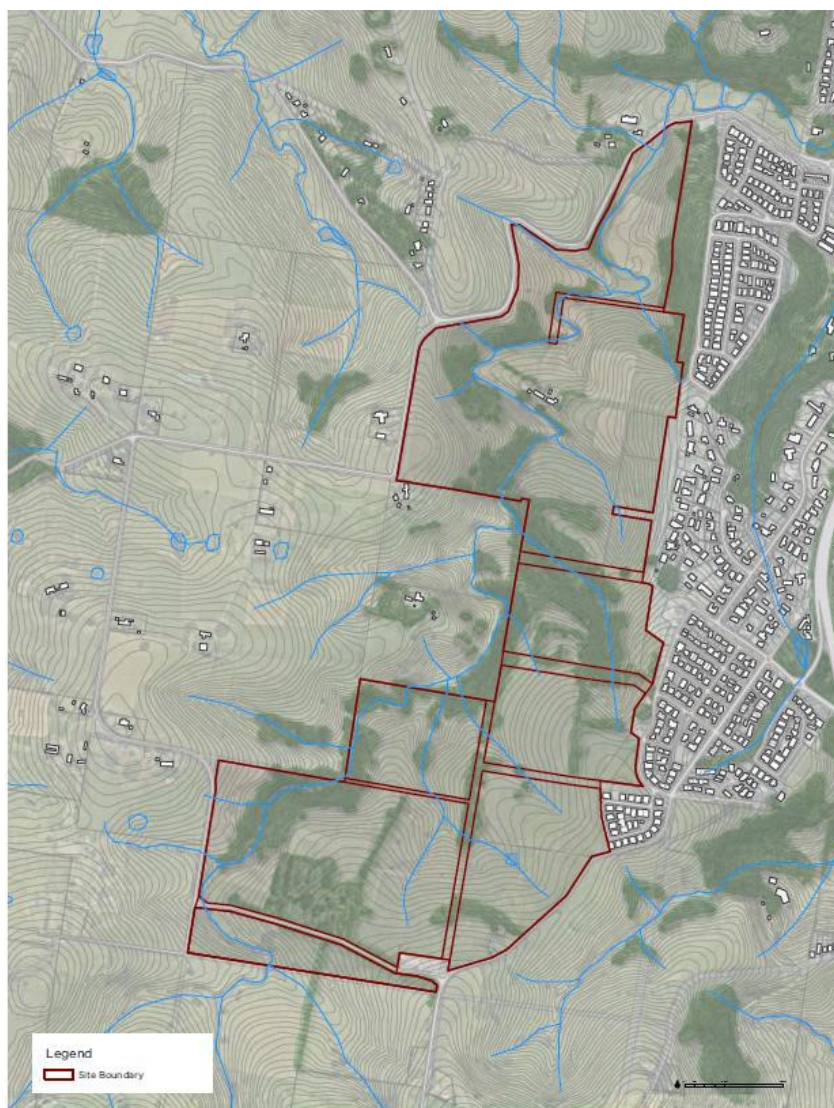


Figure 1 – Site Location

Source: E8 Urban

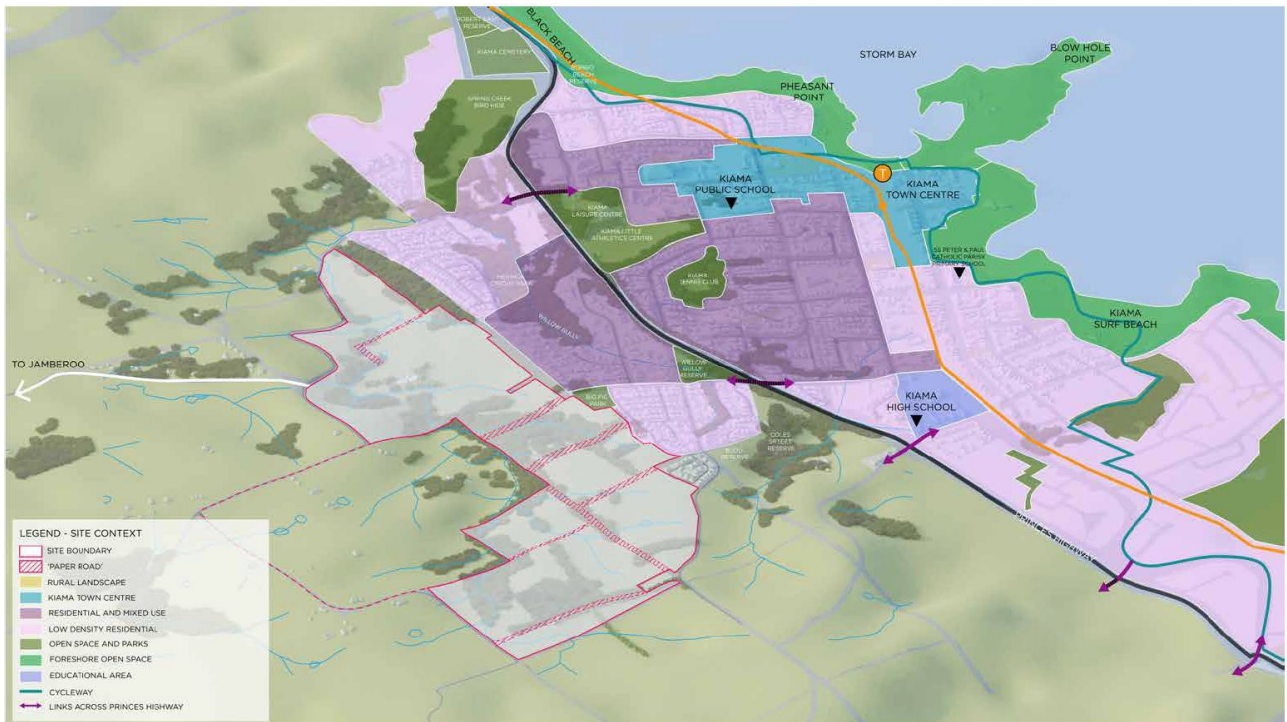


Figure 2 – Site Context

Source: Mecone

2.2 Planning Proposal

The Planning Proposal seeks to rezone the site from RU2: Rural Landscapes to various Residential zonings to enable the development of 1140 dwellings. It is supported by a concept masterplan that includes a mix of residential, rural, recreation, employment and conservation land uses.

The proposed layout responds to the environmental attributes and topography of the land and is generally laid out to follow a centralised collector road that runs from Jamberoo Road in the north and creates a loop in the southern portion of the site. See Figure 3 below.

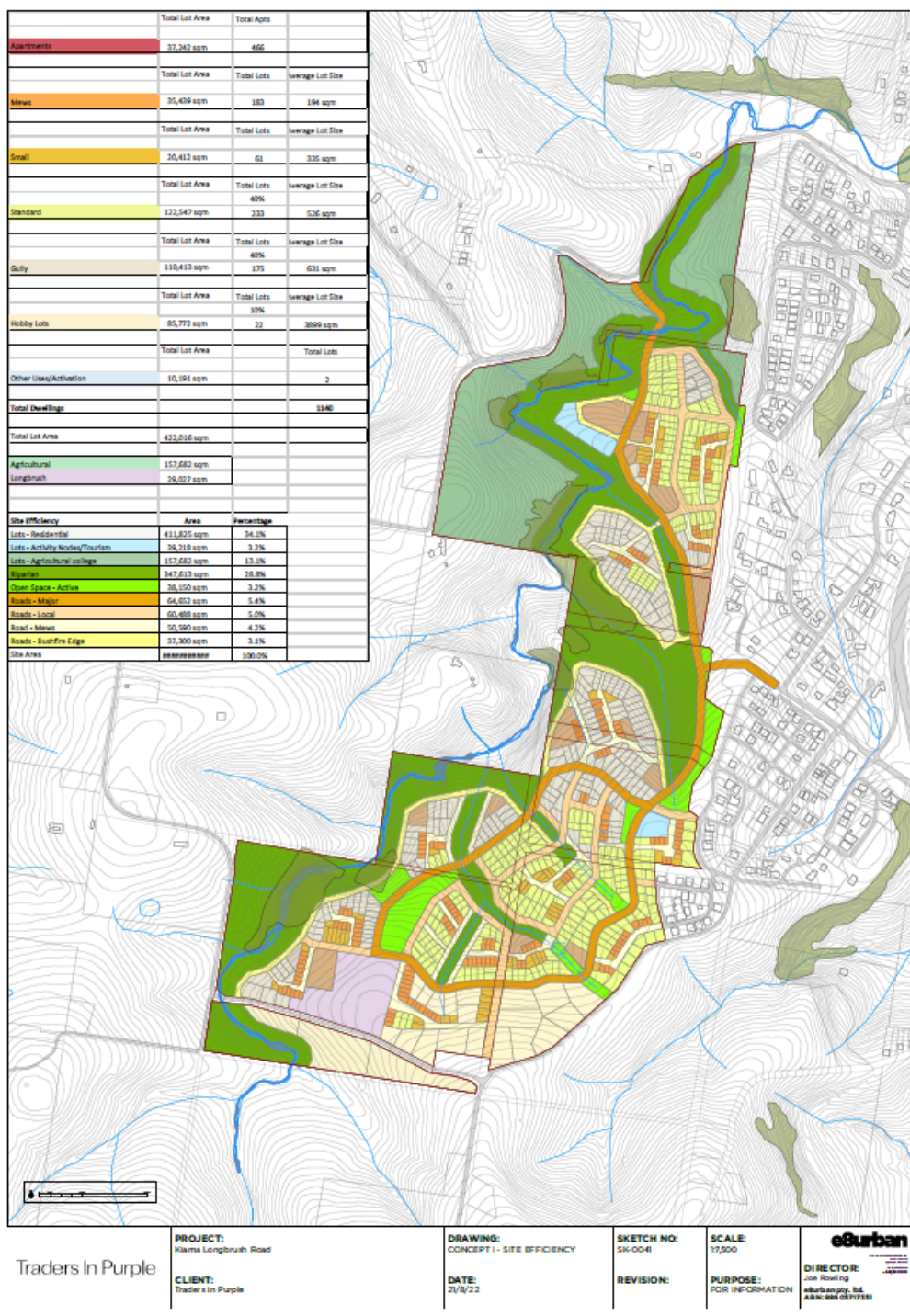


Figure 3 – Concept Masterplan

Source: E8 Urban

3 SYDNEY WATER SERVICES

The site is located within the Sydney Water Area of Operations and Sydney Water is the supplier of potable and wastewater services in the Kiama Local Government Area.

Water Servicing Coordinator Qalchek was engaged to prepare a potable water and wastewater concept review to support the Planning Proposal. A copy of their report is included in Appendix A to this report.

3.1 Potable Water Implementation

3.1.1 Existing Network

The site has two existing potable water mains that cross approximately the middle of the site in an east/west direction. The northern main is a DN225 CACL water main while the southern is a DN150 water main. These mains are not considered available for domestic connection as they are transfer mains from one reservoir to another. The mains may need to be adjusted to suit the final development layout & levels.

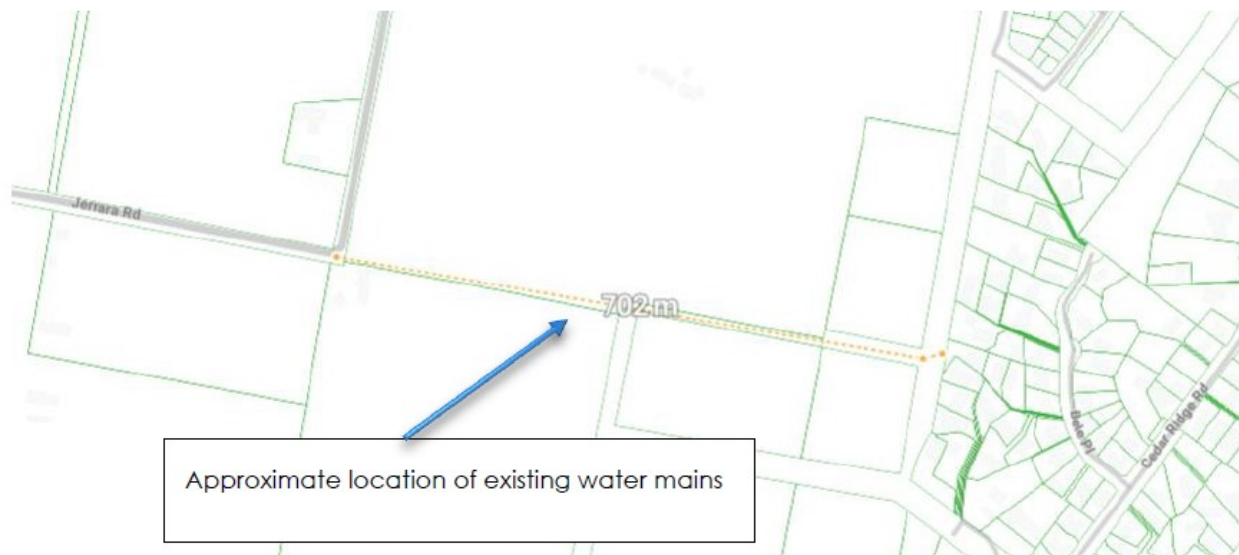


Figure 4 – Existing potable water mains crossing the site

Source: Qalchek

There are also two Sydney Water reservoirs in proximity to the site, one at Irvine Street Kiama and the other at Old Saddleback Road Kiama.

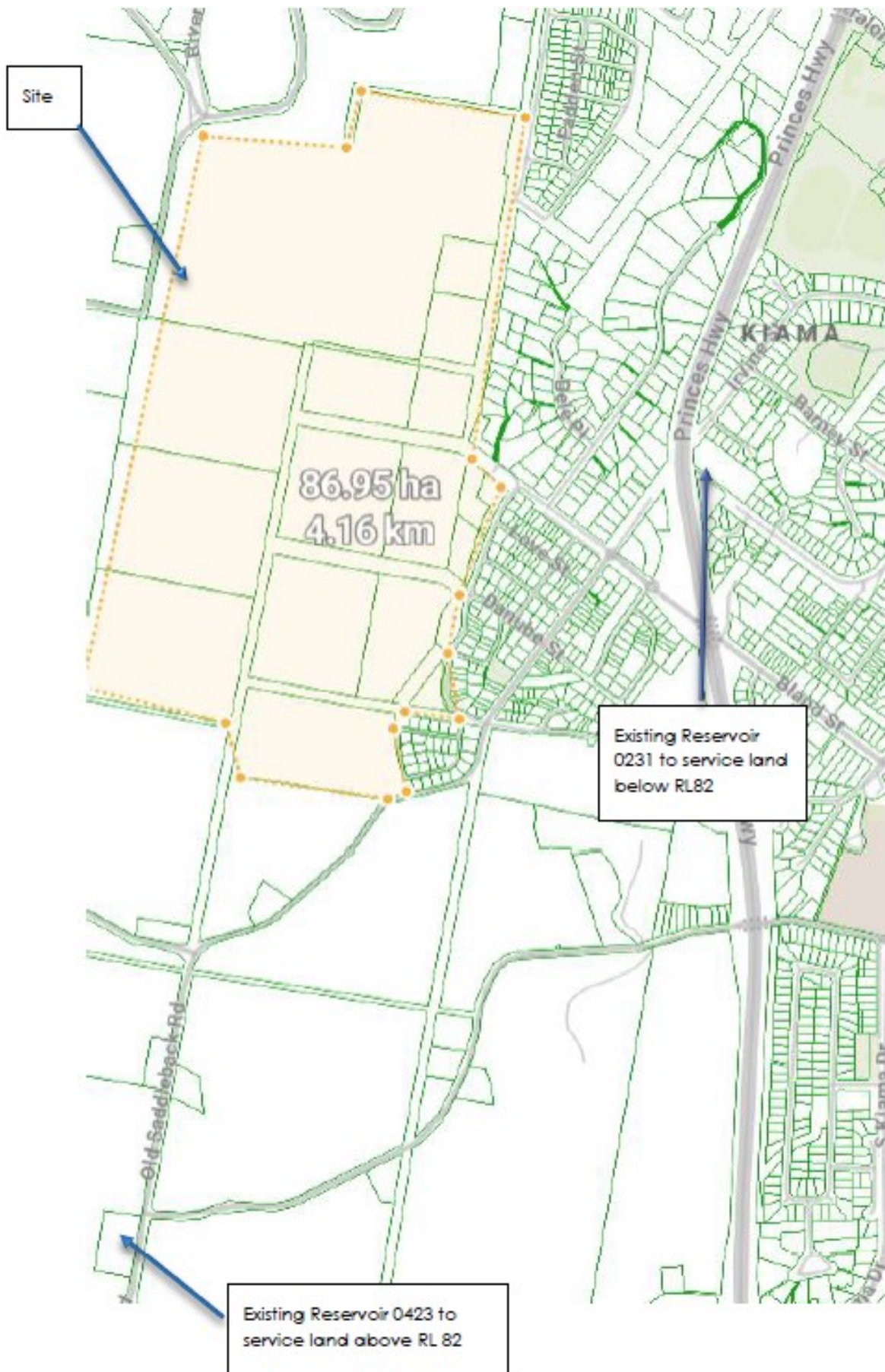


Figure 5 – Sydney Water Reservoirs

Source: Qalchek

3.1.2 Proposed strategy

Qalchek have advised that due to the range in levels across the site and to ensure that lower parts of the site will not have excessively high water pressure (above 60m head), it will need to be serviced by both existing reservoirs. The reservoir at Irvine Street will service those parts of the site below RL 82, while the reservoir at Old Saddleback Road will service those above RL 82.

Based on the anticipated development yield and existing potable water network sizing, Qalchek advise that water main upgrades will be required to service the site.

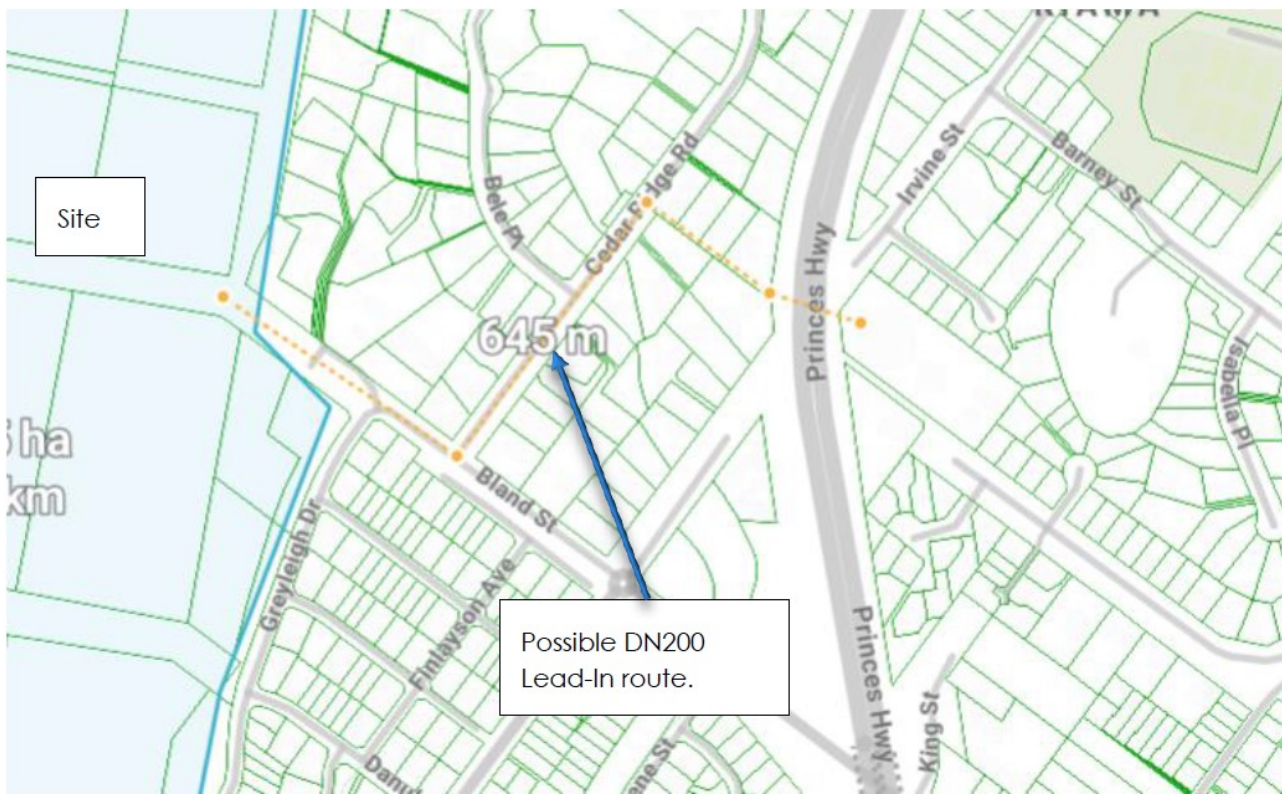


Figure 6 – Lead in potable water main to service land below RL 82

Source: Qalchek



Figure 7 – Lead in potable water main to service land above RL 82

Source: Qalchek

3.1.3 Onsite Infrastructure requirements

Potable water reticulation throughout the site will be provided within the road verge of the public road reserves

The developer will need to consult with Sydney Water during the Development Application and detailed design phases. For each development release, the developer will need to engage an accredited Water Servicing Coordinator in accordance with Sydney Water's Section 73 process.

The required reticulation to service the development will need to be installed in accordance with Sydney Water requirements and standards.

3.2 Wastewater Implementation

3.2.1 Existing Network

The nearest gravity sewer is located about 750m north of the site at 32 Lilly Pilly Way Kiama. The sewer is a DN150 pipe and is insufficient in size to service the future site development.

The nearest DN225 pipe is located at 34 Lilly Pilly Way Kiama. Initial investigation has deemed that this sewer is too shallow to service the future site development.

It is understood that during community consultation on this proposal, concern had been raised regarding the capacity of the existing sewer system, including the sewer pumping stations and treatment plant. Comments indicated that there had been overflows on occasion.

Qalchek is following up with Sydney Water to clarify the downstream capacity, however, they have had no response at the time of completing this report. Qalchek did advise that if there were existing capacity issues that caused overflows, it is Sydney Water's responsibility to rectify them. Qalchek advised that any existing capacity issues should not be an impediment to the proposed rezoning and that the rezoning would assist in the Sydney Water business case to fund and upgrade the network if required.

3.2.2 Proposed strategy

Gravity sewer can be provided to the site via a DN225 extension from approximately 440m downstream of 34 Lilly Pilly Way.



Figure 8 – Location of nearest downstream DN225 sewer

Source: Qalchek

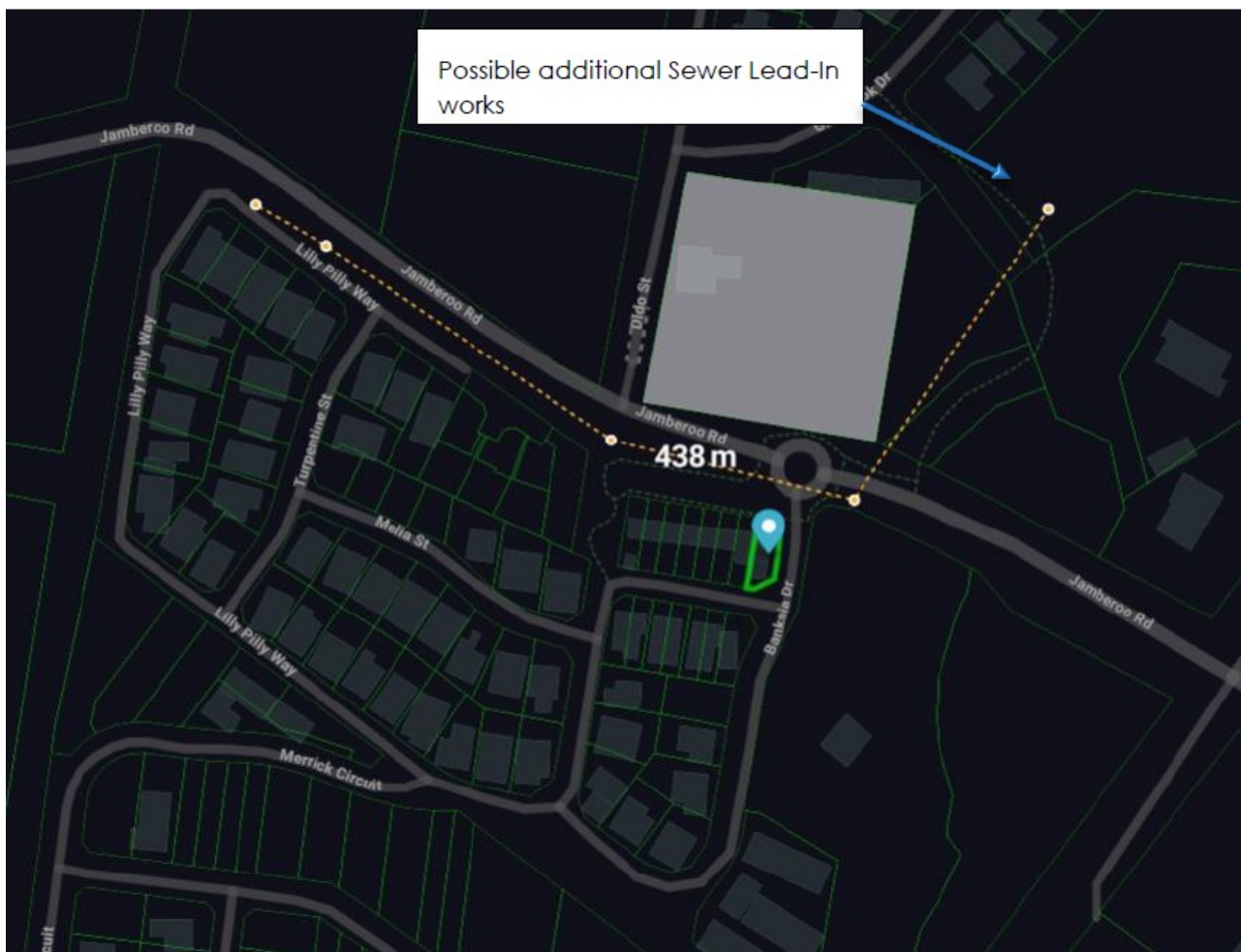


Figure 9 – Additional sewer lead-in works

Source: Qalchek

3.2.3 Onsite Infrastructure requirements

Sewer reticulation will typically be provided within the low side of the future allotments.

Negotiating the steep gullies across the site while maintaining fall within the sewer system will dictate the depth of the sewer at the northern end of the development.

Qalchek has recommended that a detailed sewer design be completed early in the process to identify areas of concern, and possibly modify the lot and road pattern to suit.

Alternatively, isolated areas of the site that cannot easily be serviced via a gravity sewer main may be able to be serviced via a local low pressure sewer system. This system includes on lot sumps and pumps that connect to a single sewer rising main which discharges into the upstream end of the gravity main. This may be suitable for smaller catchments of 10 – 15 dwellings.

More substantial isolated catchments would likely require the provision of a local sewer pumping station.

The developer will need to consult with Sydney Water during the Development Application and detailed design phases. For each development release, the developer will need to engage an accredited Water Servicing Coordinator in accordance with Sydney Water's Section 73 process.

The required reticulation to service the development will need to be installed in accordance with Sydney Water requirements and standards.

4 ELECTRICITY

Endeavour Energy is the supplier of electricity within the Kiama Local Government Area.

Edgewater Connections was engaged to lodge a Technical Review Request (TRR) with Endeavour Energy and prepare an assessment of works required to provide power to the site. A copy of the Edgewater assessment and the Endeavor Energy TRR is included in Appendix B of this report.

4.1 Existing Network

The site is located approximately 2.2km west of Endeavour Energy’s Kiama Zone Substation via the existing road network.

The nearest 11kV High Voltage distribution feeders are KME2 Brown Street on Jamberoo Road and KMA2 Gipps Street West. Both feeders are aerial and KMA2 crosses the site from Bele Place to Jerrara Road.

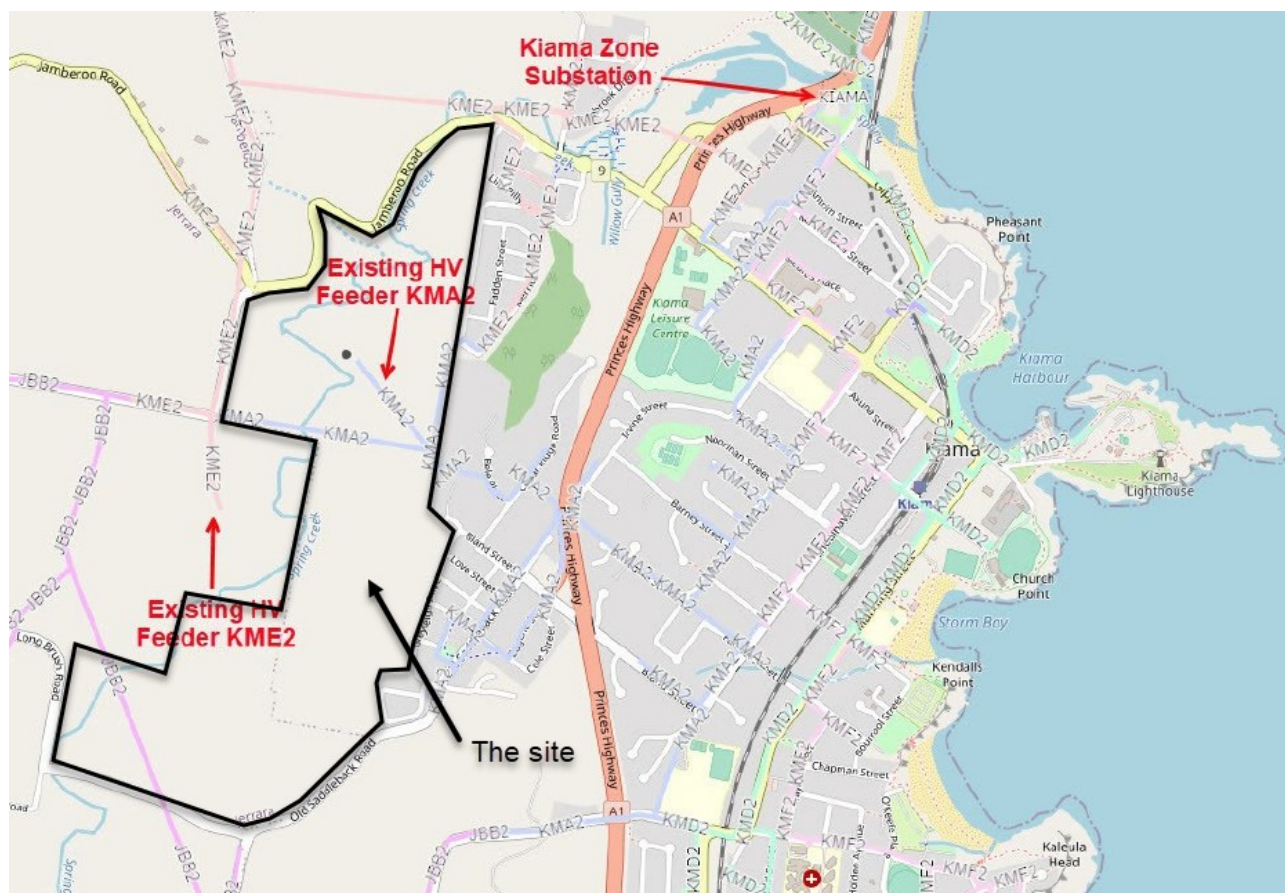


Figure 10 – Endeavour Energy’s Zone Substation and existing 11kV feeders

Source: Endeavour Energy TRR

4.2 Servicing Strategy and Services Demands

Endeavor Energy has estimated that the proposal will create an electrical demand in the order of 5.4MVA.

They have advised that as of September 2022, the existing 11kV feeders have spare capacity to service approximately 250 dwellings. This spare capacity could be utilised by the proposed development, subject to its commencement date and other lot releases in the catchment in the intervening period.

The total development of the site will require an 11kV lead-in distribution network from the Kiama Zone Substation on Hothersal Street Kiama to new padmount substations within the development. A second connection will be required to an adjacent shared feeder to provide for backup and allow for switching of loads across the HV network.



Figure 11 – Likely route of 11kV lead-in

Source: Edgewater Connections

4.3 Onsite Infrastructure Requirements

Electrical supply will be provided underground within the verges of the proposed roads. The works will include street lighting and the provision of local padmount substations throughout the estate.

The developer will need to consult with Endeavour Energy during the Development Application and detailed design phases. For each development release the developer will need to engage a level 3 Accredited Service Provider to prepare and lodge a formal Method of Supply application and undertake detailed design of the electrical network.

The required reticulation to service the development will need to be installed in accordance with Endeavour Energy’s requirements and standards.

5 TELECOMMUNICATIONS

NBN Co. is the current leading supplier for telecommunications infrastructure in the Kiama Local Government Area.

5.1 Existing Network

A desktop study via a Before you Dig (BYDA) submission indicates that an underground NBN Co. network is not currently available within the Jamberoo Road, Jerrara Road, Old Saddleback Road or Long Brush Road frontages of the site. It is however available in the residential subdivisions immediately east of the site and in Jamberoo Road approximately 570m east of the proposed site entrance.

The NBN Co roll out map below indicates that services are available at the site.

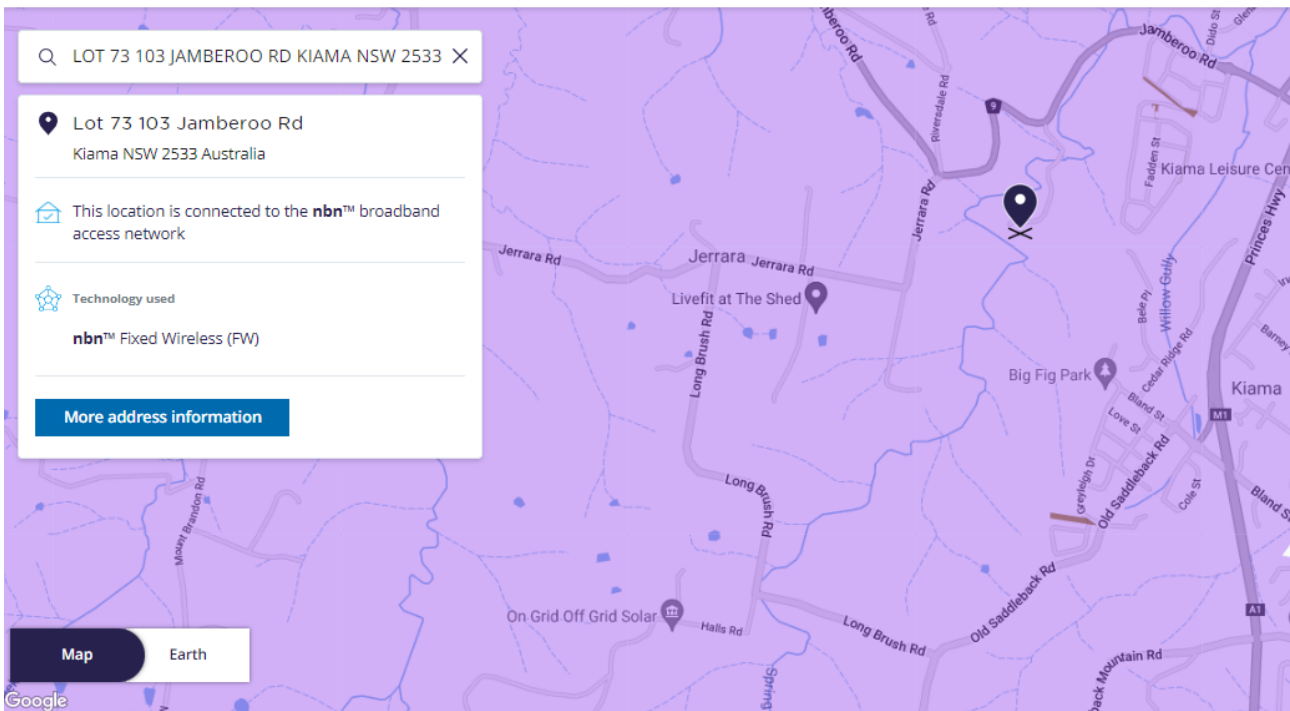


Figure 12 – NBN roll out map

Source: NBN Co

NBN Co. presently undertakes the provision of telecommunication services to new developments as part of the National Broadband Network rollout. The developer would be required to lodge a formal application to NBN Co as part of the development for the site.

5.2 Funding of Infrastructure

The NBN Co. may partially fund the backhaul of any lead in cables required. All other pit and pipe funds are to be provided by the developer of the site.

The developer will be responsible for fully funding the communications design and installation of fibre-ready pit and pipe infrastructure to the site. NBN Co. will then take possession of the infrastructure and install the fibre cables. The Developer will need to ensure that all pit and pipe infrastructure is installed in accordance with NBN Co's specifications and policies. Any defects in the work will not be accepted by NBN Co. until the network is deemed Fibre-ready.

6 NATURAL GAS

Whilst Jemena is the primary natural gas provider for the Kiama Local Government Area, a desktop study via a Before you Dig (BYDA) submission indicates that reticulated gas services are not available within the vicinity of the site or within the recent residential subdivisions to the east of the site.

It is noted that gas is not considered to be an essential service.

6.1 Existing Network

As noted above, a BYDA search indicates that there are no reticulated gas services available to the site.

6.2 Supply to the proposed development

Investigation on Jemena's website indicates that there are no reticulated gas services available in Kiama west of the Princes Highway. Extension of gas services to the site is considered to be economically not viable in the circumstances.

7 CONCLUSION

J. Wyndham Prince Pty has undertaken a review of the existing infrastructure in and surrounding the site. All service reviews undertaken in this report indicate the proposed development can be serviced by essential service infrastructure to support the development of the site. In summary:

Potable Water	The development requires a 645m DN200 lead-in from Reservoir 0231 to service land below RL 82, and a 1.14km DN200 lead-in from Reservoir 0423 to service land above RL 82.
Wastewater	A gravity reticulation system is proposed to connect to the existing network via a 1.22km DN225 lead in to the north of the site.
Electrical	Electrical supply is available via Endeavour Energy's system. A new 11kV high voltage connection with pad mounted substations will be required to be constructed to service the development.
Telecommunications	NBN Co. telecommunication services are available to the development. The developer will be required to submit a formal application for the development for NBN Co. to arrange connection to the network.
Natural Gas	Not an essential service and connection of reticulated gas to the site is not available.

The outcomes of the investigation conclude the availability of essential infrastructure to service the development, with authority requirements for supply subject to the relevant applications being lodged during the development process.

APPENDIX A

POTABLE WATER AND WASTEWATER CONCEPT REVIEW



POTABLE WATER AND WASTEWATER CONCEPT REVIEW FOR KIAMA WEST REDEVELOPMENT.



6th October
2022

For J.Wydhm Prince.

QALCHEK REFERENCE: PM 31060

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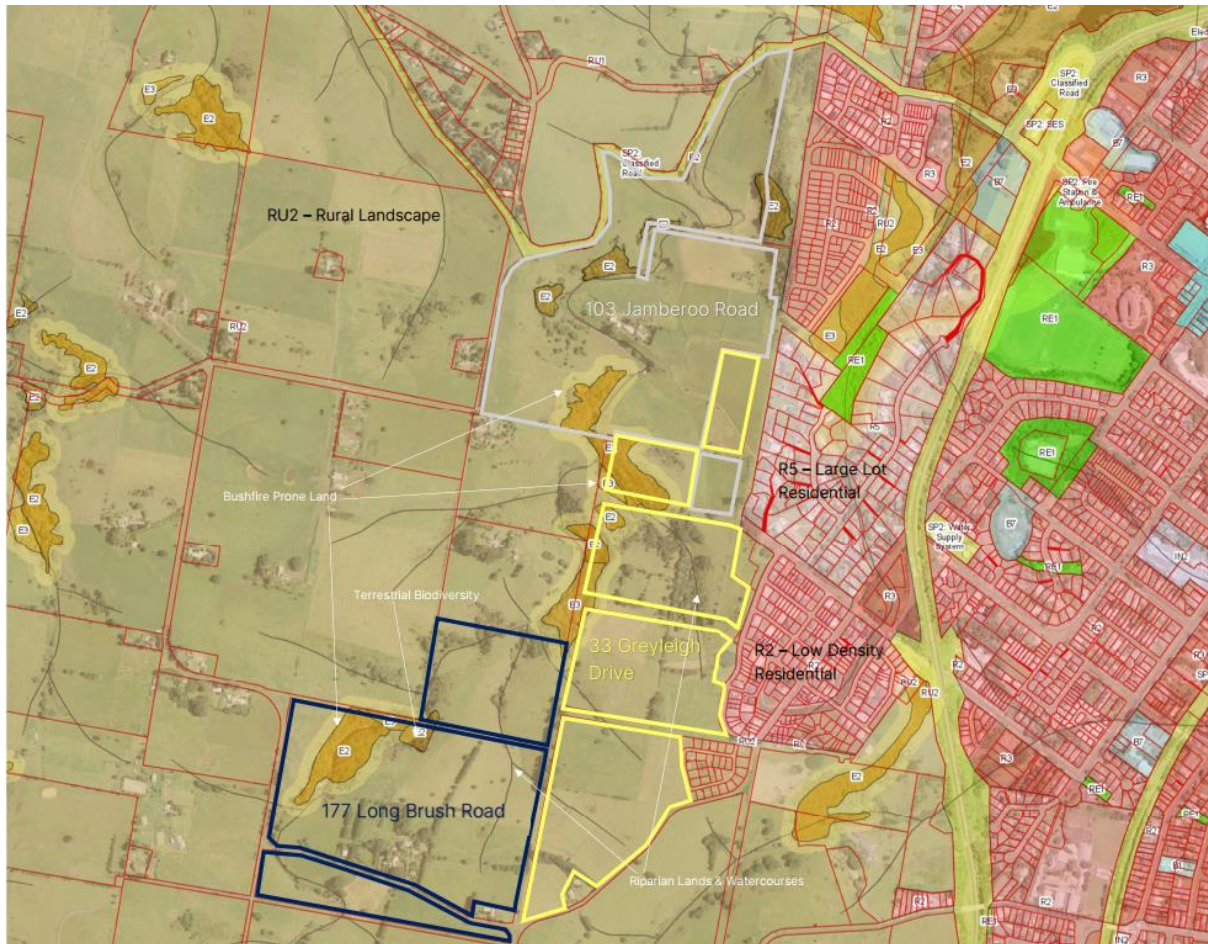
INTRODUCTION

Qalchek has been engaged by J.Wyndham Prince to undertake a Waster Water / Potable Water strategy for the proposed West Kiama residential redevelopment.

The proposed residential development is located at the following addresses :

No: 103 Jamberoo Road Kiama, No:33 Greyleigh Drive Kiama and No:177 Long Brush Road, Jerrara.

Please refer to the map below for the sites' approximate location.



REPORT OBJECTIVES

This report aims to determine the following:

- Estimate the possible development flows.
- Review possible Potable Water and Waste Water service options.
- Locate the nearest service which could assist the development.

DEVELOPMENT YIELDS

Based on the proposed development plans we have identified the following development yields.

Type	No: of	Total Lot Area (m2)	EP per a unit	Total EP
Apartments	466	37,242	2.5	1165
Mews	183	35,439	3	549
Small	61	20,412	3	183
Standard	233	122,547	3.5	815.5
Gully	175	110,413	3.5	612.5
Hobby Lots	22	85,772	3.5	77
Open Space - Active	38	38,150	20	760
	Total Area:	449,975		4164

If the above assumption is incorrect then the calculations below will need to be adjusted.

ESTIMATED DEMANDS

Based on the above development sewage flows for the development, the table below has been determined using Sydney Water Flow Schedule spreadsheet table.

1. Sewer

	Normal operation
E.P. loading	4922
PDWF L/S	19.26
Design flow L/S	57.77

2. Water

	Normal operation
E.P. loading	4164
Water Demand	1.12 mega litres

WASTEWATER SERVICING SOLUTIONS

In general, the site falls South to North. Ground levels at the Southern end of the development range between AHD 86 to 118m, while the northern end of the site has levels between AHD 22 to 54 metres.

The nearest gravity sewer is located about 750m north of the site at No: 32 Lilly Pilly Way, Kiama. The sewer is a DN150 pipe and is insufficient in size to service the development.

A DN225 pipe is located about 750m north of the site at No: 34 Lilly Pilly Way, Kiama. Initial Investigation has deemed this sewer too shallow to service the development.

The proposed development is borderline needing a DN300 or DN225 pipe to service this site which will be determined in a detailed design. For the costing proposal, we have assumed a DN300 pipe be installed for the Lead-In works.

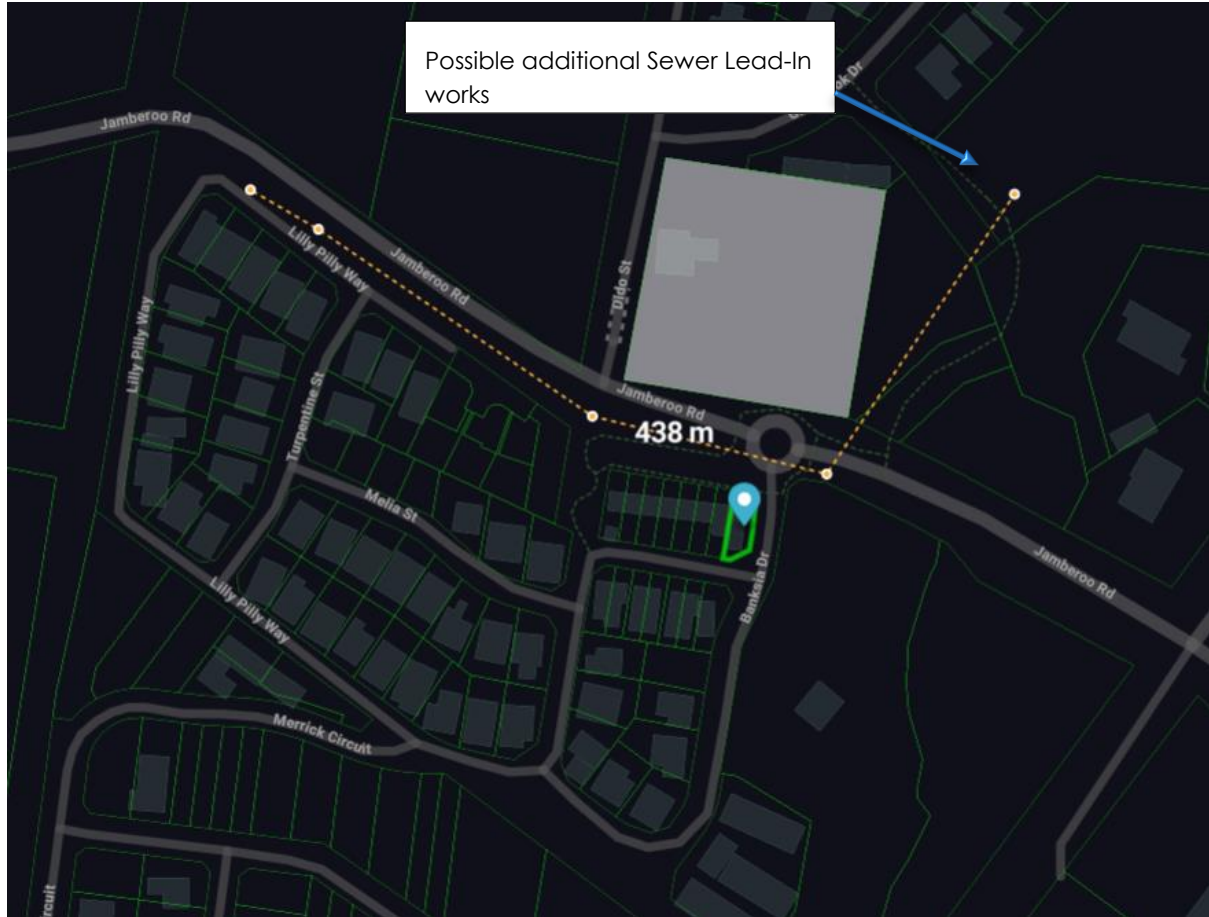
Refer to the diagram below.



It should be noted that the connecting DN225 sewer is around RL 14.00 and the sites RL is around RL22.0.

It has been determined that the existing DN225 sewer cannot service the development and an additional extension is required.

Please refer to the plan below.



Internal works

It should be noted that there are several steep gullies within the development. The gullies will dictate the sewer design at the Northern end of the site. A detailed sewer design should be completed early for the whole site to identify areas of concern and to possibly modify the lot and road pattern to suit.

The site will have sections of internal sewers in which grades will exceed over 15% . This should be avoided where practical, as it will lead to additional internal construction costs.

Sewer Costing

Sewer costing	Length	Estimated cost	Cost per /M
First Lead-In from site to the existing DN225 sewer	775	\$406,875.00	\$525.00
Second Lead in from site to sewer	438	\$284,679.00	\$650.00
Internal Reticulation Cost per a lot		\$ TBA	
Anticipated Lead/ internal detail Design / WSC cost		\$ 750,000.00	
Total		\$ 1,441,554.00	

POTABLE WATER SERVICING

This site has ground levels ranging between 22M to 118 AHD. This range affects the sites' connection to the existing potable water network. The site will need to be serviced by 2 different Sydney Water Reservoirs. The land below RL 82 will most likely be serviced by Sydney Water reservoir 0231 located at Irvine Street, Kiama. While land above RL 82 will need to be serviced by Sydney Water reservoir 0423 located at Old Saddleback road, Kiama. This will need to be confirmed by Sydney Water.

The site split above and below RL82 is shown below.

Above RL 82

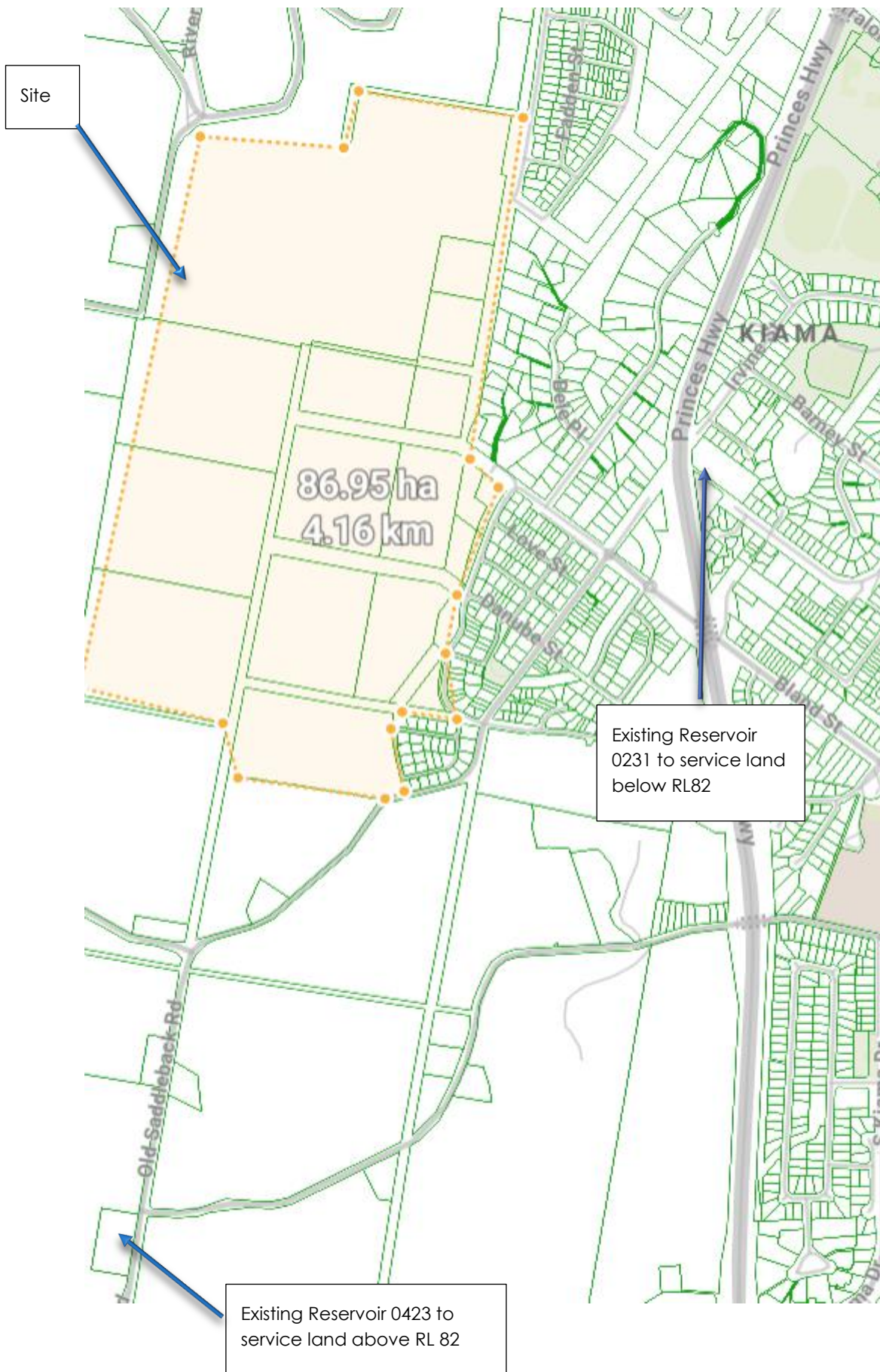
Type:	Apartments	Lots	Mews
No. of:	214	343	130
Total Lot Area (H)	1	45	2

Below RL 82

Type:	Apartments	Lots	Mews
No. of:	273	143	51
Total Lot Area (H)	2	14	1

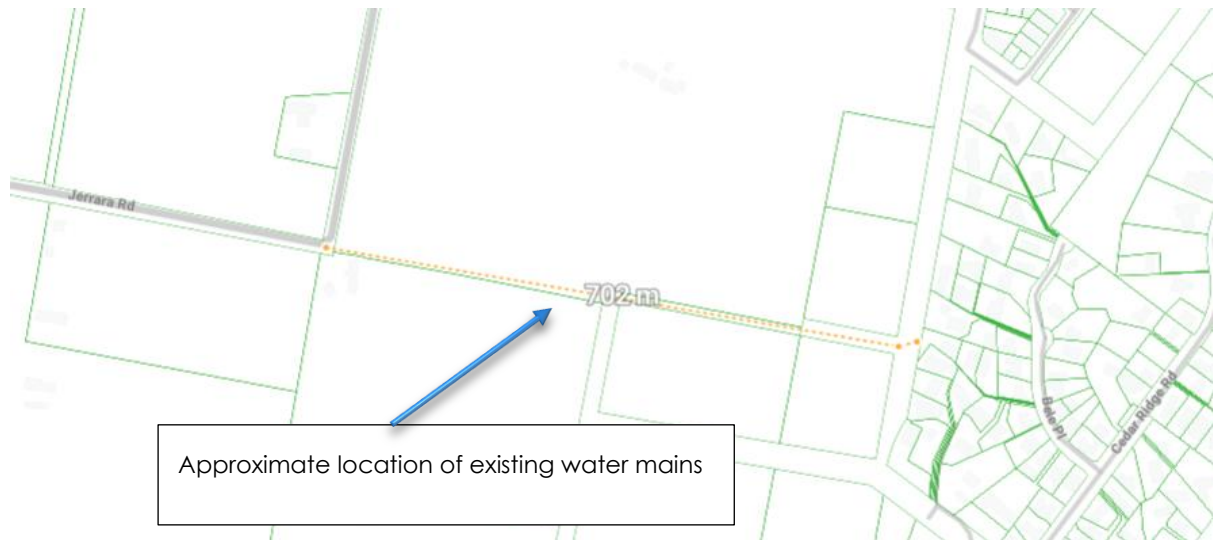
The site will also need to be set up into zones to ensure that the lower parts of the development will not have high water pressure. Sydney Water sets a 60 meter head as high pressure. Having two separate zones should eliminate the high-pressure zones issue.

Please refer to the plan below showing the two reservoir locations.



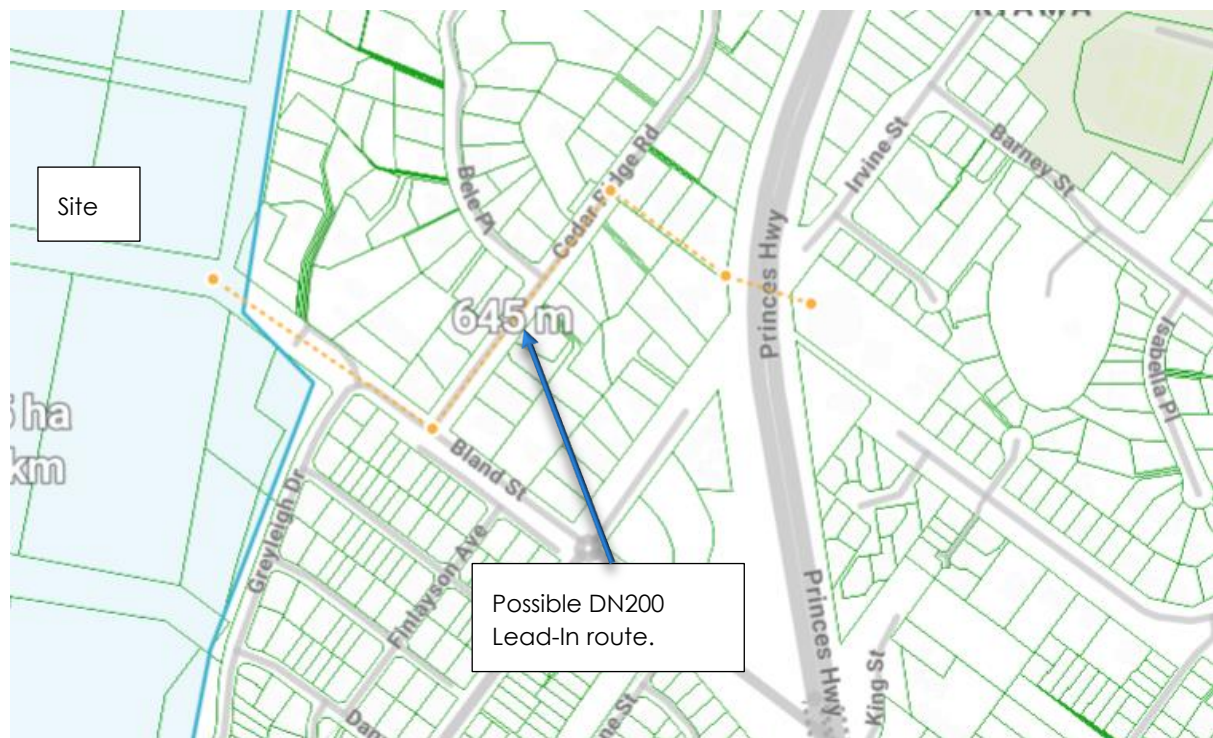
The site also has two existing Water Mains that traverse the site in an East/West direction. The Northern main is a DN225 CICL water main while the Southern main is a DN150 water main. These mains are not considered available for domestic connection as they are transfer mains from one reservoir to another. The mains may need to be adjusted to suit the developments final layout and level.

Below is the approximate location of two existing water mains crossing the site in an East-West direction.



Based on the proposed development yield and the existing potable water network system sizing, we anticipate the following water main upgrades will be required to service the site.

Lead in main to service land below RL 82



Lead in main to service land above RL 82



Based on our assessment we anticipate the following work would be required.

Water costing	
Above RL82 works	
Possible DN200 amplification for 1.1KM	\$ 412,500.00
Possible Reservoir upgrade at Old Saddleback road	\$ 1,300,000.00
Reservoir design	\$ 130,000.00
Below RL 82 works	
DN200 lead in water main 645M	\$ 483,750.00
Adjustment of the existing east/west mains through the site	
DN150 water -about 480m	\$ 180,000.00
DN225 water -about 480m	\$ 235,000.00
Internal water construction cost	TBA
Internal / external design / WSC role	\$ 375,000.00
Total	\$ 3,116,250.00

Please note, Sydney Waters' primary task is to provide potable water for domestic supply. Sydney Water does not need to provide water to meet firefighting requirements.

RECOMMENDATIONS

1. The client needs to review the development site yields as this will affect all assumptions within the report.
2. Waster Water items:
 - A detailed wastewater master plan should be prepared for the whole site early on in the development process. The internal sewer at the Northern-End of the development may require the road pattern to be adjusted vertically or horizontally to address the sewer design issue in that area.
 - Early consultation with Sydney Water is required to determine if the existing DN225 sewer main has the capacity to service the development.
 - Undertake a detailed survey from the site to the first Lead-In Sewer connection point. The existing sewer invert may not be low enough to connect to the site even if it has spare capacity.
3. Potable Water items:
 - Early consultation with Sydney Water is required to determine if the existing Reservoirs can service the development.
 - There may be an opportunity for the development to connect to the existing Potable Water network in the early stages of the development and delay the lead in potable water main works. Sydney Water should be consulted to determine how many lots could be connected before the lead potable water main works would be required.
 - Sydney Water may require the whole development to connect to existing reservoir 0423 located in Saddleback Road. This would create a high-pressure issue for the lower parts of the development and require a Pressure Reducing Valve to be installed. The Pressure Reducing Valve cost would be similar to the Lead-In water main cost to service the land below RL82. It is anticipated that the Lead-In to service the land below RL 82 would not be required.
4. We recommend lodging a feasibility application to Sydney Water once the development yield and rezoning or Development Application is lodged to commence early consultation with Sydney Water.

PREPARED / REVIEWED BY

Prepared by David Loizou

Reviewed by Mike Plektan

Version A.

APPENDIX B
EDGEWATER ASSESSMENT AND ENDEAVOR ENERGY
TECHNICAL REVIEW

7 October 2022

Our Ref: EWC5010

Paul Koen
Senior Project Manager
J. Wyndham Prince

Endeavour Energy Technical Review | ~300 Acre Mixed Use Development | KIAMA WEST.

The proposed mixed-use development is planning to yield approximately 1,140 lots west of Kiama. It may consist of; 466 Apartments, 183 Mews lots, 61 small lots, 233 standard lots, 175 Gully lots and 22 Hobby Lots along with some tourism and agricultural lots. The envisaged load of the overall development estimates the demand to be in the order of 5.4MVA.

Upon application for Technical Review for the proposed development located at Kiama West, Endeavour Energy created project ENL4491 and informed Edgewater Connections that the entire development would ultimately be supplied from Kiama Zone Substation, located on Hothersal Street approx. 1.1km away as the crow flies.

The nearest existing HV 11kV distribution supplies are overhead 11kV feeders KME2 Brown St on Jamberoo Road and KMA2 - Gipps St West which traverses the site from Bele PI to Jerrara Rd. There is insufficient spare capacity available from both existing feeders KME2 and KMA2 to support the forecast mature load of the development.

Endeavour Energy have advised that as of September 2022, it is forecast spare capacity will be available to service the initial stages of development. It is estimated the first 250 residential dwellings should be able to be supplied from existing 11kV feeders KME2 and KMA2 currently running through or directly adjacent to the site. However, this will depend on the actual commencement date of the development along with future scheduled annual lot release numbers. The HV linkage points will be determined when a firm application for load is submitted

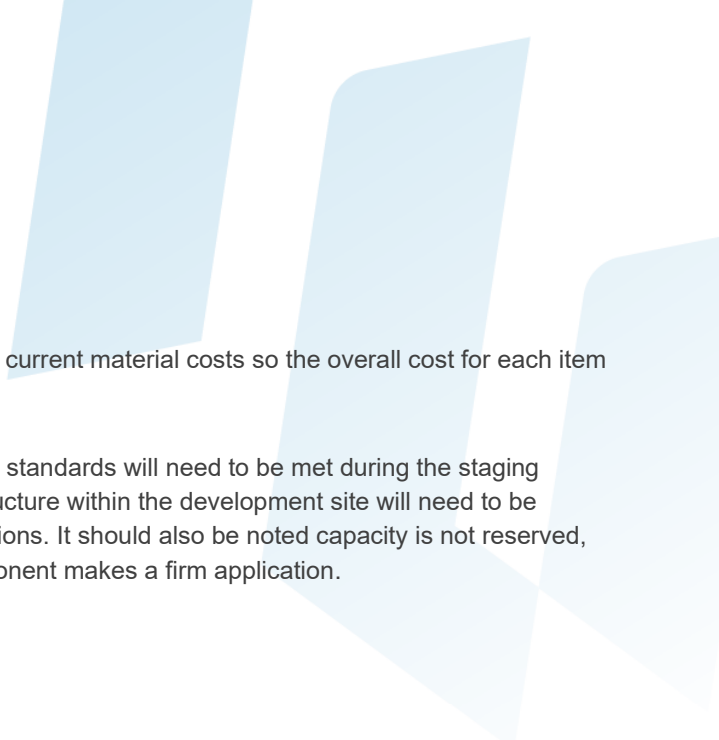
A new dedicated 11kV underground feeder is rated at ~5.5MVA, therefore the site could be supported by 1 x 11kV dedicated feeder with a second connection required to an adjacent shared feeder to provide back up and to allow for switching of loads across the HV network.

The proposed route from Kiama Zone Substation follows public road reserve along various residential streets before joining onto Terralong Street which later becomes Jamberoo Rd. Unfortunately, given the nature of the surrounding location all existing electrical feeders are of the overhead variety, so there are no conduits available for use.



As mentioned previously, ultimately an underground 11kV feeder would need to be installed for the entire route to provide suitable supply with full back up and therefore the existing overhead sections would need to be either relocated or removed converted to underground to secure full capacity and back up of approx. 5.5MVA

1. Cost Estimate for New 11kV Feeder Cost from Kiama ZS to Jamberoo Rd frontage		\$1,870,000.00
	Cost per Unit/Metre (\$/m)	
Design and Design Fees (1 design)	-	\$120,000
Installation 1 x 300mm Copper Cable from Kiama Zone Sub to Jamberoo Rd frontage (2,200m) – this rate is based on trench and install 6 x 125mm and 2 x 50mm class 6 conduits with soft cover.	\$600	\$1,320,000
Remove/Relocate existing Overhead network from the site	-	\$350,000
Endeavour Energy Non-Contestable Works, Design and Fees	-	\$80,000
2. Cost Estimate for Electrical Retic Works inside the site		\$4,390,000.00
Future design costs per stage, assuming 6 stages – this is very high level as we do not know the exact configuration of each stage	\$50,000	\$300,000
Future underground conversion of overhead section and connection to existing feeders	-	\$250,000
Internal reticulation assuming 8 x Substations with associated LV Connections & Street Lighting – this is a very high-level estimate as we do not know the exact number of connections or connection arrangement for each stage	\$450,000	\$3,600,000
Endeavour Energy Fees per stage	\$40,000	\$240,000
Total High Level Cost Estimate		\$6,260,000.00 exc GST



The above values are very high level and are based on the current material costs so the overall cost for each item is likely to fluctuate depending on staging and timing.

It should be noted that Endeavour Energy's supply security standards will need to be met during the staging phases of the proposed development. All electrical infrastructure within the development site will need to be reticulated with underground cables and padmount substations. It should also be noted capacity is not reserved, and the method of supply may change at the time the proponent makes a firm application.

Yours faithfully,
Edgewater Connections

Jason Farrar-Roberts

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27 September 2022



Endeavour Energy Ref: ENL4491
Customer Ref:

Edgewater Connections
PO Box 8114
Norwest NSW 2153

Attention: Jason Farrar Roberts

Dear Sir,

ENL4491 – Technical Review Request: 103 Jamberoo Road, KIAMA

Thank you for your enquiry application and the payment of fees to facilitate the enquiry request at the above location. Your application has been registered under **ENL4491**. Please quote this reference number on all future correspondence.

It is understood this enquiry (ENL4491) proposes a mixed-use development of approximately 1,140 lots west of Kiama. It may consist of; 466 Apartments, 183 Mews lots, 61 small lots, 233 standard lots, 175 Gully lots and 22 Hobby Lots along with some tourism and agricultural lots. Capacity Planning estimates the demand to be in the order of 5.4MVA.

The development site off Jamberoo Road is located approximately 1.1km from Endeavour Energy's Kiama Zone Substation (ZS). The nearest existing HV 11kV distribution supplies are overhead 11kV feeders KME2 Brown St on Jamberoo Road and KMA2 - Gipps St West which traverses the site from Bele Pl to Jerrara Rd. There is insufficient spare capacity available from both existing feeders KME2 and KMA2 to support the forecast mature load of the development.

As of September 2022, it is forecast spare capacity will be available to service the initial stages of development. It is estimated the first 250 residential dwellings should be able to be supplied from existing 11kV feeders KME2 and KMA2 (see below image). However, this will depend on the actual commencement date of the development along with future scheduled annual lot release numbers. The HV linkage points will be determined when a firm application for load is submitted.

Ultimately, it is envisaged that lead-in 11kV distribution works will be required. This will likely involve establishing 1 x new 11kV distribution feeder from Kiama ZS located Off Hothersal Street Kiama to new padmount substations within the development area.

Endeavour Energy's supply security standards will need to be met during the staging phases of the proposed development. All electrical infrastructure within the development site will need to be reticulated with underground cables and padmount substations.

It should be noted capacity is not reserved, and the method of supply may change at the time the proponent makes a firm application. The advice provided is in response to an enquiry only.

Endeavour Energy is committed to making provisions for proponents to connect to its network in a fair and equitable manner in accordance with current policies

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Please note all works will be contestable and customer funded and constructed with the exception the reimbursement of any transformer required or spare ducts.

If you wish to proceed with this project, the developer or their representative will need to submit an Application for Connection Of Load to Endeavour Energy which is available on the Endeavour Energy website [here](#).

Once the application is processed and a Connection Offer has been issued by Endeavour Energy, which will provide preliminary supply requirements, you will need to engage a level 3 Accredited Service Provider who will submit a formal Method of Supply.

A list of the Accredited Service Providers is available at the NSW Trade and Investment website [here](#) or can be obtained via phone 13 77 88.

Please note this enquiry is only a preliminary assessment and does not guarantee supply availability or final conditions of supply.

Should you have any enquiries regarding your application please contact me.

Yours faithfully,

Mi Siddiqui

Customer Network Engineer

M: 0457 139 971

Email: cwtech@endeavourenergy.com.au

