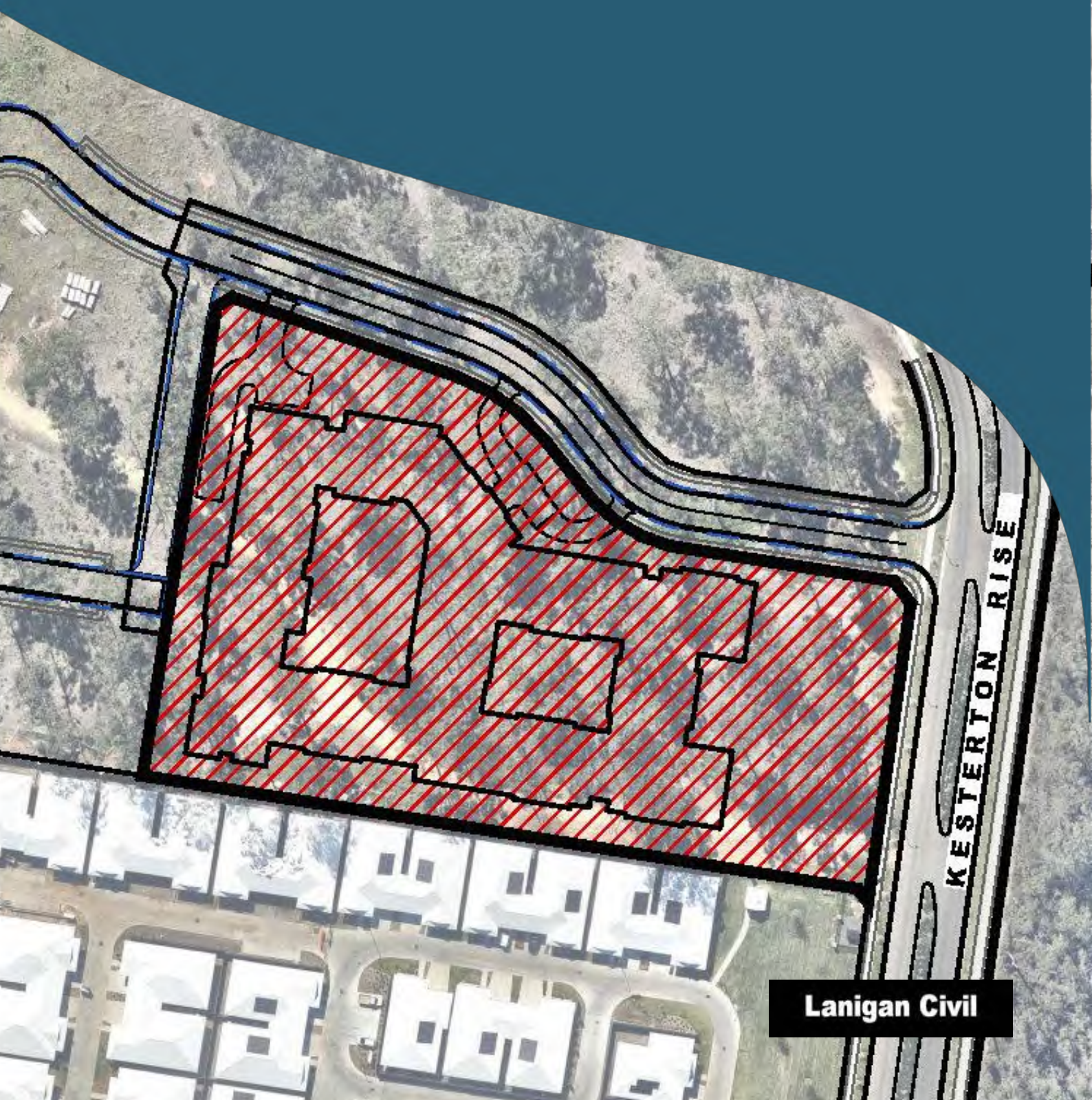
Proposed Residential Aged Care Facility

Water Management and Utility Servicing Report

Prepared for Knowles Group

November 2024
LC2667-Engineering Report



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Appendices

Document Control				
Revision	Date	Description	Prepared	Approved
A	19/01/2024	Rev 1	Nick Caudry	Geoff Lanigan
B	03/05/2024	Rev 2	Nick Caudry	Geoff Lanigan
C	25/08/2024	Rev 3	Nick Caudry	Geoff Lanigan
D	08/11/2024	Rev 4	Nick Caudry	Geoff Lanigan

1. Executive Summary

This report outlines the water management and utility services arrangements for the proposed Huntlee Residential Aged Care (RAC) facility. The proposed RAC site is proposed to be located on part of Lot 4150 DP 1275574. This Lot is located within Stage 44 (comprising stages 44A & 44B) of the Huntlee subdivision being undertaken under Major Project MP10_0137 and is being carried out by LWP (the subdivision development) on behalf of Huntlee Pty Limited (the owners). The RAC will be sited on proposed Lot 494 under the Major Project subdivision.

At the time of writing this report the Stage 44 subdivision works have just started on site with clearing of trees. Therefore, the current condition of the proposed site is a cleared open space that is bounded to the east by Kesterton Rise. As part of the Hunltee Stage 44 subdivision works, new roads are to be constructed that bound the northern and western boundaries of the proposed RAC site.

Extensive consultation has been undertaken between the overall subdivision developers, LWP, and Knowles Group (including Lanigan Civil) to ensure that sufficient allowance for the proposed RAC development has been catered for within the subdivision works for all external stormwater and utility services. To this end, the contract of sale between Knowles Group and Huntlee Pty Limited contains a Schedule of Guarantor Works to be delivered by Huntlee Pty Limited, which includes stormwater and utility services.

The external utility services being constructed within Huntlee Stage 44 include provision for:

- Pressure sewer with boundary trap connection point;
- Potable water connection;
- Electrical connection point (final location TBC);
- NBN connection point;
- Gas connection point; and
- Stormwater legal point of discharge, sized to cater for RAC development for both hydraulic (water quantity) and water quality (water sensitive urban design - WSUD).

After the completion of Huntlee Stage 44, which creates the title for the proposed RAC development, all services are provided to the site with the required allowance for the RAC. Therefore, no external authority utility works are required to service the developed RAC development.

2. Introduction

This report outlines the engineering and service arrangements for the proposed Huntlee Residential Aged Care (RAC) facility. Development consent for the proposed RAC is being sought through the State significant development pathway.

Huntlee is a master planned community currently being developed under Major Project approval (MP10_0137) refer Figure 1. Huntlee is located 20km North of Cessnock and 25km Southeast of Singleton. It straddles Wine Country Drive, which links Cessnock with the New England Highway at Branxton.

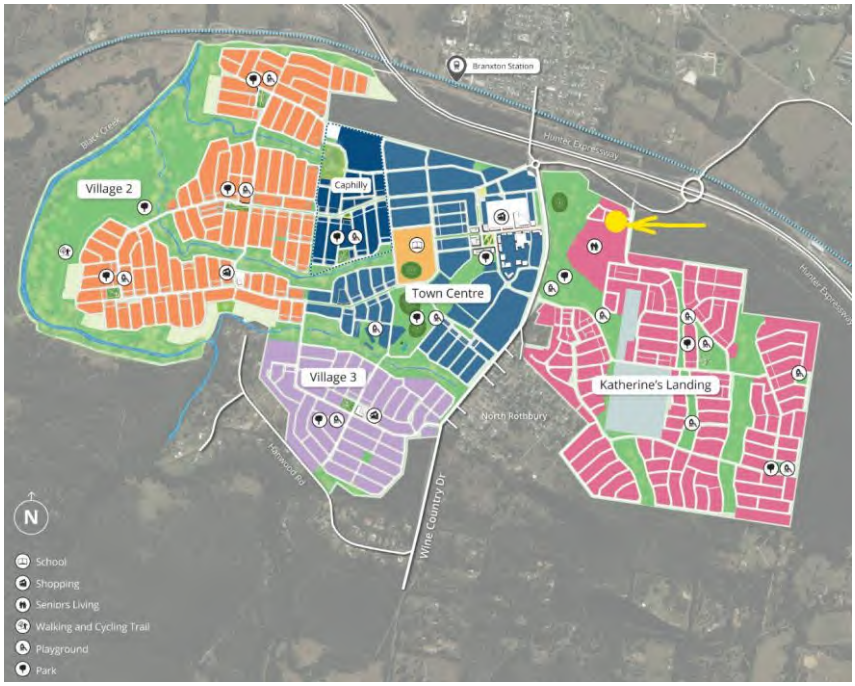

Figure 1 –Huntlee Master Plan.

The proposed RAC sits within Stage 44 in the northeast corner of the master planned community. At the time of writing this report the site is within an area yet to be developed.

Subdivision works approved under MP10_0137 that provide road access, services and creation of the lot (proposed Lot 494), upon which the RAC is proposed, are (at the time of writing this report) finalising construction certificate documentation to allow works to start on site by the subdivision developer (LWP).

The RAC is proposed on Lot 494 within Stage 44A & 44B Huntlee subdivision and located on part of Lot 4150 DP 1275574. As part of the subdivision works, LWP has been provided with the services requirements for the size of the proposed RAC.

Prior to settlement of the lot (that allows for development works to start on the RAC) Stage 44A and 44B subdivision works must be completed, including delivery of stormwater infrastructure and utilities.

2.1 Purpose of the Report

This report showcases the authority infrastructure, both existing and to be provided to the subject site, surrounding the proposed development, which includes an overview of the following utility services:

- Stormwater management (including flood impact),
- Sewer,
- Water,
- Electricity,
- Gas
- Telecommunications.

2.2 Relevant Reports and Documents / Information Sources

As the proposed RAC development site is a yet to be created Lot (future Lot 494), considerable consultation has taken place between the RAC design team (including Lanigan Civil) and the subdivision developers (LWP) to ensure the RAC site is appropriately serviced.

This report has been prepared with consideration given to the following information sources:

- Dial before you dig (DBYD) information packages,
- Engineering arrangement Plan –14/09/21- Daly Smith (Appendix B),
- Huntlee Subdivision Modification 20 Stormwater & Flood Management Strategy – December 2021- Northrop Consulting Engineers, 17/12/2021
- Huntlee Subdivision Stage 44A & 44B Civil Engineering Package Drawing number C01-C16 rev B - Northrop Consulting Engineers,
- Huntlee Subdivision Engineering Design Report Stage 44, Rev C - Northrop Consulting Engineers, 04/05/2023
- Huntlee Subdivision Stage 44A & 44B Potable Water, Recycled Water and Pressure Sewer Reticulation Drawings by ADW Johnson,
- Huntlee Subdivision Stage 44A & 44B Electrical Drawings by APD Engineering,
- Site Survey by De Witt Consulting.
- Cessnock Development Control Plan 2010 Part E

2.3 Site Description

At the time of writing this report the site has recently been cleared of vegetation (refer Figure 2) and grades naturally at an approximate slope of 1 in 50 from the highest point in the southeast corner, to the low point in the northwest corner. As part of the subdivision works prior to the RAC development, fill is to be placed in the northeast corner up to 2m in depth. Therefore, once titles for the subdivision are released and development of the aged care facility can start, the site will be free from all trees and the western half of the site will be levelled with the eastern half of the site.

The proposed development lot is bound to the south by a currently under construction retirement village. At the time of writing this report, the village units along the southern boundary of the subject site are currently under construction. As part of the village earthworks, a retaining wall (up to 1.5m in height) has been constructed along the subject site's southern boundary, with the unit floor levels up to 1.5m above current existing ground level. Figure 2 shows the proposed RAC site and its relationship to the surrounding area of the retirement village.

Figure 2 –Current Arial Image – taken 8/8/2024.

At the time of writing this report, the subdivision roads to the north and west of the subject site are yet to be constructed. Typical cross section from the Northrop Civil Engineering Package Stage 44A and 44B are shown in Figures 3 and 4 for the roads adjoining the site.

Figure 3 illustrates the future road to the north of the subject site which has a proposed 16.2m road reserve with 7.7m carriage way and 1.2m footpath on either side.

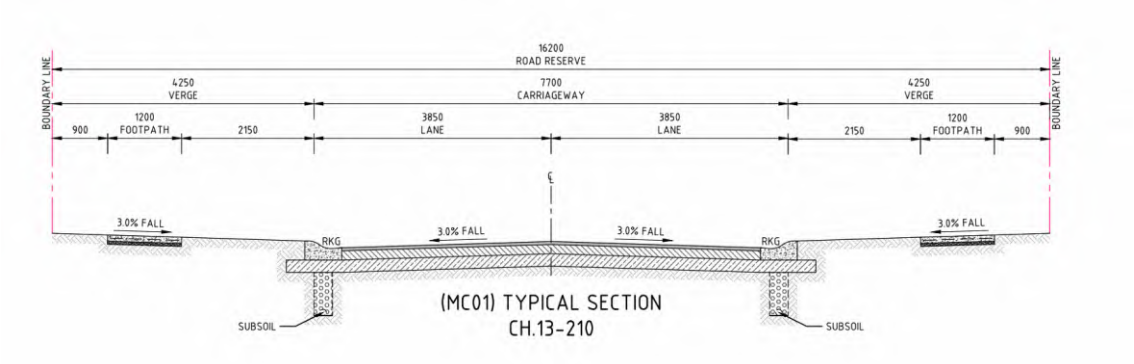

Figure 3 – Northern Subdivision Road Typical Cross Section – ref Northrop Civil Engineering Package.

Figure 4 illustrates the future road to the west the subject site and will consist of a 9m road reserve with 6m wide laneway.

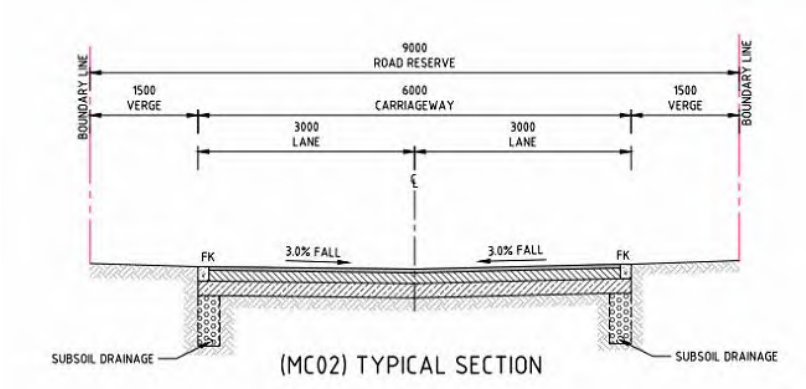

Figure 4 – Western Subdivision Road Typical Cross Section – ref Northrop Civil Engineering Package.

All services are to be provided to the subject site as part of the subdivision works being carried out under MP10_0137. Refer to the engineering arrangement plan, Appendix B.

3. Stormwater Management and Flooding

3.1 General

Refer to Stormwater Management Plan LC2667-SMP, Appendix C.

The subject site is to be provided with a Point of Discharge as part of the Huntlee Stage 44A and 44B subdivision works in the Northwest corner of the site. As outlined in the Northrop Design Report Stage 44A & 44B, the downstream drainage system has allowed for the subject site as a fully developed Lot, with an impervious area allowance of 85%.

Allowance for the impervious area of the development used by Northrop in the subdivision drainage works has been set at 85% impervious for commercial lots as per industry standard and required under Cessnock DCP Part E, section 3.2. Flooding and water cycle management. As per sheet 2 of the stormwater management plan, appendix C, the impervious area of the proposed RAC development is 76%. As the impervious area of the development is less than allowance made within the drainage design work, the downstream drainage network has sufficient capacity for the proposed development.

Minor and major stormwater systems are proposed for the site in accordance with Australian rainfall and runoff and the Cessnock DCP Part E. As per the control measures outlined within the, Cessnock DCP Part E,section 3.2 Flooding and water cycle management, all internal minor 10%AEP storm events will be catered for in an underground pit and pipe network. Overland flows have been allowed to safely convey the 1%AEP flows across the site to the external road reserve. Other control measures, such as, WSUD and Detention, are addressed and catered for within the down stream drainage network.

3.2 Stormwater Quality / Water Sensitive Urban Design

MP10_0137 has approved stormwater quality infrastructure on a holistic scale for the Huntlee New Town. This includes the construction of regional water quality basins which are constructed and evident in Figure 2. The proposed RAC site will drain to a basin that has been constructed to the west of the site (evident in Figure 2).

The allowances and results for water quality objectives are outlined in the Huntlee Subdivision Engineering Design Report -Stage 44 prepared by Northrop Engineers. A summary of the MUSIC model that highlights allowance of the proposed development site within the downstream treatment train is highlighted in Figure 5

The external treatment train provided includes bioretention basins and gross pollutant traps. The developed RAC site has been modelled with an 85% fraction impervious factor to allow for a commercial lot, this allowance is consistent with the requirements for the proposed RAC.

Due to all stormwater treatment being provided external to the subject lot there are no proposed internal treatment devices as part of the RAC development, such as reuse/rainwater tanks, raingardens or proprietary products.

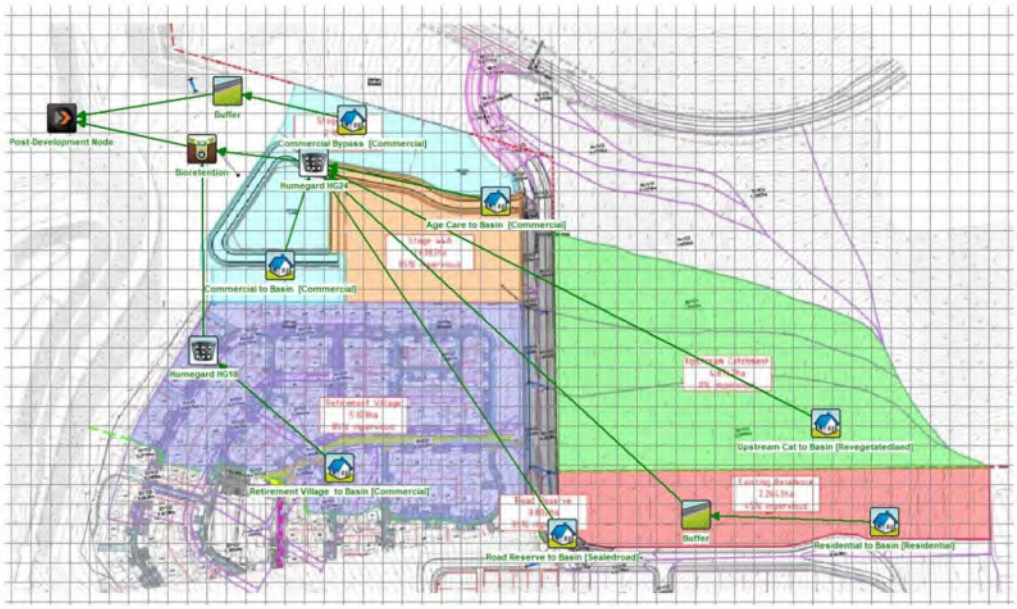

Figure 5– Stage 44 Subdivision Music Modelling – ref Northrop Engineering Report dated 04/05/2023

3.3 Onsite Detention

As documented within the *Huntlee Subdivision Engineering Design Report -Stage 44* prepared by Northrop Engineers dated 04/05/2023, the existing basin to the west of the development will effectively attenuate runoff up to the 1%AEP peak flow with an anticipated storage volume of approximately 4,334m3. This basin and the associated inground and overland flow leading into it (including flows from the proposed RAC site) have an allowance for the proposed Lot 494 with a 85% impervious fraction, thus allowing for full development of the site with no additional onsite detention required.

3.4 Flood Level

Flood mitigation modelling and works have been prepared and will be executed as part of the Huntlee Stage 44 subdivision works.

As reported within *Huntlee Subdivision Modification 20 Stormwater & Flood Management Strategy, December 2021,* prepared by Northrop Consulting Engineers, there is a major flood path within the Riparian corridor approximately 80m to the West of the RAC site, adjacent to Wine Country Drive. Probable Maximum Flood (PMF) elevation levels are calculated in the *Huntlee Subdivision Engineering Design Report – Stage 44* to be RL42.0 adjacent to the subject site. Post subdivision works the lowest point of the subject site is RL43.90, thus 1.9m above of the PMF level.

The extent of the PMF is shown on the stormwater management plan within Appendix C. This extent shows that the proposed RAC site is fully clear of the PMF with clear access to all vehicle access points to the site.

New underground drainage systems to redirect existing open drainage that currently exist through the subject site is proposed as part of the subdivision works. At the time of development, post subdivision works, external Council Street drainage will cater for 10%AEP drainage flows with all 1%AEP gap flows being directed within the council road reserves.

3.5 Drainage Easements

The proposed development site has a 3m drainage easement along the eastern title adjacent to Kesterton Rise. This easement conveys a council owned 750dia stormwater pipe. This easement has no detrimental effect on the proposed development as all infrastructure and retaining walls are located outside of this easement.

The draft Engineering Arrangement Plan (Attachment B) indicates a 1.5m drainage easement in the south western corner of the proposed lot 494. When this easement was created the adjoining land to the south had a trapped low point that required drainage infrastructure on the neighbouring land (being the subject site). The adjoining land to the south has since been developed as a retirement village. The retirement village development fully captures all of its stormwater within its site and directs stormwater to the far west of their site. As such this 1.5m drainage easement is no longer required. However, the proposed residential care facility has made an allowance for this 1.5m easement within the open space areas, should it be required for other reasons.

4. Services

4.1 Sewer

Sewer infrastructure within the Huntlee area is managed by Altogether Group, a privately owned infrastructure company specialising in the supply/servicing of sewer and water infrastructure to the wider community.

As part of Huntlee Stage 44 subdivision works, reticulation of pressure sewer service will be provided by LWP to the northeast corner of the proposed RAC lot with the installation of a boundary kit (a small valve assembly within a pit at the boundary ready for the lot connection), refer to Figure 6 below. This sewer infrastructure within the proposed road reserve will be constructed and commissioned by Altogether Group prior to release of the proposed title.

As outlined within Appendix D- BESTEC Servicing requirements, the sewer connection will need allowance for approximately 850 fixture units. The internal sewer will be gravity fed to the connection point in the Northeast corner of the site.

As per Altogether Group requirements a pressure pump and storage tank is required to be installed adjacent to the the boundary kit location at the time of the RAC development (conceptually illustrated in Figure 7). Final sizing of the pump and required storage to be determined in consultation with Altogether Group at time of detailed design. Upon completion of the works the sewer pump station and storage tank will be taken over by the authority for ongoing operation and maintenance. Internal gravity plumbing to this point to remain private plumbing.

As a sewer connection point is being provided to the site by LWP with sufficient allowance for the RAC, there is no external sewer authority works required to service the proposed RAC development.

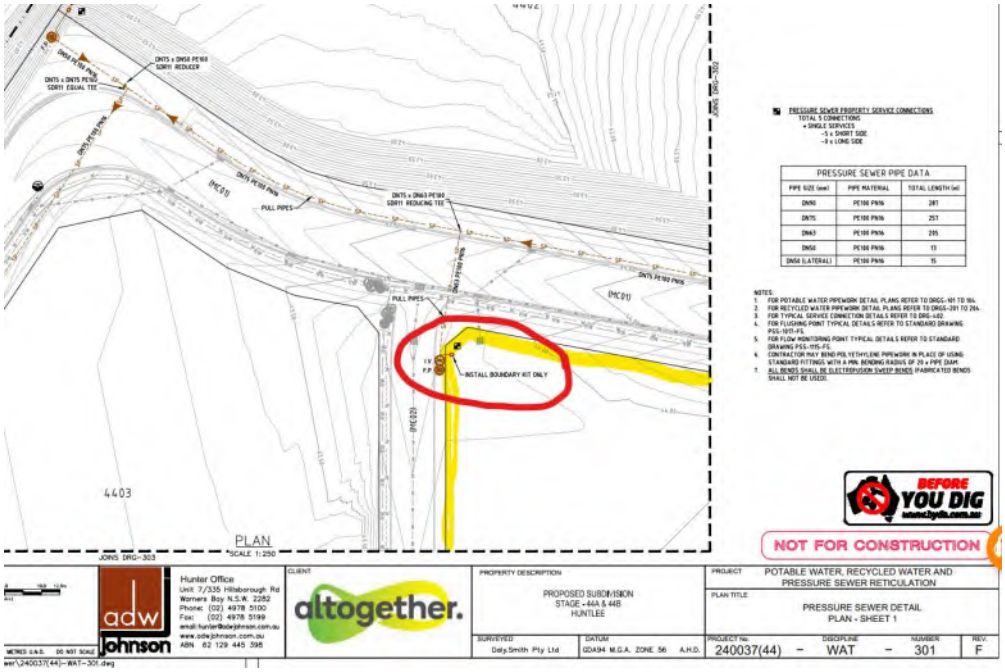

Figure 6– Extract from Sewer Design Plans for Huntlee Stage 44 By ADW Johnson revision F dated 08/07/24

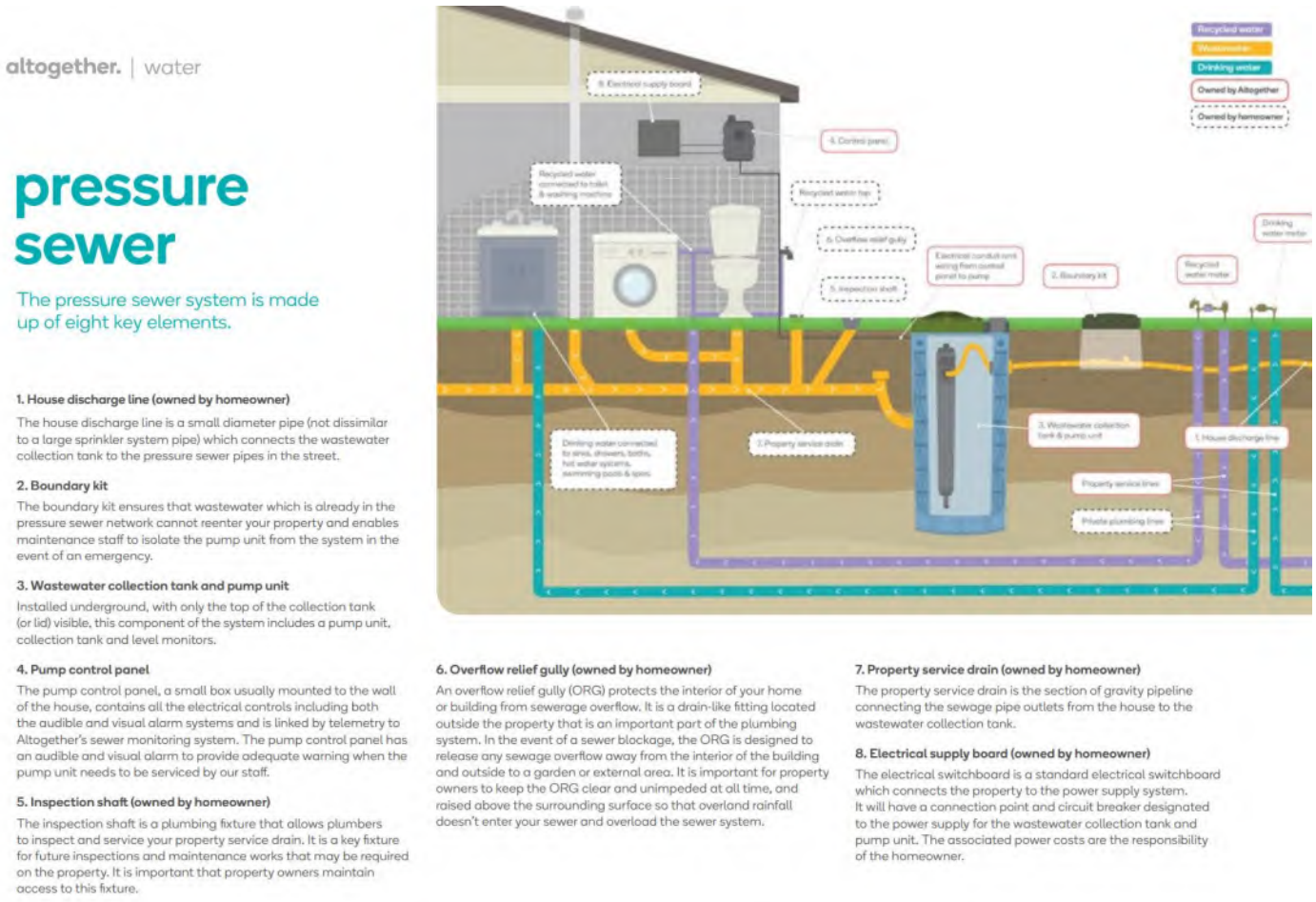

Figure 7– Extract from Altogether Group Pressure Sewer land owner information pack.

4.2 Water

Water infrastructure within the Huntlee area is managed by Altogether Group, a privately owned infrastructure company specialising in the supply/servicing of sewer and water infrastructure to the wider community.

Currently (at time of this report) both potable and non-potable water is reticulated along the eastern boundary of the proposed site within the Kesterton Rise road reserve.

As part of Huntlee Stage 44 subdivision works additional reticulation of both the potable and non-potable water will be constructed along the northern and western boundaries on the proposed site. This water infrastructure within the proposed road reserve will be constructed and commissioned by Altogether Group prior to release of the subdivision certificate for the proposed title.

As per Appendix B – Engineering Arrangements, the proposed RAC site will be provided with an allowance of minimum 20l/s and as agreed in the contract of sale of the land between the vendor and purchaser, however final allowance (they may be higher) including pressure and flow data can only be provided once the water mains are installed and operational by Althgether Group.

The water requirements for the site are outlined in Appendix D- BESTEC Servicing requirements, with the proposed RAC requiring 5l/s of water supply to meet AS3500 for the potable water supply. Thus, the 20l/s expected for the site will be sufficient for the potable water requirements.

For fire protection services, preliminary supply calculations provided by BESTEC within Appendix D indicate a requirement of approximately 38l/s. With the expected flow of 20l/s to be provided, the shortfall of 18l/s will need to be provided by a tank and pump with a capacity of up to 80KL. As this requirement is unconfirmed at this point in time, until the authority water main is installed and able to be tested, the design team for the RAC has made allowance for a fire tank and pumps, within the basement, should this be required at time of development.

As the water connection point being provided to the site by LWP will have sufficient capacity for the proposed RAC development, with the possible addition of a Fire tank to make up any difference, there is no external water authority works required by this application to service the proposed RAC development.

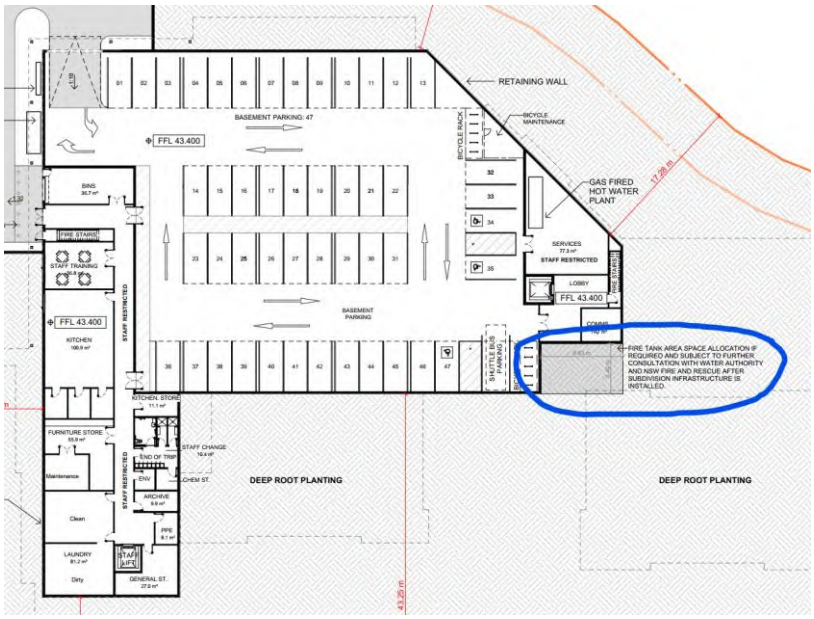

Figure 8– Extract from MarchesePartners Basement plan highlighting allowance for possible fire tank and pump

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4.3 Electricity

Extensive consultation has been undertaken between Knowles Group and LWP as the developer of the Huntlee Stage 44 subdivision works. As with other services LWP has been provided with the minimum requirement for the proposed RAC site.

At time of writing this report the final electrical supply location is yet to be confirmed. LWP, being the overall developer for the subdivision is yet to confirm final electrical supply modelling and location, however LWP has committed through the contract of sale of the land, to provide a substation in the vicinity of the north western corner of the proposed RAC site with sufficient allowance.

Appendix B the draft engineering arrangement plan shows the proposed substation within the proposed RAC lot in the north west corner, however Huntlee Subdivision Stage 44A & 44B Civil Engineering Package from Northrop for the subdivision show the substation on a neighbouring property to the north of the RAC. Either of these locations will be acceptable for electrical supply location for servicing the RAC development.

As an electrical connection point is being provided to the site by LWP with sufficient allowance, there is no external Electrical authority works required to service the proposed RAC development.

4.4 NBN

NBN infrastructure is currently available to the site along the Eastern boundary along Kesterton Rise. In addition to this, NBN reticulation is to be provided along the Northern boundary of the RAC site as part of the subdivision works being constructed as part of Huntlee Stage 44.

As NBN connection point is being provided to the site, there is no external authority works required to service the proposed RAC development.

4.5 Gas

Gas infrastructure within the Huntlee area is managed by Jemena. Gas infrastructure is currently available to the site along the Eastern boundary along Kesterton Rise. As part of the subdivision works a gas connection point is to be provided to the site by LWP. Refer to Appendix A infrastructure delivery plan for the proposed gas connection point.

As gas connection point is being provided to the site, there is no external authority works required to service the proposed RAC development.

APPENDICES

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Appendix A – Infrastructure Delivery Plan

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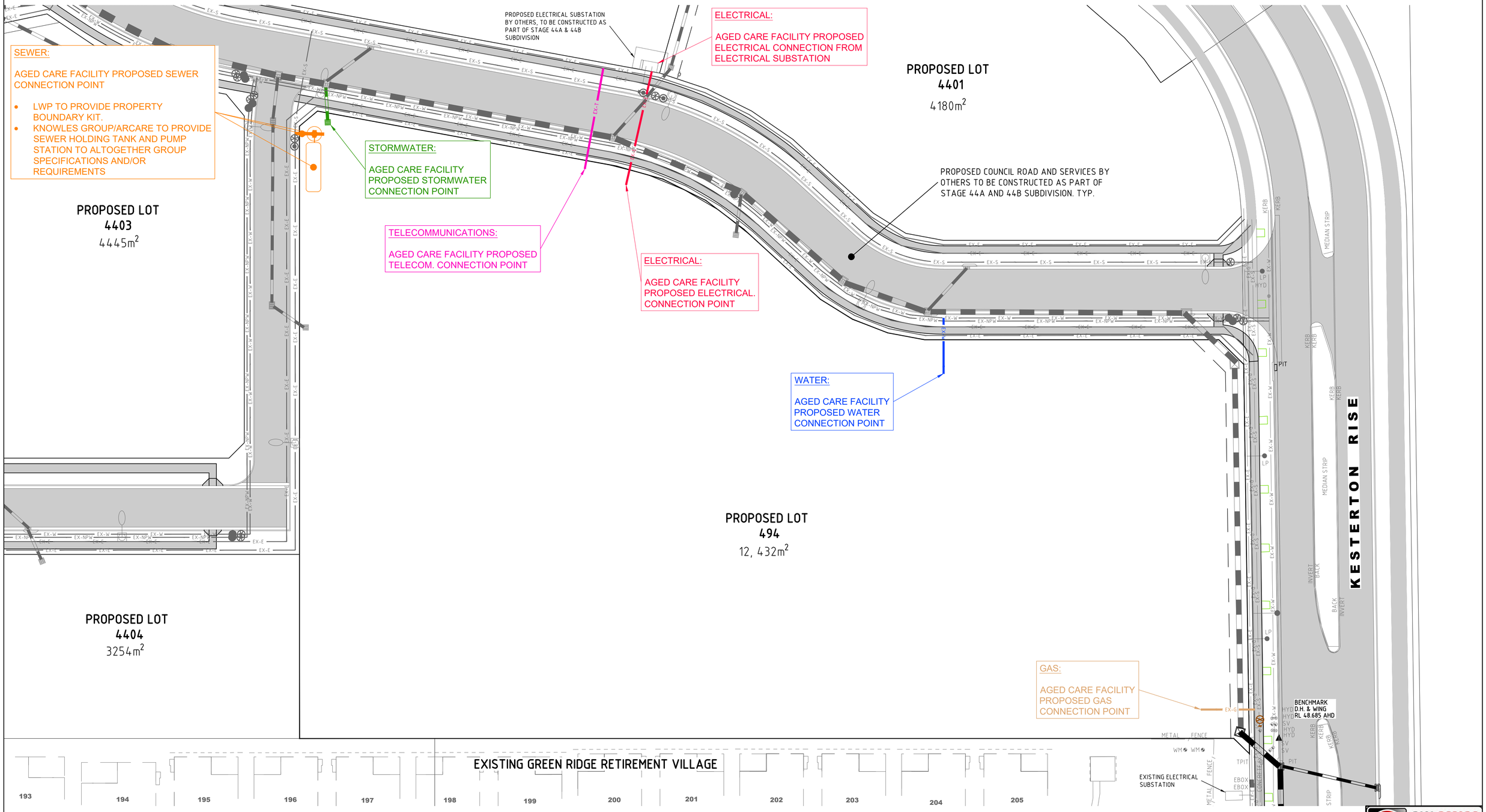
HUNTLEE AGED CARE FACILITY

INFRASTRUCTURE DELIVERY PLAN



INFRASTRUCTURE DELIVERY PLAN

6 3 0 6 12 18 24 30

LENGTHS ARE IN METRES
SCALE 1 : 300 @ A1

DIAL BEFORE YOU DIG
www.1100.com.au

CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

NO	REVISION	DATE	NO	REVISION	DATE
A	DA ISSUE	29/10/24			
P1	PRELIMINARY ISSUE	14/10/24			

DATUMS USED FOR THIS DESIGN/DRAWING
VERTICAL: AHD – REFER BENCH MARKS ON PLAN
HORIZONTAL: MGA94 – COMBINATION OF NORTHROP STAGE 44A AND 44B CIVIL ENGINEERING PACKAGE REF:44-C16.01 AND FEATURE AND LEVEL SURVEY PREPARED BY DE WITT CONSULTING REF: 15019-A DATED: 26/02/2024

arcare AGED CARE
KNOWLES GROUP

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INFRASTRUCTURE DELIVERY PLAN

HUNTLEE
AGED CARE FACILITY

107 KESTERTON RISE, BRANXTON, NSW, 2335

NORTH

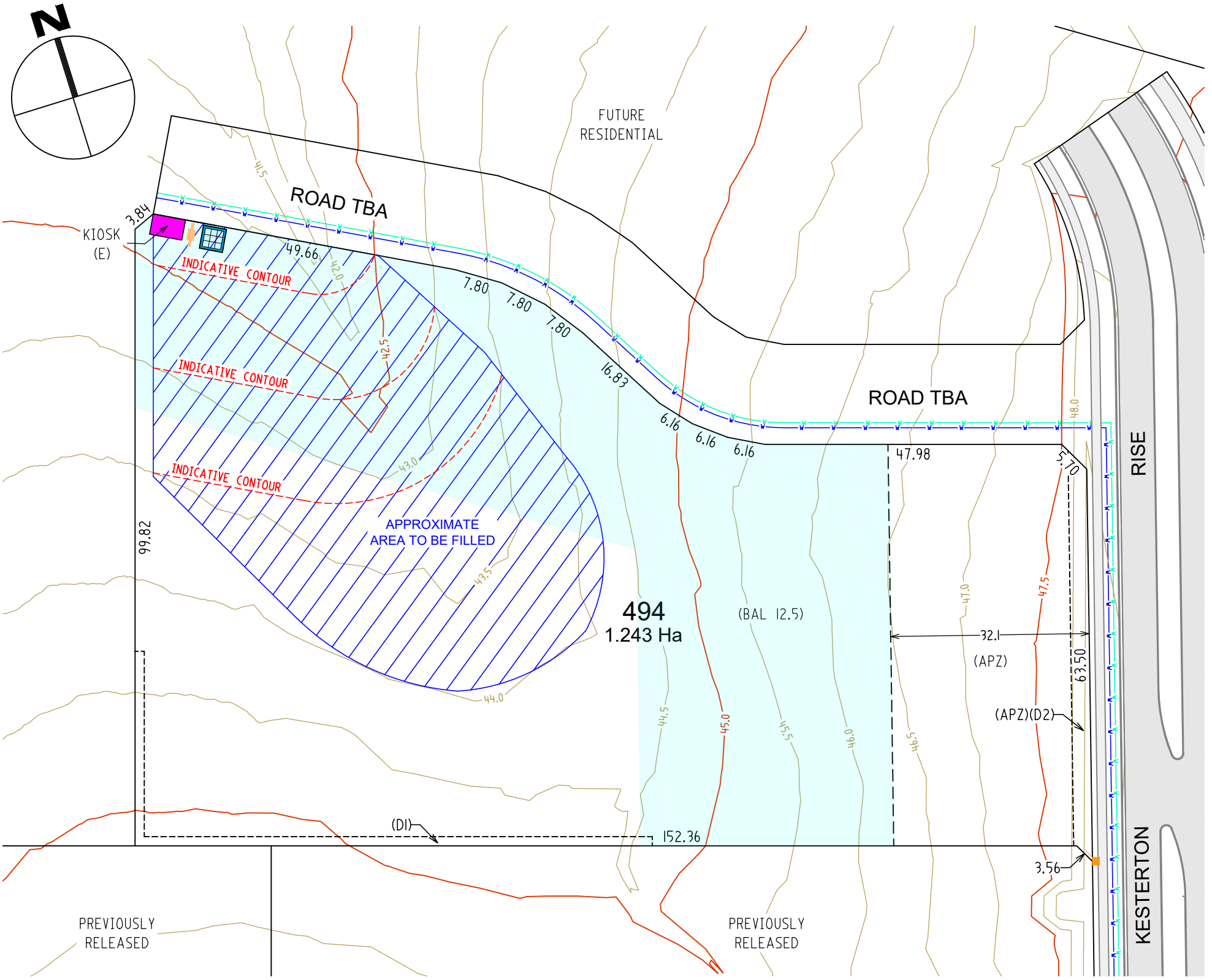
DESIGNED	DRAWN	CHECKED
MJL	MJL	NJC

DATE	SCALE/S
02/05/24	AS NOTED

DRG NO.	ISSUE
LC2667-TP01	A

Appendix B – Engineering Arrangement Plan

DRAFT ENGINEERING ARRANGEMENTS PLAN



LEGEND

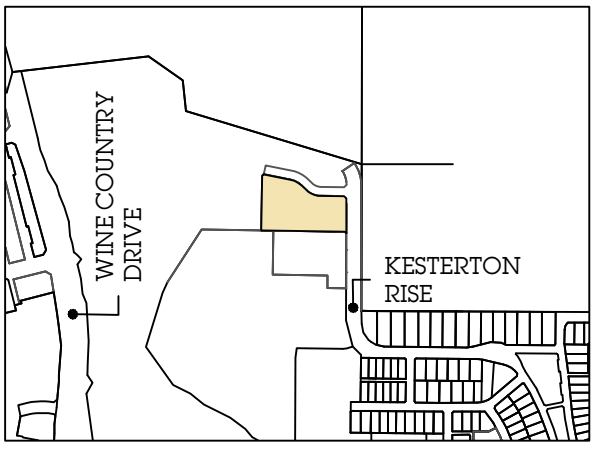
- PROPOSED GAS & NBN CONNECTION POINT
- AUSGRID KIOSK & ELECTRICAL CONNECTION POINT
- STORMWATER CONNECTION POINT
- SEWER BOUNDARY KIT
- NO VEHICULAR ACCESS
- WATER MAIN (RECYCLED)
- WATER MAIN (DRINKING)

(APZ) - PROPOSED ASSET PROTECTION ZONE 32.1 WIDE & VARIABLE
(DI) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 1.5 WIDE
(D2) - PROPOSED EASEMENT FOR DRAINAGE OF WATER 3 WIDE & VAR.
(E) - PROPOSED EASEMENT FOR ELECTRICITY AND OTHER PURPOSES 2.05 WIDE

NOTES:

1. WORKS BY PURCHASER
   - (i) ALL INTERNAL ELECTRICAL INFRASTRUCTURE DESIGN AND CONSTRUCTION INCLUDING CONNECTION TO AUSGRID KIOSK SUBSTATION;
   - (ii) ALL INTERNAL COMMUNICATIONS INFRASTRUCTURE DESIGN AND CONSTRUCTION, AS WELL AS ANY NECESSARY APPLICATIONS TO NBN Co AND CONNECTION TO EXTERNAL NBN PIT AND PIPE NETWORK;
   - (iii) ALL INTERNAL SEWER INFRASTRUCTURE DESIGN AND CONSTRUCTION INCLUDING TO THE ALTOGETHER GROUP SEWER BOUNDARY KIT AND THE DESIGN AND INSTALLATION OF SEWER COLLECTION TANKS AND PUMPS TO ALTOGETHER GROUP REQUIREMENTS;
   - (v) ALL INTERNAL POTABLE/RECYCLED WATER INFRASTRUCTURE DESIGN AND CONSTRUCTION INCLUDING TAP IN TO THE POTABLE AND RECYCLED WATER MAINS IN THE ROAD VERGE TO ALTOGETHER GROUP REQUIREMENTS, INCLUDING ANY FIRE FIGHTING REQUIREMENTS OVER AND ABOVE TYPICAL 20L/s SUPPLY PROVIDED BY THE WATER AUTHORITY;
   - (vi) ALL INTERNAL STORMWATER INFRASTRUCTURE DESIGN AND CONSTRUCTION, AND CONNECTION TO HUNTLEE DISCHARGE POINT, ENSURE OIL COLLECTION DEVICES PROVIDED IN ANY CARPARKS; AND
   - (vii) ALL SERVICE CONNECTION APPLICATIONS, PAYMENT OF CONNECTION FEES AND CHARGES AND INSTALLATION OF ANY METERS REQUIRED BY FOR THE ITEMS REFERRED TO IN SUBCLAUSES (i) TO (vi)
2. WORKS BY THE VENDOR
   - (i) SITE EARTHWORKS INCLUDING CLEARING, TOPSOIL REMOVAL AND BULK EARTHWORKS (TO LEVEL 1 STANDARD) TO BE UNDERTAKEN BY THE VENDOR TO THE AREA HATCHED ON THIS PLAN GENERALLY IN ACCORDANCE WITH THE DESIGN CONTOURS PROVIDED ON THE PLAN. EARTHWORKS ARE ONLY PROPOSED TO BE CARRIED OUT BY THE VEDOR TO ENSURE NO TRAPPED LOW POINT EXISTS ALONG THE PROPOSED ROAD ON THE NORTHERN BOUNDARY OF THE SITE, THE EXTENT AND LEVEL OF EARTHWORKS IS THEREFORE SUBJECT TO FINAL DESIGN OF THE PROPOSED ROAD.
   - (ii) REMOVE ANY STOCKPILES OF UNCONTROLLED FILL IDENTIFIED BY A VISUAL INSPECTION FROM THE LAND.
   - (iii) PROVIDE STORMWATER DRAINAGE CONNECTION POINTS WITH PIPED SYSTEMS BEING ABLE TO ACCOMMODATE THE 1 IN 10 YR PIPED DEVELOPED FLOW FROM THE PROPOSED DEVELOPMENT, CONNECTION POINTS PROVIDED AS PER THE PLAN.
   - (iv) EXTEND SEWER SYSTEM IN ADJACENT ROADS AND PROVIDE CONNECTION POINT AS SHOWN ON THE PLAN, WITH THE CONNECTION POINT BEING A BOUNDARY KIT AS PER ALTOGETHER GROUP STANDARDS.
   - (v) EXTEND POTABLE AND RECYCLED WATER SYSTEMS IN ADJACENT ROADS, FUTURE CONNECTION TO BE BY THE PURCHASER AS OUTLINED ABOVE IN 1(v).
   - (vi) PROVIDE A 400kVA KIOSK SUBSTATION AT THE LOCATION IDENTIFIED ON THE PLAN, SUBJECT TO AUSGRID APPROVAL OF THIS LOCATION.
   - (vii) EXTEND NBN CO PIT AND PIPE INFRASTRUCTURE IN ADJACENT ROADS, WITH NOMINAL CONNECTION POINT SHOWN ON THE PLAN.
3. CONTOURS SHOWN ARE INDICATIVE FINISHED SURFACE LEVELS OR EXISTING LEVELS TO THE AUSTRALIAN HEIGHT DATUM (AHD) AT 0.5m INTERVALS, ALL LEVELS ARE SUBJECT TO CHANGE AND FINAL SURVEY.
4. LEVELS AND SERVICE LOCATIONS ARE PROPOSED AND SHOULD NOT BE RELIED UPON FOR DESIGN PURPOSES AND SHOULD BE CONFIRMED PRIOR TO ANY DESIGN OR CONSTRUCTION WORK.
5. FINAL EARTHWORKS LEVELS AND SERVICE LOCATIONS ARE SUBJECT TO DETAILED DESIGN AND RELAVENT AUTHORITY APPROVALS. THESE CHANGES WILL BE COORDINATED WITH THE PURCHASER, AND AN UPDATED ENGINEERING ARRANGEMENTS PLAN WILL BE ISSUED FOR SUBSEQUENT APPROVAL BY BOTH PARTIES.
6. ALL SERVICE CONNECTION POINTS SHOWN ON THIS PLAN ARE INDICATIVE ONLY AND NOT SHOWN TO SCALE

ALL DIMENSIONS AND AREAS ARE SUBJECT TO SURVEY. THE PARTICULARS ON THIS BROCHURE ARE SUPPLIED FOR INFORMATION ONLY AND SHOULD NOT BE TAKEN AS A REPRESENTATION IN ANY RESPECT ON THE PART OF THE VENDOR OR ITS AGENT.



SITE MAP

APPROVED BY:

GLENN SWAN _____
SENIOR DEVELOPMENT MANAGER
DATED _____

STEPHEN THOMPSON _____
PROJECT DIRECTOR
DATED _____

0 18.75 37.5
Meters

DALY.SMITH
EXPERIENCE YOU CAN TRUST

VER:14/09/2021

Appendix C – Stormwater Management Plan

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EXISTING STAGE 10L ON SITE DETENTION BASIN DESIGN TO ALLOW FOR THE FULLY DEVELOPED AGED CARE SITE

EXISTING STAGE 10L BIO RETENTION BASIN DESIGN TO ALLOW FOR THE WATER QUALITY OF FULLY DEVELOPED AGED CARE SITE TO MEET BEST PRACTICE GUIDELINES.

PROBABLE MAXIMUM FLOOD (PMF) EXTENT PREPARED BY NORTHROP HUNTLEE SUBDIVISION STORMWATER AND MANAGEMENT STRATEGY REF: NL150007 E46

1% AEP FLOOD EXTENT PREPARED BY NORTHROP HUNTLEE SUBDIVISION STORMWATER AND MANAGEMENT STRATEGY REF: NL150007 E46

EXISTING STAGE 10L DETENTION BASIN

EXISTING STAGE 10L BIO RETENTION BASIN

CONNECT INTERNAL PRIVATE STORMWATER DRAIN TO EXTERNAL DRAINAGE CONSTRUCTED AS PART OF NORTHROP/LWP SUBDIVISION WORKS.

BLUE STORMWATER NETWORK TO BE PROVIDED AS PART OF NORTHROP/LWP SUBDIVISION WORKS WITH ALLOWANCE FOR FULLY DEVELOPED AGE CARE LOT.

EXTERNAL STORMWATER IN THIS AREA TO BE PUMPED. PUMP CAPACITY WELL TO ALLOW TO 1%AEP

BASEMENT

BASEMENT FFL 43.40
GROUND FLOOR FFL 46.70

3.0m DRAINAGE EMST

KESTERTON RISE

190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205

116 99

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CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

STORMWATER MANAGEMENT PLAN

WSUD

URBAN STORMWATER BEST PRACTICE ENVIRONMENTAL GUIDELINES HAVE BEEN ALLOWED FOR IN OVERALL SUBDIVISION WORKS BY OTHERS.

ON-SITE DETENTION

ON-SITE DETENTION REQUIREMENTS HAVE BEEN ALLOWED FOR IN OVERALL SUBDIVISION WORKS BY OTHERS.

DRAINAGE DESIGN PARAMETERS:

MINOR FLOWS:
10% AEP UNDERGROUND PIPED DRAINAGE NETWORK DIRECTED TO STORMWATER NETWORK AT NORTH WEST CORNER OF THE SITE.

MAJOR FLOWS:
1% AEP THE OVERLAND FLOW PATH EXITING THE SITE. TRAPPED LOWPOINTS AND INTERNAL COURT YARDS TO BE ALLOWED FOR 1% AEP.

SITE AREA: 12430m²

LEGEND	
DRAINAGE PIPES	PROPOSED PRIVATE DRAIN (10%AEP)
	EXTERNAL DRAINAGE CONSTRUCTED AS PART OF SUBDIVISION WORKS BY OTHERS
OVERLAND FLOW	INDICATED BY FLOW ARROWS ON PLAN
LEVELS	EXISTING CONTOURS AT THE COMPLETION OF THE SUBDIVISION AND EXTERNAL ROAD WORKS (156.6)

10 5 0 10 20 30 40 50

LENGTHS ARE IN METRES
SCALE 1 : 500

NO	REVISION	DATE	NO	REVISION	DATE
B	DA ISSUE	29/10/24			
A	AMENDED STORMWATER DRAINAGE LAYOUT	31/07/24			
P3	PRELIMINARY ISSUE	03/05/24			
P2	PRELIMINARY ISSUE - PRE DA	15/08/23			
P1	PRELIMINARY ISSUE	28/07/23			

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arcare AGED CARE
KNOWLES GROUP

Lanigan Civil
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Trading as Lanigan Civil
Consulting Civil Engineers
Unit 4, 7-9 Hall Street, Braeside VIC 3195
Tel: 03 9558 4380 Fax: 03 9587 9707
Email: admin@lancivil.com.au

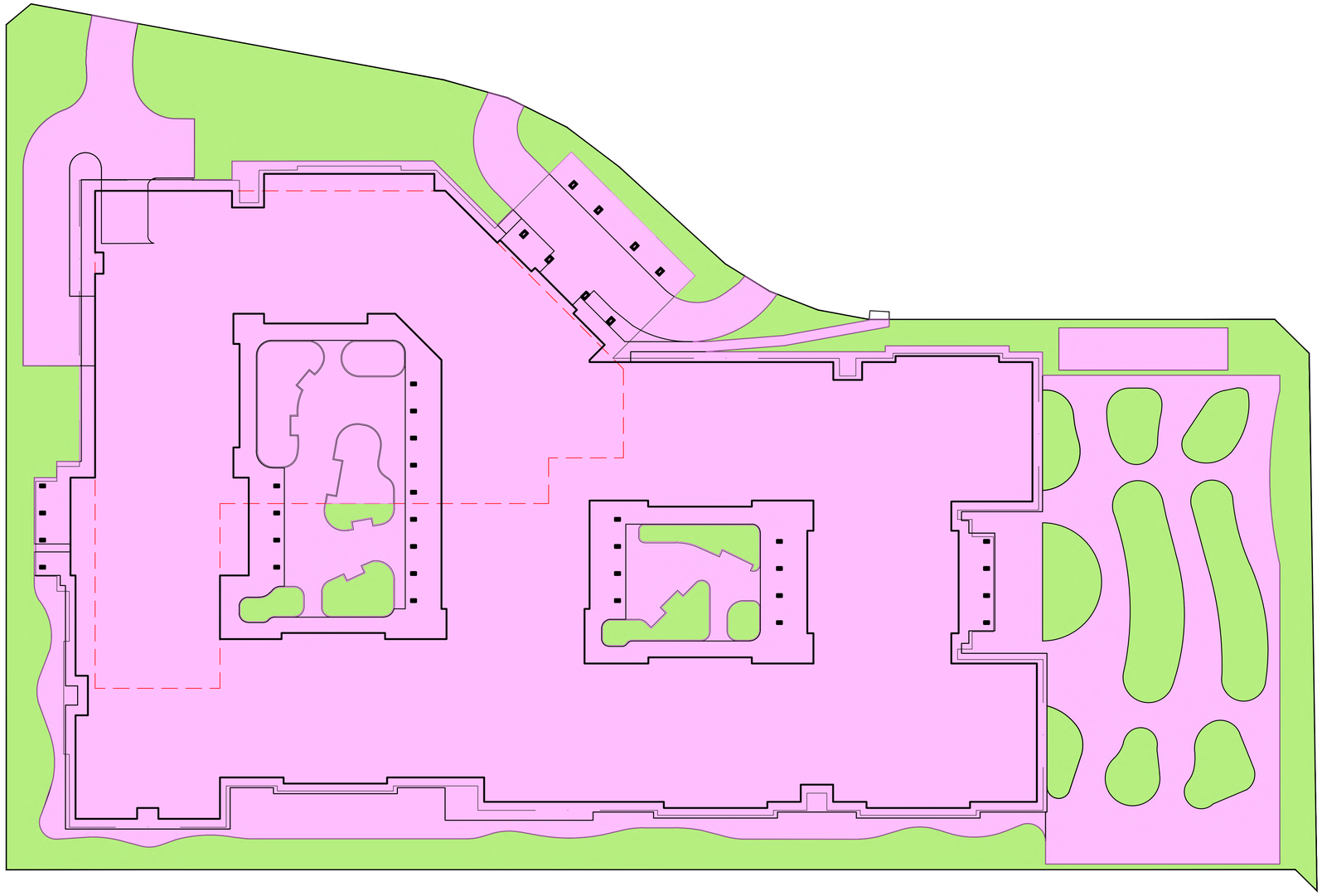
STORMWATER MANAGEMENT PLAN

HUNTLEE ARCARE

107 KESTERTON RISE
BRANXTON, NSW, 2335

NORTH

DESIGNED	DRAWN	CHECKED
NJC	MJL	NJC
DATE	SCALE/S	
27-07-23	AS NOTED	
DRG NO		ISSUE
LC2667-SMP1		B



CATCHMENT AREAS:

PLAN COLOUR	CATCHMENT TYPE	AREA m^2
	IMPERVIOUS AREAS	9,538
	PERVIOUS AREAS	2,896
	TOTAL SITE AREA	12,434

IMPERVIOUS AREA PERCENTAGE:

$A_{IMP} = \frac{9538}{12434} \times 100 = 76.71\%$

THEREFORE THE FRACTION OF IMPERVIOUS AREA = 76.71%

IMPERVIOUS AREAS CATCHMENT PLAN

6 3 0 6 12 18 24 30

LENGTHS ARE IN METRES
SCALE 1 : 300 @ A1

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NO	REVISION	DATE	NO	REVISION	DATE
A	DA ISSUE	29/10/24			
P1	PRELIMINARY ISSUE	14/16/24			

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IMPERVIOUS AREAS CATCHMENT PLAN

HUNTLEE
AGED CARE FACILITY

107 KESTERTON RISE, BRANXTON, NSW, 2335

NORTH

DESIGNED	DRAWN	CHECKED
MJL	MJL	NJC

DATE	SCALE/S
27-07-23	AS NOTED

DRG NO	ISSUE
LC2667-SMP2	A

Appendix D – BESTEC Letter- RAC services requirements

BESTEC
ABN 38 459 407 863

Building Engineering
Services Technologies
Consulting Engineers

A. Level 3
175 Flinders Lane
Melbourne VIC 3000

T. (03) 9272 4700
F. (03) 9272 4701

E. consulting@bestec.com.au
W. bestec.com.au

ME:KEH
30568/2-3-4-5/1
21 October 2024

Lanigan Civil
9 Hall Street
BRAESIDE VIC 3195

Attention: Mr N Caudry

Dear Nick

ARCARE HUNTLEE – AGED CARE FACILITY
ELECTRICAL, COMMUNICATIONS, HYDRAULIC AND FIRE PROTECTION SERVICES

Electrical Services

- The proposed site is part of a new development on vacant land along Kesterton Rise
- Based on Dial Before You Dig (DBYD) plans, there are two existing Kiosk Substations located on the South Eastern side and South Western side of the development site respectively. Both kiosk substations are located outside the development site boundary. This is detailed in Image 1 and 2 below (part plan). These Kiosk Substations are supplied by underground High Voltage (HV) cables running along Kesterton Rise.

Image 1 - Part DBYD Power Plan

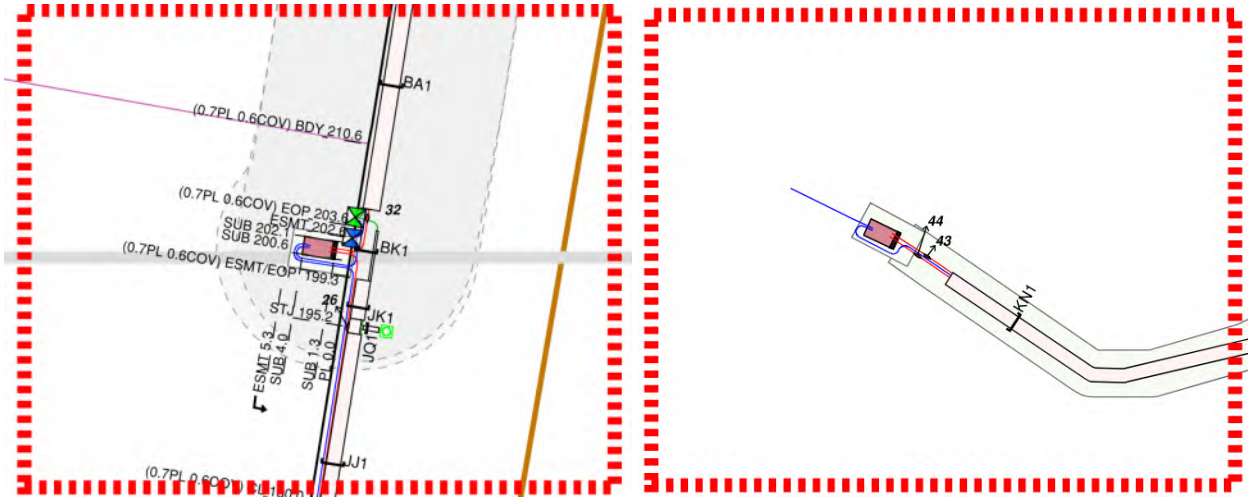

Image 2 - Part DBYD Power Plan Showing Existing Substations

- From the Draft Engineering Arrangements Plan extracted from the Deed of Put and Call Option, there is a 400kVA Kiosk Substation proposed for the North Western corner of the proposed RAC site. This is in line with the Schedule of Guarantors Works provide in the contract of sale. The Draft Engineering Arrangements Plan also notes this Kiosk Substation as works by the vendor. This is detailed in image 3 below.

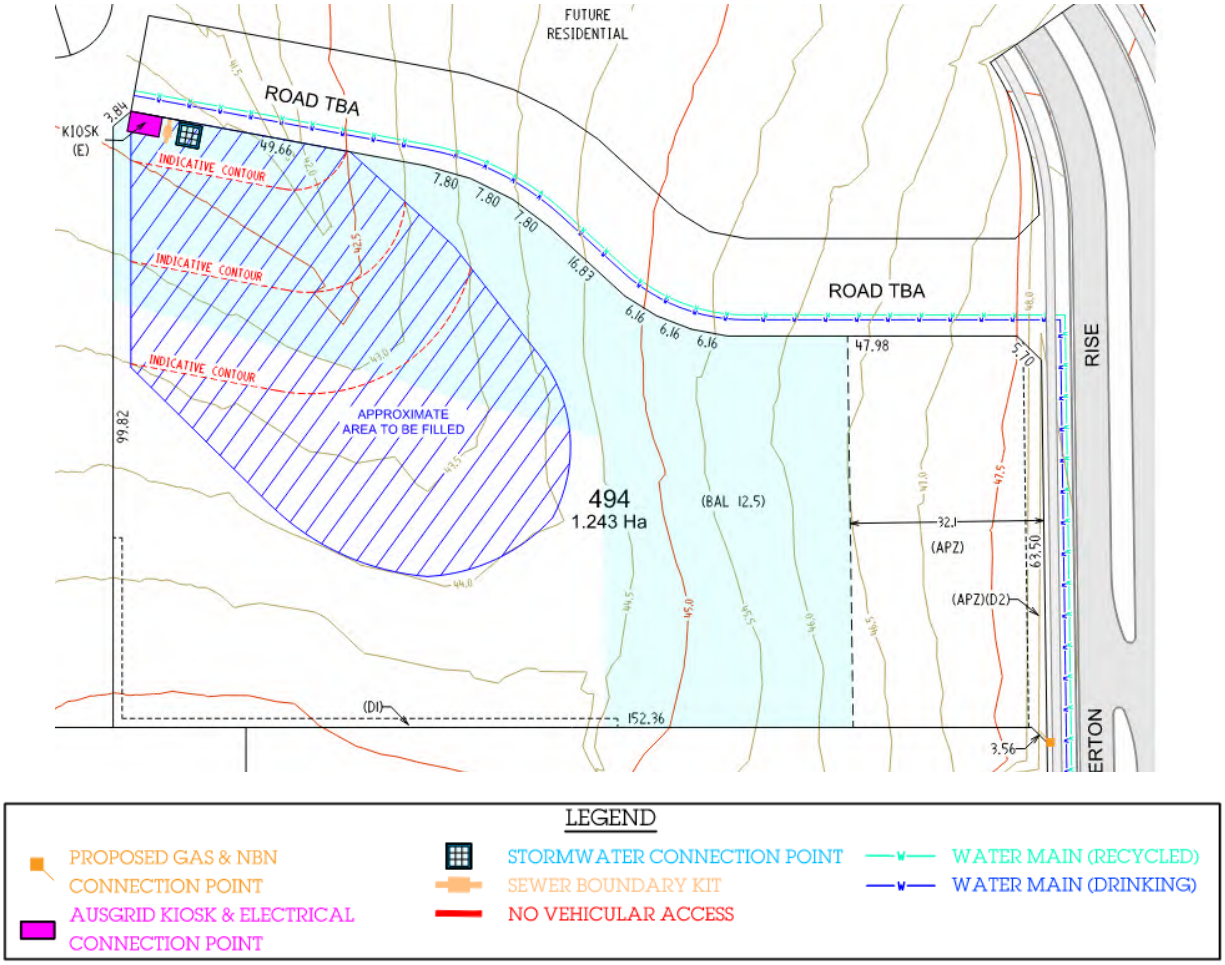

Image 3 – Part Draft Engineering Arrangements Plan

- From verbal discussions with a level 3 ASP consultant (accredited designer on behalf of the power authority), the above mentioned 400kVA Kiosk Substation for the development site has not been installed at this point in time by the vendor.

- The level 3 ASP consultant was however able to confirm that the two other existing Kiosk Substations shown on the DBYD plans (located on the South Eastern side and South Western side of the proposed RAC site) were indeed installed as documented. This confirms that the high voltage provisions to the East and West of the site are installed. These high voltage cables will likely form the basis for extension to the proposed 400kVA kiosk substation to the proposed RAC site.

Image 4 – Existing Electrical Infrastructure Plan from Level 3 ASP Consultant

- This proposed 400kVA kiosk substation (which is being provided by the vendor) will become the point of supply for power to the proposed RAC development site.

- Based on the site being a 96 bed Residential Aged Care (RAC) development, we anticipate the preliminary maximum demand for the site to be in the order of 240kVA. This is benchmarked against actual power usage metering data from similar developments recently completed in Victoria, ACT and NSW. Factoring additional allowances for EV Charging and the like we confirm a connection requirement of 300kVA.

- As such we confirm that the proposed 400KVA substation to be provided by the vendor for the RAC site is sized sufficiently to cater for the anticipated load, with 100kVA left spare (can be used for future street feeds outside of the development area).

Communications Services

- The site requires an NBN connection to facility internet connectivity.

- A new communications lead in from Kesterton Rise in accordance with NBN Co. design and installation guidelines is required as part of the development works.

- The NBN roll out map indicates that NBN services are available in the area (refer Image 5 below).

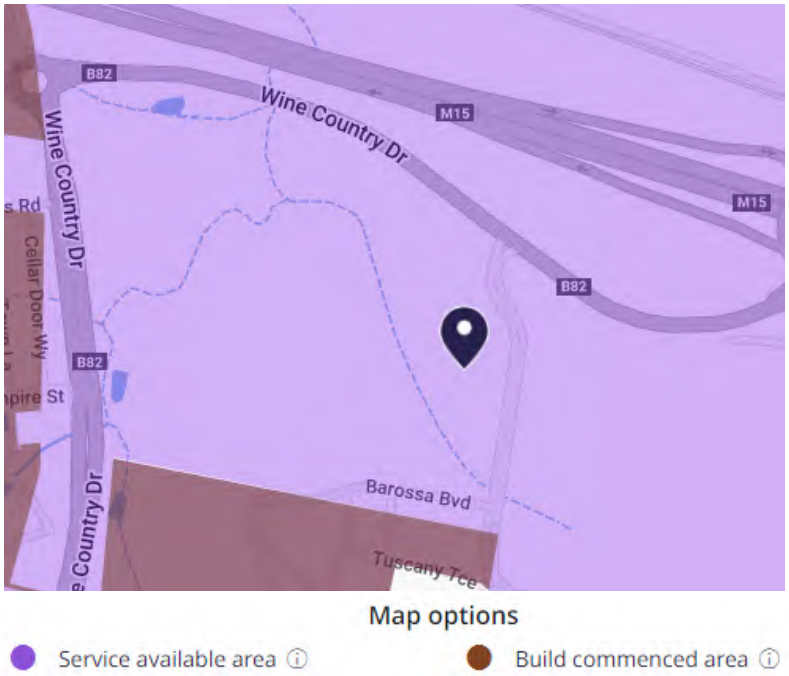

Image 5 - NBN Roll Out Map Showing Service Available

- In addition, the dial before you dig plans indicate the extent of NBN Co infrastructure currently installed, with pits and conduits located on the Eastern boundary of the proposed development site along Kesterton Rise (refer Image 6 below).

- Furthermore, the vendor will ensure that NBN Co. pit and pipe infrastructure in Kesterton Rise is extended along the full Kesterton Rise boundary length of the property for future connection by the property. This is included in the Schedule of Guarantors Works for the proposed site. The Draft Engineering Arrangements Plan that has been prepared by Daly Smith Engineers on behalf of the vendor also indicates an NBN connection point for the RAC site located at the South East corner of the site.

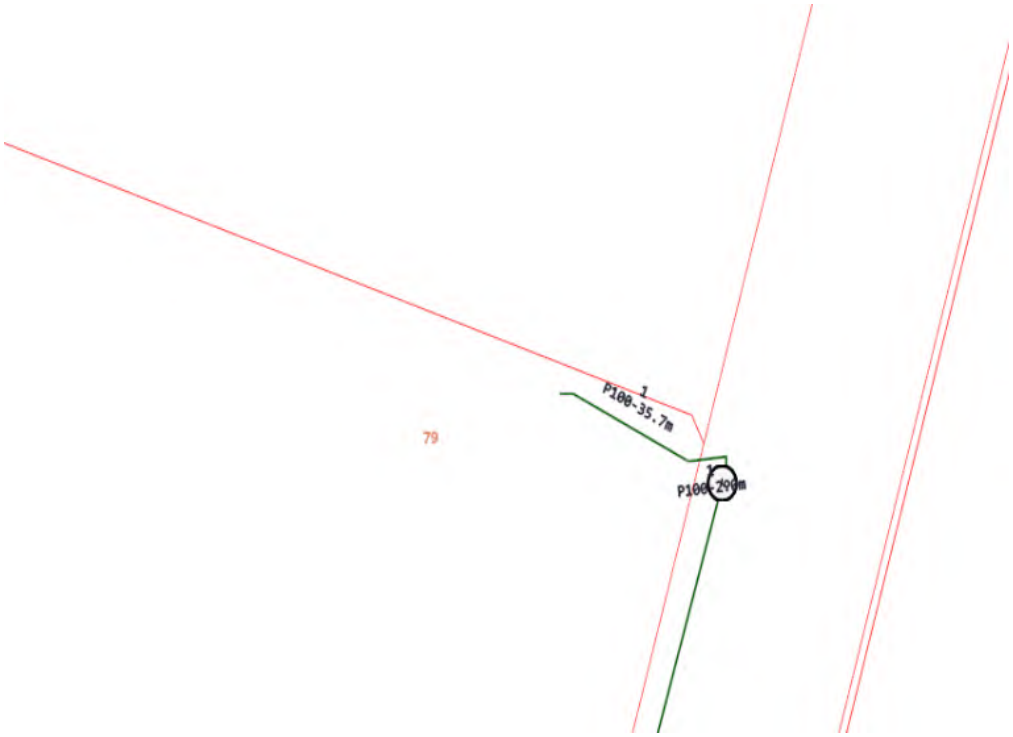

Image 6 – DBYD Plans Showing Existing NBN Pipe and Pits in Kesterton Rise

- As demonstrated in the Dial before you dig information and the works to be undertaken by the vendor (providing facility for NBN within the Street), this connection will be able to be facilitated by the communications authority for the proposed RAC site..

Natural Gas

- Dial before you dig plans indicate that there is existing natural gas infrastructure provided by Jemena located in Kesterton Rise directly adjacent the proposed RAC site. This is in the form of a 63mm high pressure gas main (refer image 6 below)

Image 6 – DBYD Plans Showing Existing Gas Infrastructure Kesterton Rise

- The Draft Engineering Arrangement Plan indicates a proposed natural gas meter located at the South Eastern corner of the development. This is to be provided by the vendor.

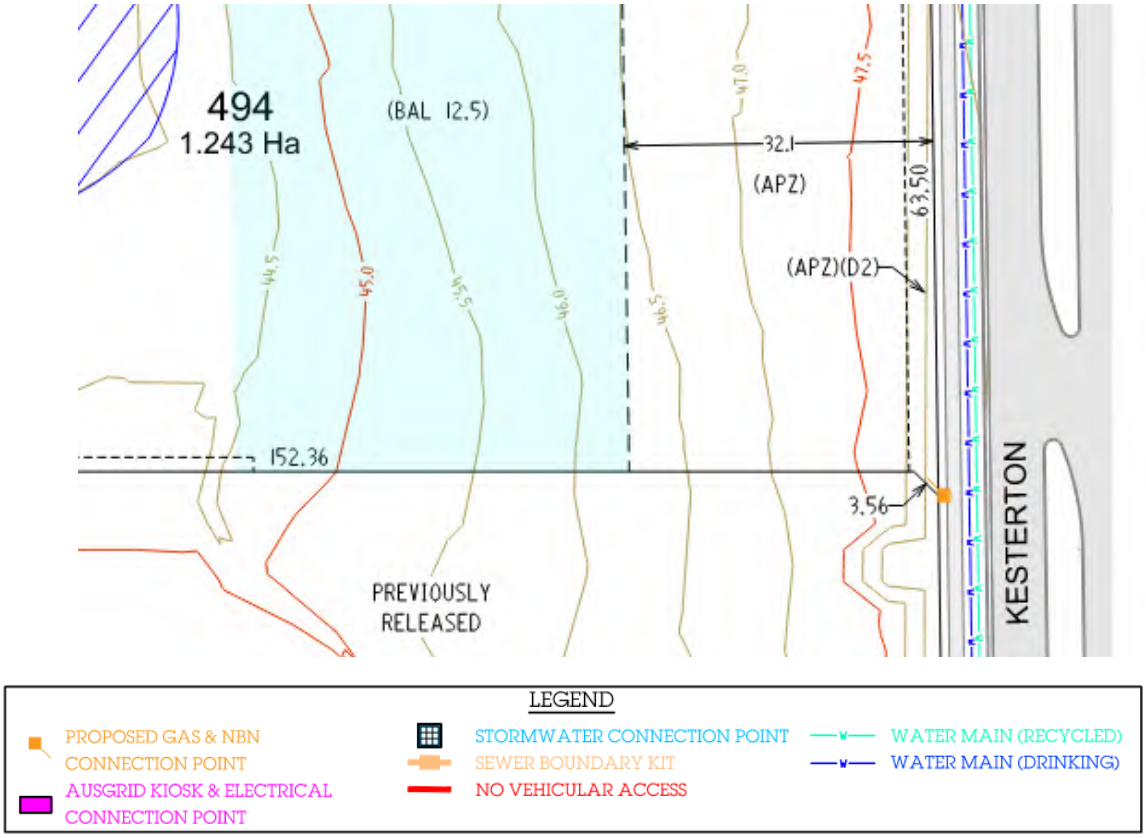

Image 7 – Part Draft Engineering Arrangements Plan Showing Gas Connection

- For the proposed RAC site natural gas is suitable for use within the commercial kitchen, Laundry and for domestic hot water generation. No heating or cooling will be via natural gas.

- The required supply characteristics of the proposed RAC will be approximately 2,000 MJ/Hr at supply pressure of 2.75Kpa.

- This is achievable from the existing 63mm 400Kpa high pressure gas main via an authority pressure regulating meter.

Domestic Cold Water Supply

- The development will require approximately 5.0 litres per second of probable simultaneous water demand as calculated using charts within AS3500.

- The Draft Engineering Arrangement Plan indicates a proposed water main on Kensington Rise and the new extension road surrounding the prosed development. This is to be provided by the vendor.

- The Draft Engineering Arrangement Plan also notes a 20L/s supply provided by the water authority.

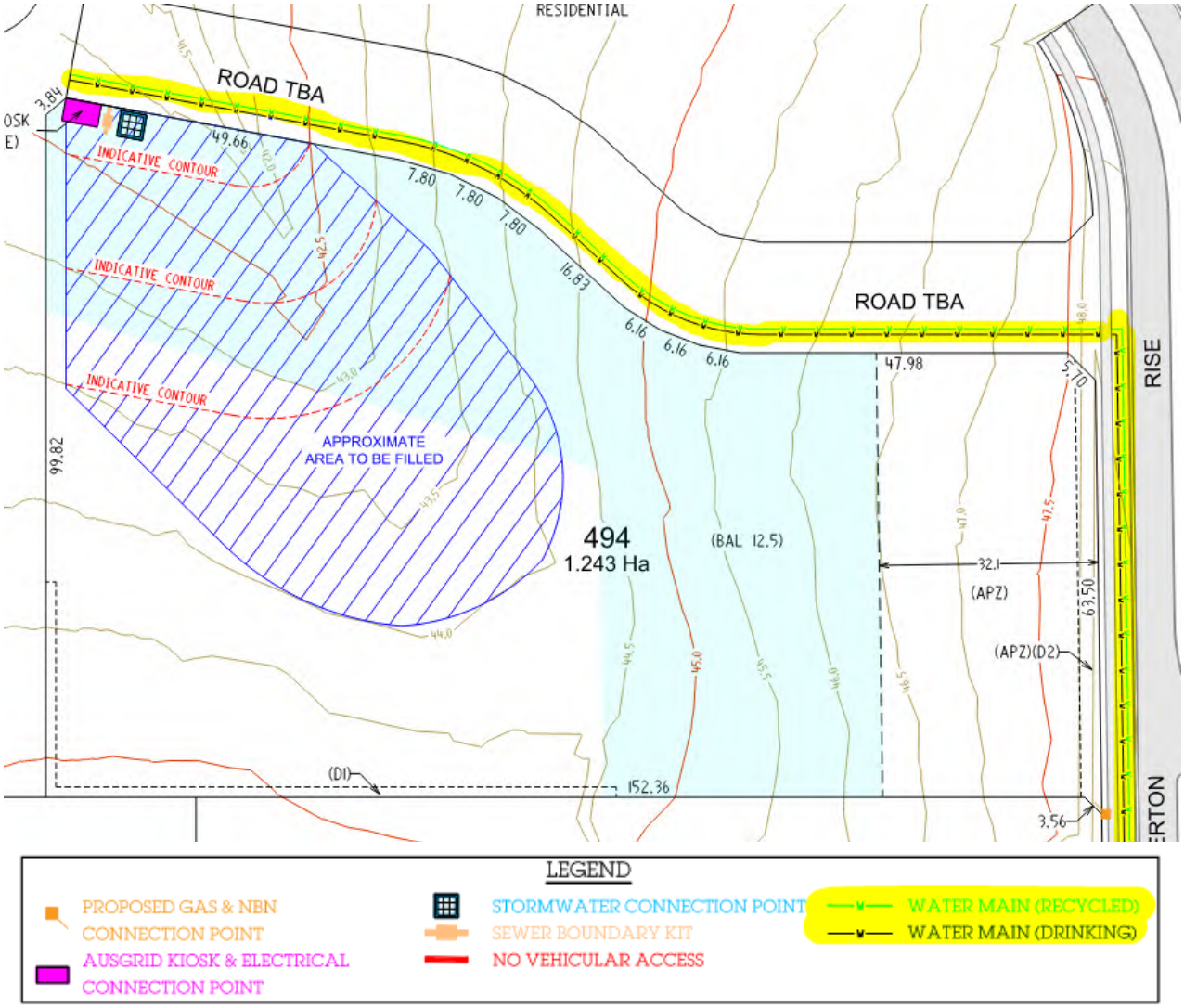

Image 8 – Part Draft Engineering Arrangements Plan Showing Proposed Water (Potable and Recycled) Main

- The water service tapping and meter assembly which will be applied through an application process to Altogether Group will need to be adequate to supply this water demand.

- Pressure and flow data will be requested from Altogether Group once the water main has been constructed. Required pressure to serve the development will be 400Kpa to 500Kpa.

- This supply rate is not unreasonable and is in accordance with the expected water demand of a parcel of land of this size.

Reclaimed Water Supply

- The probable simultaneous demand associated with irrigation for the proposed RAC site is in the order of 2.5 litres per second. This can be supplied either from the potable water network (included in the 5.0 litres a second diversified demand detailed above) or the reclaimed water network – to be determined as part of the detailed design.

- The Draft Engineering Arrangement Plan indicates a proposed recycled water main on Kensington Rise and the new extension road surrounding the proposed development (co located with the proposed water supply). This is to be provided by the vendor.

- The Draft Engineering Arrangement Plan also notes a 20L/s supply provided by the water authority.

- The water service tapping and meter assembly which will be applied through an application process to Altogether Group will need to be adequate to supply this reclaimed water demand.

- Pressure and flow data will be requested from Altogether Group once the water main has been constructed. Required pressure to serve the development will be 350Kpa to 450Kpa

- This supply rate is not unreasonable and is in accordance with the expected water demand of a parcel of land of this size.

Fire Protection Services Water Supply

- Preliminary Fire Protection Services water supply calculations indicate that the proposed development will require water supply of approximately 38 litres per second at a pressure of 500Kpa. This supply will negate any requirements for onsite fire tanks and pumps.

- The Draft Engineering Arrangements Plan and pressure and flow data from previous projects in the vicinity suggest that the Water Authority will provide 20L/s of flow. This means that we have a shortfall of around 18L/s (unless it can be negotiated with the water authority to provide additional water supply).

- The 20L/s noted is sufficient for hydrants only. Subject to Fire Engineering and Building certifier requirements we will likely need a further 18L/s to serve fire sprinklers on the site.

- Assuming that the Water Authority will not give use more water than the 20L/s noted above we will need tanks sufficient to serve the sprinkler systems for 60 min. This will require an 80,000L tank provided on the site. This tank would be in the order of 6000mmØ and of around 3500mm in height. Pumps connected to this will be nominal 1200W x 3500L x 2100H. This could go in a pre-packaged cabinet adjacent the tank or alternatively within a room of nominal dimensions 6000mm x 4000mm. This infrastructure can be placed generally anywhere on the site provided it is easily accessible by fire brigade trucks.

- Noting this is based on the worst-case scenario, these tanks can be reduced should the water authority allow additional flow.

- In summary, the proposed development is being provided with a water supply of 20L/s as part of the vendor works. This is sufficient for Hydrants to the proposed development. Any shortfalls for fire sprinkler systems will be supplemented via on site tanks and pumps for fire sprinkler systems.

Sewer Drainage

- The area is served from a sewer drainage aspect with a pressure sewer system as opposed to a gravity sewer system.

- Pressure sewer utilises a sewer pumping station, located within the private property which accepts gravity drainage from that property only and then pumps sewer into a common, pressure rising main. A non-return valve at each connection to the pressure rising main prevents sewer from neighbouring properties entering adjacent property pump stations.

- The sewer pump station and any required holding tanks for emergency capacity will form part of the private development. The infrastructure provider (as part of the vendor works) will provide the connection to the pressure rising main and the non-return valve assembly through a connection arrangement known as a boundary kit. This boundary kit is being provided by the Vendor.

- Preliminary sewer drainage calculations for the proposed development result in a total outflow from this lot of approximately 850 fixture units.

- This rate is not unreasonable and is in accordance with the expected sewer demand of a parcel of land of this size. In addition, the sewer pump station and holding tanks being designed as part of the RAC works will be designed and sized in accordance with the provided vendor connection.

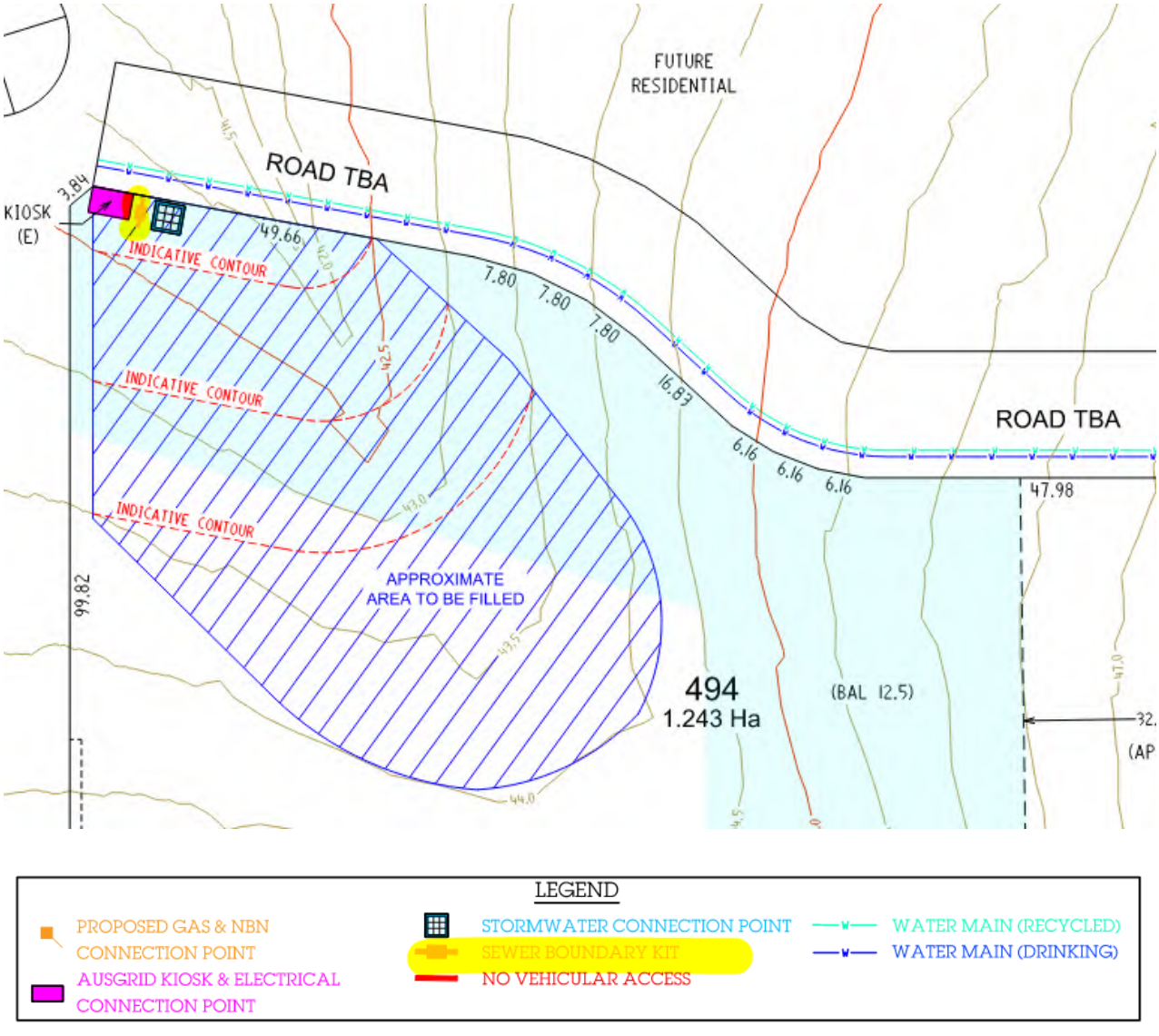

Image 9 – Part Draft Engineering Arrangements Plan Showing Proposed Sewer Boundary Kit

Yours faithfully
BESTEC PTY LTD

MARK ELLUL
DIRECTOR

Appendix E – Existing Features Plan

Lanigan Civil

PROPOSED ELECTRICAL SUBSTATION BY OTHERS, TO BE CONSTRUCTED AS PART OF STAGE 44A & 44B SUBDIVISION

AGED CARE FACILITY PROPOSED ELECTRICAL CONNECTION FROM ELECTRICAL SUBSTATION

PROPOSED LOT 4401
4180m²

AGED CARE FACILITY PROPOSED STORMWATER CONNECTION POINT

AGED CARE FACILITY PROPOSED SEWER CONNECTION POINT

AGED CARE FACILITY PROPOSED TELECOM. CONNECTION POINT

PROPOSED LOT 4403
4445m²

PROPOSED COUNCIL ROAD AND SERVICES BY OTHERS TO BE CONSTRUCTED AS PART OF STAGE 44A AND 44B SUBDIVISION. TYP.

AGED CARE FACILITY PROPOSED WATER CONNECTION POINT

3m WIDE DRAINAGE EASEMENT TO BE CREATED AS PART OF STAGE 44A AND 44B SUBDIVISION

PROPOSED 750ø SWD TO BE CONSTRUCTED BY OTHERS AS PART OF 44A AND 44B SUBDIVISION

PROPOSED LOT 494
12, 432m²

PROPOSED ELECTRICAL SUBSTATION BY OTHERS, TO BE CONSTRUCTED AS PART OF STAGE 44A & 44B SUBDIVISION

PROPOSED LOT 4404
3254m²

EXISTING RETAINING WALL ALONG SOUTHERN BOUNDARY CONSTRUCTED AS PART OF RETIREMENT VILLAGE

AGED CARE FACILITY PROPOSED GAS CONNECTION POINT

EXISTING ELECTRICAL SUBSTATION

BENCHMARK
D.H. & WING
RL 48.685 AHD

KESTERTON RISE

LEGEND

EXISTING SERVICES (IN PLACE AT TIME OF PLAN)

ITEM	DESCRIPTION
	EXISTING KERB AND CHANNEL
	EXISTING STORMWATER DRAIN
	EXISTING STORMWATER PIT
EX-S	EXISTING SEWER
EX-G	EXISTING UNDERGROUND GAS MAIN
EX-W	EXISTING UNDERGROUND WATER SUPPLY
EX-E	EXISTING UNDERGROUND ELECTRICITY SUPPLY
EX-T	EXISTING UNDERGROUND TELECOM CONDUIT
RW	EXISTING RETAINING WALL
	EXISTING PAVEMENT

SERVICES PROPOSED AS PART OF SUBDIVISION WORKS

156.6	NATURAL GROUND SURFACE CONTOURS
	PROPOSED KERB AND CHANNEL
	PROPOSED STORMWATER DRAIN
	PROPOSED STORMWATER PIT
EX-S	PROPOSED SEWER
EX-G	PROPOSED UNDERGROUND GAS MAIN
EX-NPW	PROPOSED UNDERGROUND NON POTABLE WATER SUPPLY
EX-W	PROPOSED UNDERGROUND WATER SUPPLY
EX-E	PROPOSED UNDERGROUND ELECTRICITY SUPPLY
EX-T	PROPOSED UNDERGROUND TELECOM CONDUIT
	PROPOSED PAVEMENT
	PROPOSED 3m WIDE DRAINAGE EASEMENT

LOT	FFL
193	FFL 45.40
194	FFL 45.60
195	FFL 45.70
196	FFL 45.90
197	FFL 45.90
198	FFL 46.10
199	FFL 46.20
200	FFL 46.30
201	FFL 46.40
202	FFL 46.60
203	FFL 46.70
204	FFL 47.00
205	FFL 47.20

EXISTING GREEN RIDGE RETIREMENT VILLAGE

6 3 0 6 12 18 24 30

LENGTHS ARE IN METRES
SCALE 1 : 300 @ A1

DIAL BEFORE YOU DIG www.1100.com.au

CONTRACTOR MUST DIAL 1100 TO CONFIRM LOCATION OF EXISTING SERVICES AND COMPLY WITH ANY AUTHORITY REQUIREMENTS REGARDING EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORKS.

NO	REVISION	DATE	NO	REVISION	DATE
B	DA ISSUE	29/10/24			
A	AMENDED TO PLANNER COMMENTS	31/07/24			
P1	PRELIMINARY ISSUE	03/05/24			

DATUMS USED FOR THIS DESIGN/DRAWING
VERTICAL: AHD - REFER BENCH MARKS ON PLAN
HORIZONTAL: MGA94 - COMBINATION OF NORTHROP STAGE 44A AND 44B CIVIL ENGINEERING PACKAGE REF:44-C16.01 AND FEATURE AND LEVEL SURVEY PREPARED BY DE WITT CONSULTING REF: 15019-A DATED: 26/02/2024

arcare AGED CARE
KNOWLES GROUP

Lanigan Civil
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Tel: 03 9558 4380 Fax: 03 9587 9707
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EXISTING FEATURES PLAN

HUNTLEE
AGED CARE FACILITY

107 KESTERTON RISE, BRANXTON, NSW, 2335

NORTH

DESIGNED	DRAWN	CHECKED
MJL	MJL	NJC

DATE 02/05/24 | SCALE/S AS NOTED

DRG NO LC2667-SURV1 | ISSUE B

Patama Pty Ltd,
Trading as Lanigan Civil (Consulting Civil Engineers)
ABN 79 108 035 463

Lanigan Civil