

## How to Read This Document

The following document is a Background Document that was prepared to inform the preparation of the draft Manuka Road Development Plan (the Plan). The document was prepared at a particular point in time prior to the community consultation and may include information that is not represented in the Plan or may conflict with the Plan. Noting this, the background documents have still been deemed suitable to be placed on consultation to support the Plan.

It is intended that all Background Documents are to be updated post community consultation and prior to Council Adoption of the Plan. These updated documents will be made available for public access once completed.

### Rex Zhang

Senior Strategic Planner

Email: [planningscheme@casey.vic.gov.au](mailto:planningscheme@casey.vic.gov.au)

Ph: 9705 5200



SMEC INTERNAL REF. 30042626E.00

## Servicing Infrastructure Report

# 42, 62 & 72 Manuka Road Berwick

Reference No. 30042626E.00

Prepared for Parklea Developments Pty Ltd

## Document Control

Document	Servicing Infrastructure Report – Manuka Road
File Location	X:\Projects\300426\30042626E - Manuka Rd Berwick\_General\Docs\Reports\Servicing Report FINAL
Project Name:	42, 62 & 72 Manuka Road Berwick
Project Number:	30042626E.00
Revision Number	4

## Revision History

Revision No.	Date	Prepared By	Reviewed By	Approved for Issue By
1	14/12/2015	Tess Barrett	Jim O'Donahue	Jim O'Donahue
2	13/10/2017	Brett Sanderson	Brett Sanderson	Brett Sanderson
3	24/11/2020	Brett Sanderson	Brett Sanderson	Brett Sanderson
4	15/01/2021	Brett Sanderson	Brett Sanderson	Brett Sanderson
5	12/04/2022	Chris Cathcart	Darren Powell	Darren Powell

## Issue Register

Distribution List	Date Issued	Number of Copies
Parklea Developments Pty Ltd	15 January 2021	1 No. Digital
Veris Pty Ltd	12 April 2022	

## SMEC Company Details

Approved by	Darren Powell		
Address	Collins Square, Level 20 727 Collins Street, Melbourne 3008		
Signature			
Telephone	+61 3 98690964	Facsimile	NA
Email	Darren.Powell@smec.com	Website	<a href="http://www.smec.com">www.smec.com</a>

The information within this document is and shall remain the property of:  
SMEC Pty Ltd and Parklea Developments Pty Ltd

Front cover image: Timbertop (Parklea)

### Important Notice

This report is confidential and is provided solely for the purposes of support of Planning permit submission package. This report is provided pursuant to a Consultancy Agreement between SMEC Australia Pty Limited ("SMEC") and Parklea Developments Pty Ltd, under which SMEC undertook to perform a specific and limited task for Parklea Developments. This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. SMEC makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

This report must be read as a whole. The executive summary is not a substitute for this. Any subsequent report must be read in conjunction with this report.

The report supersedes all previous draft or interim reports, whether written or presented orally, before the date of this report. This report has not and will not be updated for events or transactions occurring after the date of the report or any other matters which might have a material effect on its contents or which come to light after the date of the report. SMEC is not obliged to inform you of any such event, transaction or matter nor to update the report for anything that occurs, or of which SMEC becomes aware, after the date of this report.

Unless expressly agreed otherwise in writing, SMEC does not accept a duty of care or any other legal responsibility whatsoever in relation to this report, or any related enquiries, advice or other work, nor does SMEC make any representation in connection with this report, to any person other than Parklea Developments. Any other person who receives a draft or a copy of this report (or any part of it) or discusses it (or any part of it) or any related matter with SMEC, does so on the basis that he or she acknowledges and accepts that he or she may not rely on this report nor on any related information or advice given by SMEC for any purpose whatsoever.

# Table of Contents

1	Introduction.....	6
2	Subject Site .....	7
3	Development Proposal .....	9
4	Infrastructure Review .....	10
4.1	Servicing Authorities.....	10
4.2	Roads .....	10
4.3	Drainage.....	11
4.3.1	Local Drainage.....	11
4.3.2	Melbourne Water.....	11
4.4	Sewer & Water.....	12
4.4.1	Potable Water.....	12
4.4.2	Recycled Water .....	15
4.4.3	Sewer .....	15
4.5	Telecommunications.....	17
4.6	Electrical .....	18
4.7	Gas .....	19
5	Conclusion.....	20



## List of Figures

Figure 1: Subject Site- Source Vicplan .....	7
Figure 2: Planning Overlays – Source Vicplan.....	8
Figure 3: Overall Concept Plan – Veris 8131UDAZ_2.....	9
Figure 4: Allan Street and Manuka Road Intersection – Source Google Maps .....	10
Figure 5: Melbourne Water Flood Contour Map.....	12
Figure 6: Existing Potable Water Assets.....	13
Figure 7: SEW Water Plan .....	14
Figure 8: Existing Sewer Infrastructure .....	15
Figure 9: SEW Sewer Catchments .....	16
Figure 10: NBN infrastructure Adjacent to Manuka Road .....	17
Figure 11: NBN Rollout Map – Source website - iiNet.....	17
Figure 12: Ausnet Services – Servicing Pan .....	18
Figure 13: Existing Gas Distribution Mains .....	19

# 1 Introduction

The following servicing report has been prepared by SMEC Pty Ltd for the purposes of providing infrastructure servicing advice associated with the development of the parcel of land at 42, 62 & 72 Manuka Road, Berwick (Subject Site).

We recommend reading this report in conjunction with all other Planning Permit documentation.

The scope of the report is to identify any servicing and/or engineering requirements and constraints for the proposed residential development of the subject site.

Where specific information has not been available, we have made strategic assumptions based on conversations and formal and informal advice from Authorities and key stakeholders. SMEC has also drawn on its significant engineering experience within Victoria and for similar projects in the area.

This servicing report has been based on the Overall Concept Plan – Manuka Road Berwick prepared by Veris, reference 8131UDAZ\_2 dated 2 June 2020 and included as Attachment A.

The information outlined in this report has been obtained and may differ at some future date when development conditions are officially requested.

***Based on SMEC's experience and the investigations undertaken to date we believe that the subject land has availability and access, subject to service authority approvals, for connection to all necessary services. It is recommended that these services can accommodate the proposed residential development of the Subject Site.***

## 2 Subject Site

Located within the suburb of Berwick and within the municipality of the City of Casey (CoC), the subject site is approximately 19 Hectares in size. The site is located to the East of Berwick along Cardinia Creek. Development of the site will occur over the three parcels 42, 62 & 72 Manuka Road Berwick with a parcel known as Clover Cottage (54 Manuka Road) which is designated future residential, this parcel of land does not form part of the proposed development discussed within this report. The Subject Site is bounded by Manuka Road to the West, Allan Street to the South, DSE reserve to the North, and Grasmere and Cardinia Creek to the East refer to Figure 3.

Most of the site is currently zoned Farming Zone and is intended to be re-zoned residential. The eastern section of 62 & 72 Manuka Rd is identified as Green Wedge Zone. It is located between the Melbourne Water (MW) pipe track and Cardinia Creek.

The site is subject to a number of overlays, Figure 1 represents the Subject Site boundaries. The Subject Site is subject to the following overlays, Figure 2:

- Significant Landscape Overlay across whole development area
- Heritage Overlay (HO50) for 62 Manuka Road and (HO49) for 54 Manuka Road (Clover Cottage is not part of the Subject Site)
- Vegetation Protection Overlay (VPO2) immediately abuts the development at 72 Manuka Road
- Bushfire Management Overlay across all parcels
- Land Subject to Inundation (LSIO) overlay along Grasmere Creek

As per the contour plan below, the site is relatively steep with numerous sub-catchments within the area.

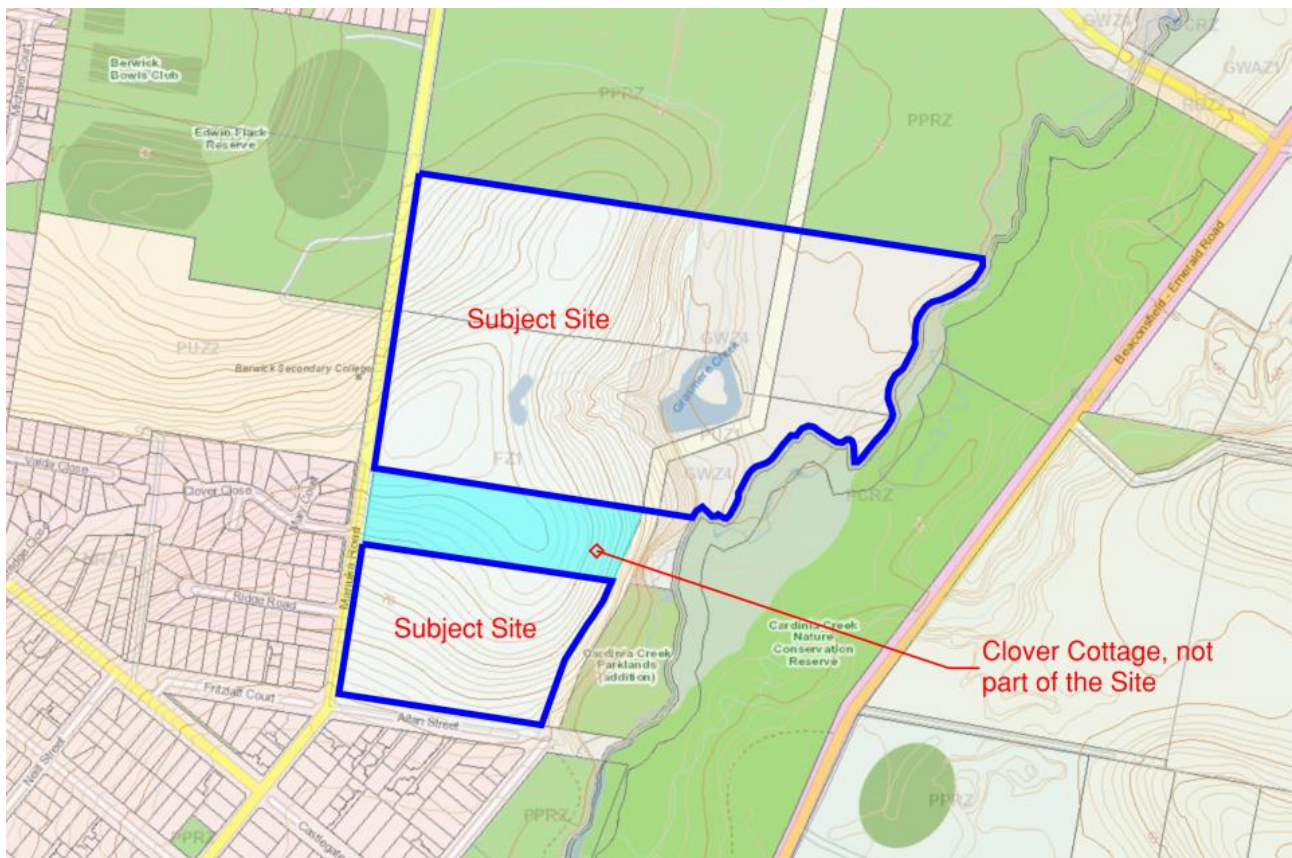


Figure 1: Subject Site- Source Vicplan



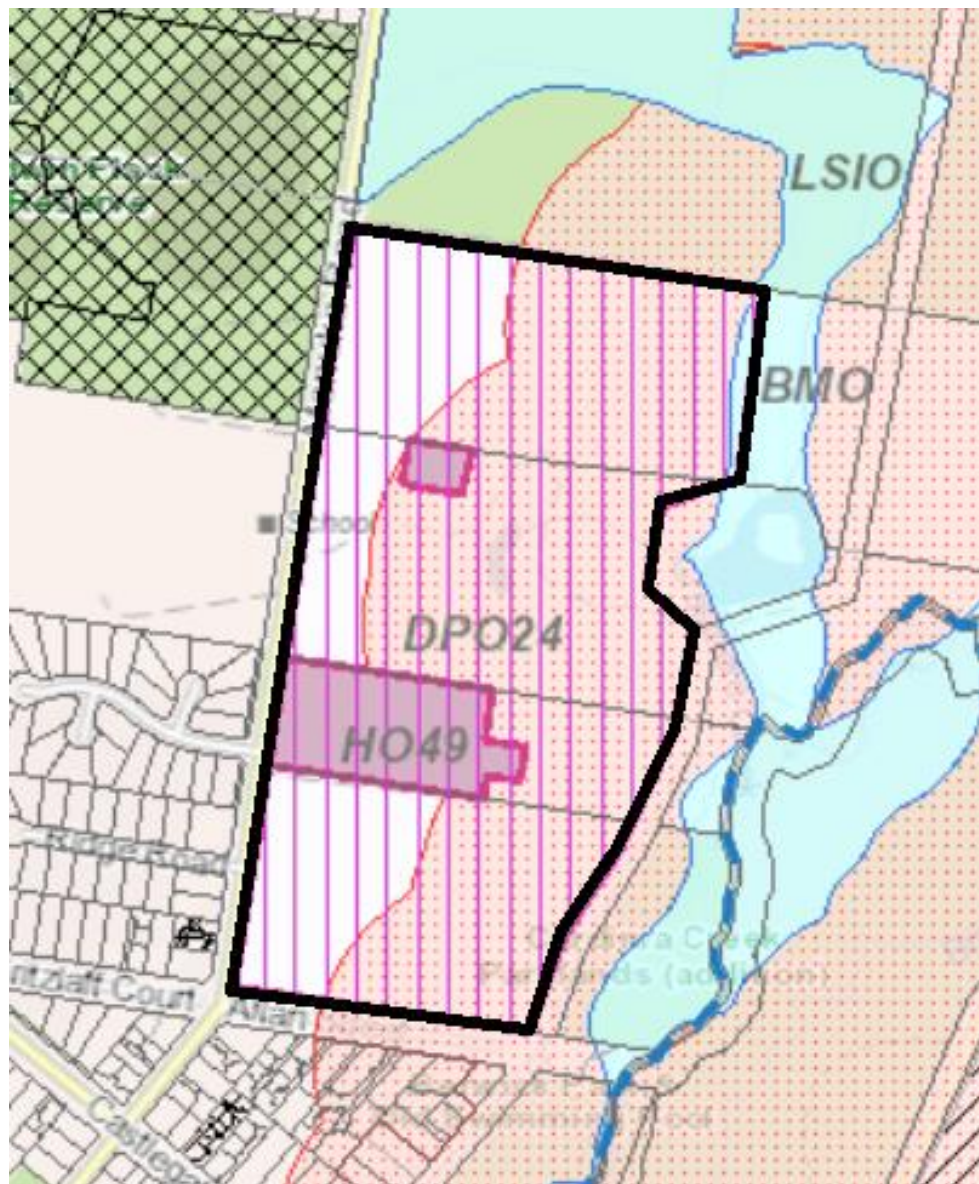


Figure 2-2 Planning Scheme Overlays

<input checked="" type="checkbox"/> VPO - Vegetation Protection Overlay	<input checked="" type="checkbox"/> HO - Heritage Overlay
<input checked="" type="checkbox"/> BMO - Bushfire Management Overlay	<input checked="" type="checkbox"/> LSIO - Land Subject to Inundation Overlay

Figure 3: Planning Overlays – Source Vicplan

### 3 Development Proposal

The proposal is to develop the Subject Site into a residential community, whilst maintaining the relevant green wedge zones (GWZ) and providing public open space reserves. The Overall Concept Plan recognises the eastern portion of 62 & 72 Manuka Rd (shown as GWZ in Fig 3 below) is not suitable for development purposes.

Access to the Subject Site is proposed to be via Manuka Road for the northern portion and Allan Street for the southern portion.



Figure 4: Overall Concept Plan – Veris 8131UDAZ\_2



## 4 Infrastructure Review

### 4.1 Servicing Authorities

The Subject Site is located within the jurisdiction of the following Authorities:

Authority	Infrastructure
City of Casey	Local Roads & Drainage
Melbourne Water	Main Drainage
South East Water	Sewer & Water
Telstra/Optus/NBN	Telecommunications
APA Group Networks (Transmission) AusNet Gas Services	Gas
Ausnet Electricity Services Pty Ltd	Electricity

### 4.2 Roads

The CoC is the responsible authority for road works within and surrounding the Subject Site. Roads will be designed and constructed to the satisfaction of Council and in accordance with the Victorian Planning Authority (VPA) Engineering Design and Construction Manual.

Manuka Road is classed as a Trunk Collector and appears in reasonable condition. Manuka Road is a sealed / kerbed road with underground drainage infrastructure. Manuka Road is not intended for upgrade as part of the subdivision works.

Allan Street is classed as a Local Road and presently is unsealed and unkerbed with limited aboveground drainage infrastructure in the form of open channels. Allan Street will likely require upgrading to a sealed road compliant with the CoC and the VPA.

Early consultation with the CoC identified Allan Street for upgrade, the intersection of Allan St. and Manuka Rd. was discussed and noted to remain as a T-intersection due to no future connection of Fritzlaff Court. Figure 4 below provides an aerial view of the existing intersection.



Figure 5: Allan Street and Manuka Road Intersection – Source Google Maps

## 4.3 Drainage

### 4.3.1 Local Drainage

The CoC is the responsible authority for minor local drainage while MW is the responsible authority for the provision of major drainage facilities and regional drainage networks with catchments greater than 60 Ha. The catchment area for the Subject Site is less than 60 Ha and will be a Council maintained asset. Drainage works will be designed and constructed in accordance with the VPA and the CoC standards.

Council requires underground drainage be constructed within the development to cater for 20% AEP events. Storm events up to 1% AEP frequency within the site will be accommodated via overland flow contained within the road reserves. All proposed lots will be provided with at least 150mm freeboard above the 1% AEP flood levels in the road reserves and 600mm adjacent to major drainage infrastructure.

The desktop assessment and investigation has identified the following CoC controlled local drainage assets:

- DN450mm pipe (feeding to outfall Castlegate Place) located within Manuka Road servicing the intersection of Manuka Road, Allan Street and Fritzlauff Court.
- DN300 - 450mm pipe located within the western boundary of Manuka Road servicing the residential development west of Manuka Road.
- DN225mm pipe in Allan Street at the south east corner of the subject site that continues down Cardinia Street.

Internal flows of the Subject Site will be captured and treated within the site's own proposed system. Treatment is intended to occur in 4 No. locations by means of Wetlands, Retarding basins and a proprietary treatment unit prior to discharge from the site to the surrounding Cardinia and Grasmere Creeks.

The Manuka Road Berwick Stormwater Management Plan should be read for further detailed information.

### 4.3.2 Melbourne Water

The subject site is not located within a Development Services Scheme (DSS). Although the Subject Site is not within a DSS, consultation with MW has occurred in preparation of the sites Stormwater Management Plan.

MW has advised that the development will be required to capture, retard flows and treat all stormwater onsite to meet best practice performance objectives.

A summary of the preliminary advice provided by MW is as follows:

- The subject site is located adjacent to Grasmere Creek and Cardinia Creek and future development is to incorporate waterway corridors widths in accordance with Melbourne Water's Waterway Corridor guidelines and Water Sensitive Urban Design (WSUD).
- WSUD should be located around the development on a streetscape scale.
- All new lots are to be a minimum of 600mm above the 1% AEP flood level associated with Cardinia Creek and Grasmere Creek.
- A Stormwater Management Strategy is to be prepared at functional design stage addressing onsite retardation and stormwater quality treatment requirements.
- The existing farm dam should be decommissioned, and the land or waterway rehabilitated to appropriate standards and requirements.
- The Melbourne Water Cardinia-Pearcedale main and Cardinia-Berwick transfer water mains are located adjacent to the proposed development. The developer will be required to fund all fencing along the boundary of the development and Melbourne Water Reserve.
- Melbourne Water may require a development setback from the existing flood plain.

The proposed system as noted within Section 7.3.1 will be designed and approved in coordination with the CoC and MW where ultimately ownership and maintenance of the system will be the responsibility of the CoC. The feasibility of the proposed system has considered the steepness of the site and disconnect of catchment areas and formulated the size and configuration of WSUD assets.

The overall configuration of both the retention and treatment systems has been documented in the Manuka Road SWMP and should be read in conjunction with this report.



Figure 6: Melbourne Water Flood Contour Map

## 4.4 Sewer & Water

Sewer and water facilities are available near the Subject Site and can be extended from the existing surrounding network to adequately service the development's requirements. Preliminary servicing advice has been sourced and is presented in the following sections.

The developer will be required to enter into an agreement with South East Water (SEW) for the provision of sewer and water supply facilities.

### 4.4.1 Potable Water

SEW is the responsible authority for the provision of water supply facilities to service the Subject Site.

The following existing potable water infrastructure is located adjacent the subject site:

- DN100mm water main located on the south side of Allan Street.
- DN100mm water main on the north side of Fritzlaff court.
- DN100mm water main on the western side of Manuka Road.
- DN300mm water main on the west side of Manuka Road beginning north of the Subject Site near Gavinton Place.

Refer to Figure 6.





Figure 7: Existing Potable Water Assets

SEW has advised that for the site to be adequately serviced with potable water it will be necessary to construct approximately 824 metres of DN150mm water mains. The DN150mm main will need to be reticulated from Manuka Road looping throughout the site twice, refer to Figure 7.

As part of the works approximately 300m of DN150mm main will need to replace the existing DN100mm in Manuka Road adjacent to the Subject Site.

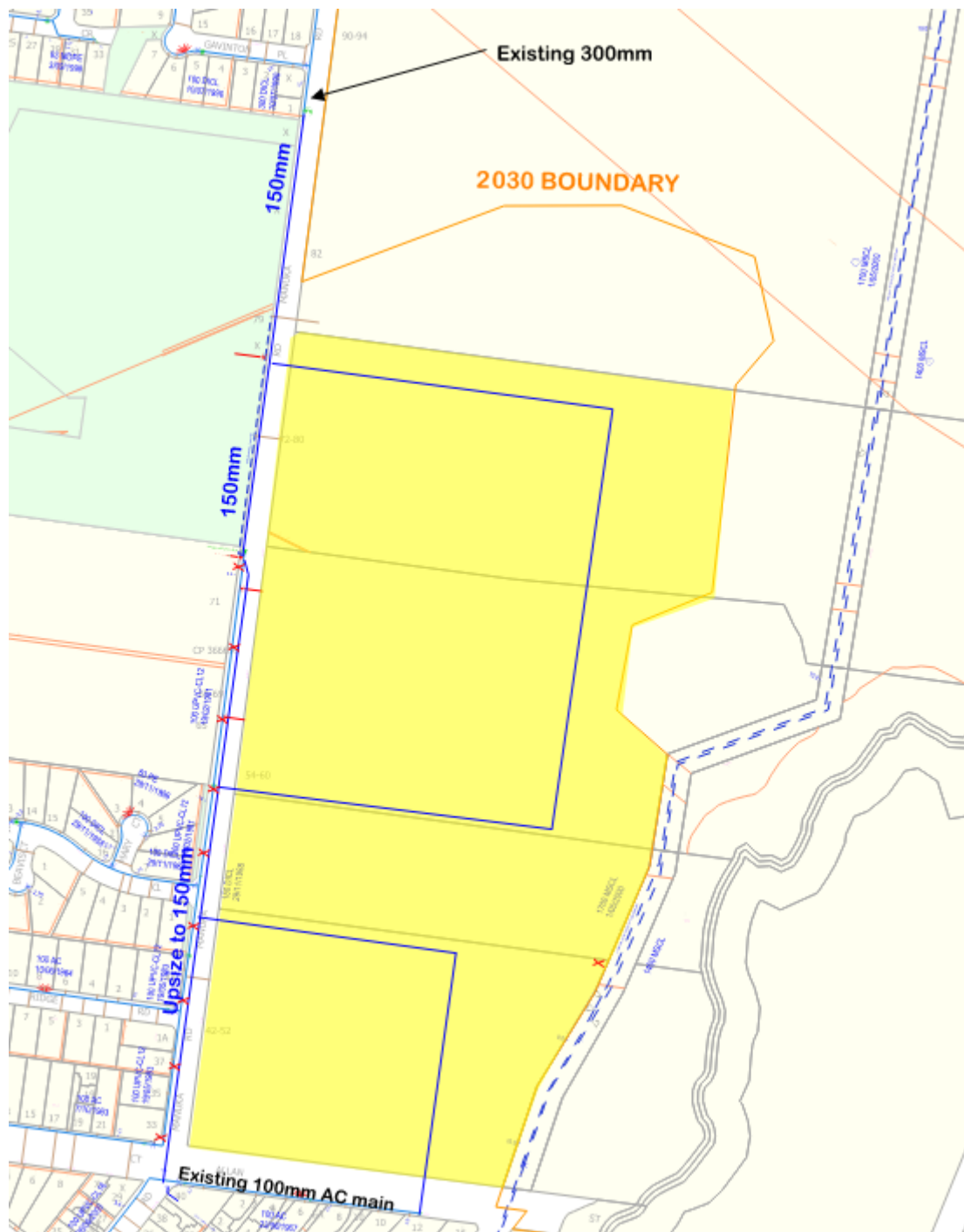


Figure 8: SEW Water Plan

#### 4.4.2 Recycled Water

The Subject Site is not located in a mandated recycled water supply area and is not intended for implementation as part of the development.

#### 4.4.3 Sewer

South East Water is the responsible authority for the provision of sewerage facilities to service the Subject Site.

The following existing sewer infrastructure, refer to Figure 8, is available surrounding the Subject Site:

- Manuka Road Pump Station (SPS183) with DN150mm rising main feeding MH AKP1-20 north of Clover Cl.
- DN225mm main located on the western side of Manuka Road, north of Ridge Road.
- DN150mm sewer main on the west side of Cardinia Street.

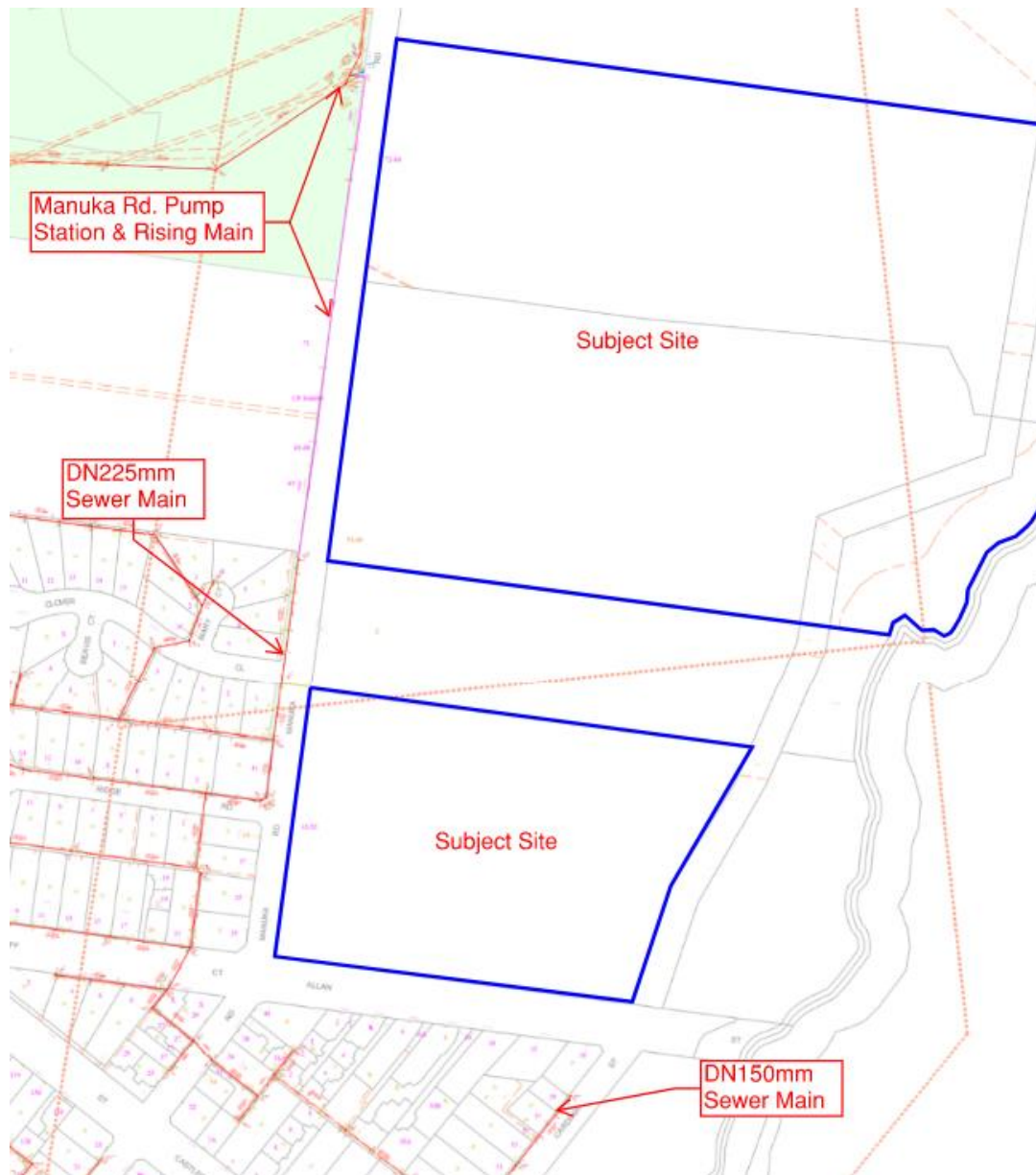


Figure 9: Existing Sewer Infrastructure

SEW has advised the proposed development is to be divided into 3 No. outfalls as shown in Figure 9. The outfalls and catchment are as follows:

- Catchment A: Discharge to the existing Manuka Road pumping station (SPS183).
- Catchment B: Discharge to the proposed Manuka East pumping station.
- Catchment C: Discharge to the existing 150mm sewer via manhole No. AKP1-77

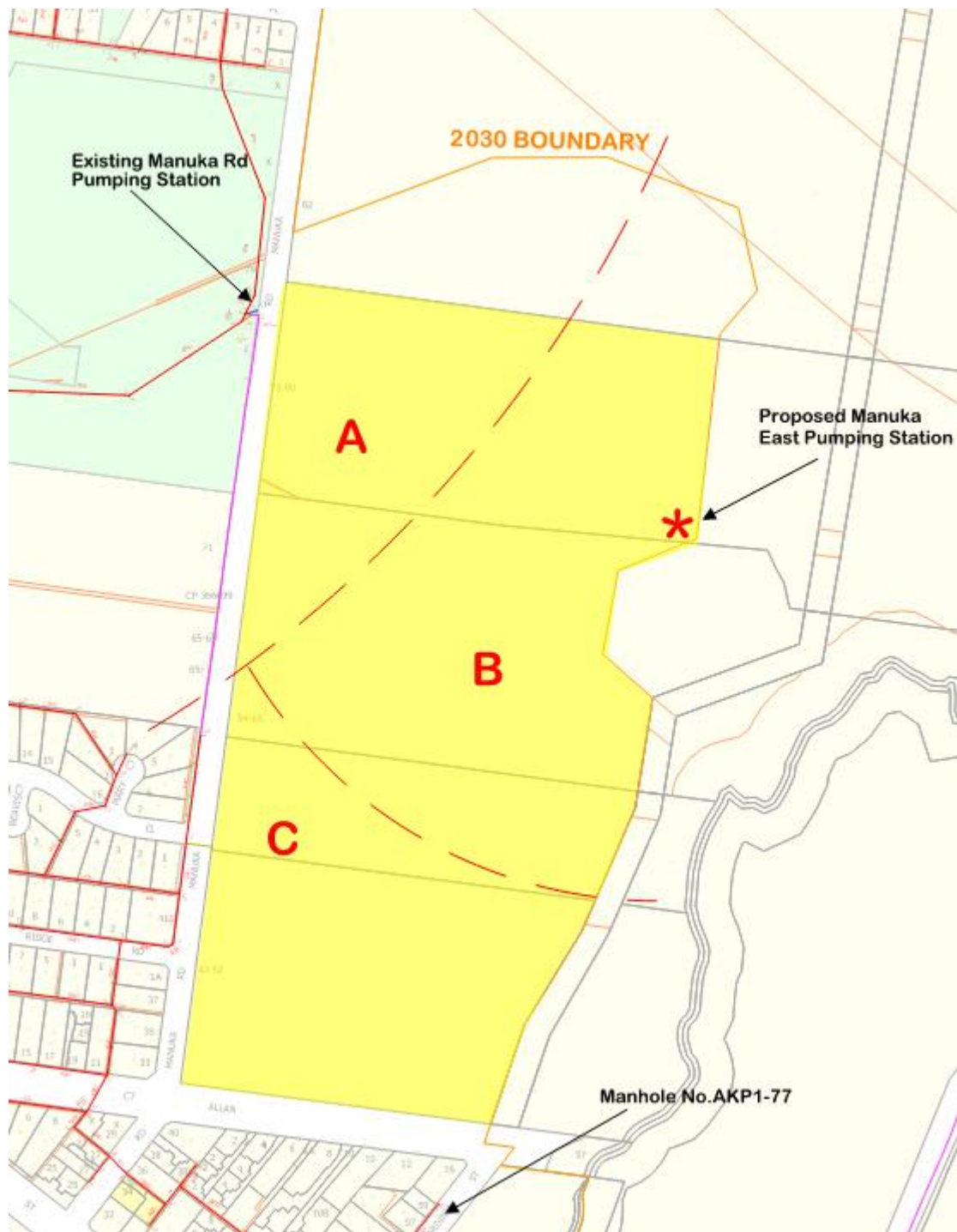


Figure 10: SEW Sewer Catchments

SEW has indicated that the above existing services should have sufficient capacity to service the proposed development, however a final assessment will be made when the final catchment flows for the development are known. Upgrade works to the existing system may be required.

## 4.5 Telecommunications

The developer will provide pit and pipe infrastructure ("fibre ready") to the Subject Site. The developer will be responsible for the trenching, supply and installation of pits and pipes followed by engagement of either NBN Co or a private operator, such as Opticomm, to supply and install optical fibre cables to each lot.

NBN has been installed adjacent to the site and is readily available for connection, see below:

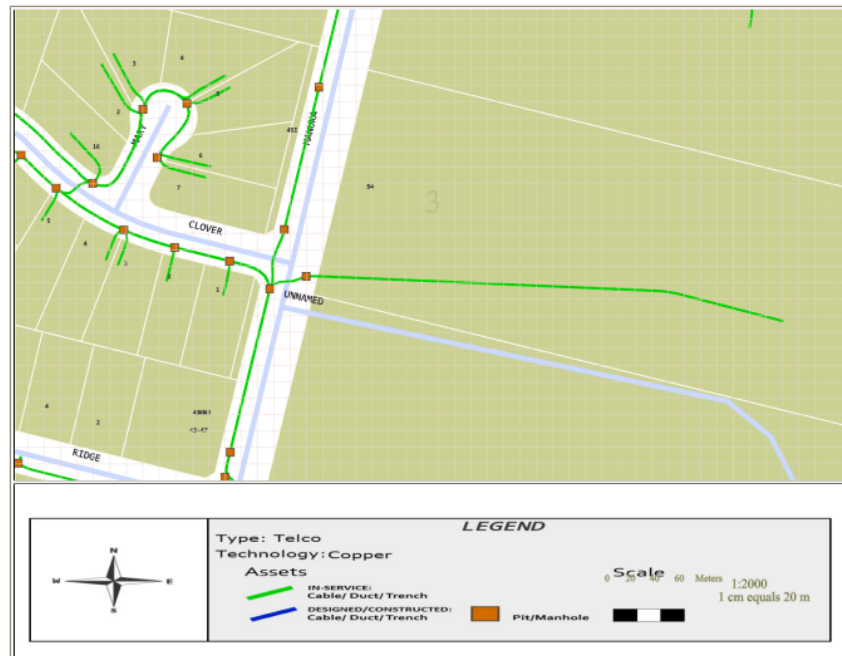


Figure 11: NBN infrastructure Adjacent to Manuka Road

NBN Co. is the main provider of optic fibre for the greater area. Figure 11 demonstrates the extent of the optic fibre roll out of the area around the Subject Site.

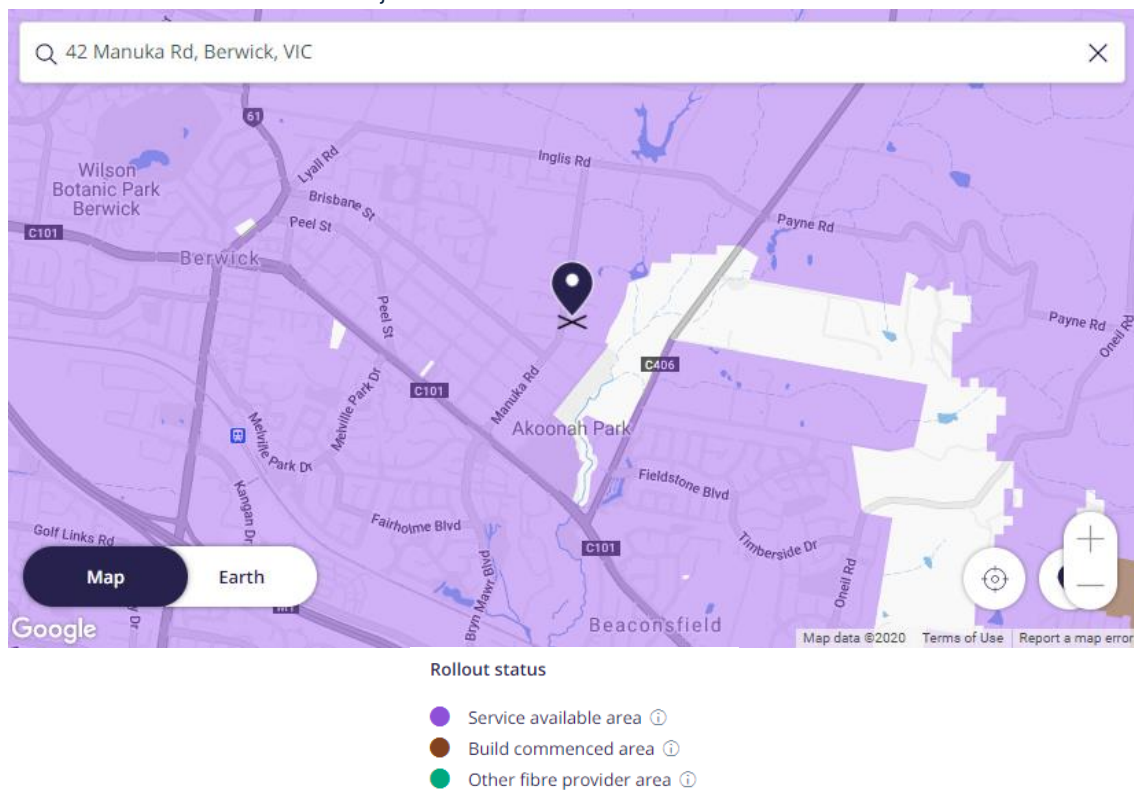


Figure 12: NBN Rollout Map – Source website - iiNet



## 4.6 Electrical

AusNet Services is the responsible authority for the provision of electricity supply to service the Subject Site. Electricity supply can be provided to the subdivision in accordance with the retailer's terms and conditions for residential land development.

The following existing electrical services have been identified:

- High Voltage overhead cable is located on the east side of Manuka Road
- Low Voltage overhead cable is located on the south side of Allan Street.

The following preliminary advice has been provided by AusNet Services:

- There is a 22kV High voltage feeder available for the development area in Manuka Road on the eastern side. The line is known as a BWN 14 feeder and has the capacity to meet the needs of the Subject Site.
- As a residential development, the electrical distribution must be via underground supply with kiosk reserves required in the development area. There may also be the need for cable easements within the development area.
- It is estimated at least one kiosk will be required for this development area, possibly two.
- A kiosk will typically supply 125 lots.
- AusNet Services currently reimburses HV infrastructure costs at a scheduled rate reflective of what HV asset is installed.
- If there are existing distribution assets in the development area, these will need to be relocated or removed at the developer's cost.

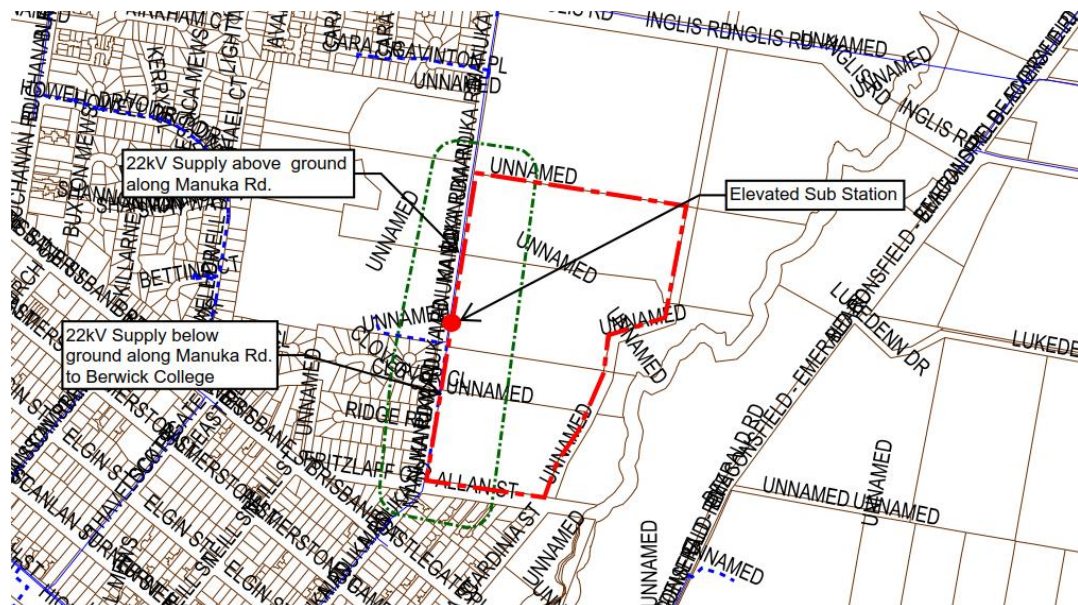


Figure 13: Ausnet Services – Servicing Pan

## 4.7 Gas

APA Group is the principal authority responsible for the provision of gas reticulation to service the Subject Site. Supply can be readily provided to the development in accordance with the retailer's terms and conditions for residential land development.

Dial Before You Dig information identifies that there are gas distribution supply mains surrounding the site at the following locations:

- West side of Manuka Road
- South side of Allan Street.

APA has advised that a contribution may be required to supply this site, at the time of writing APA are unable to provide any further clarity or associated costs until a formal application is submitted.

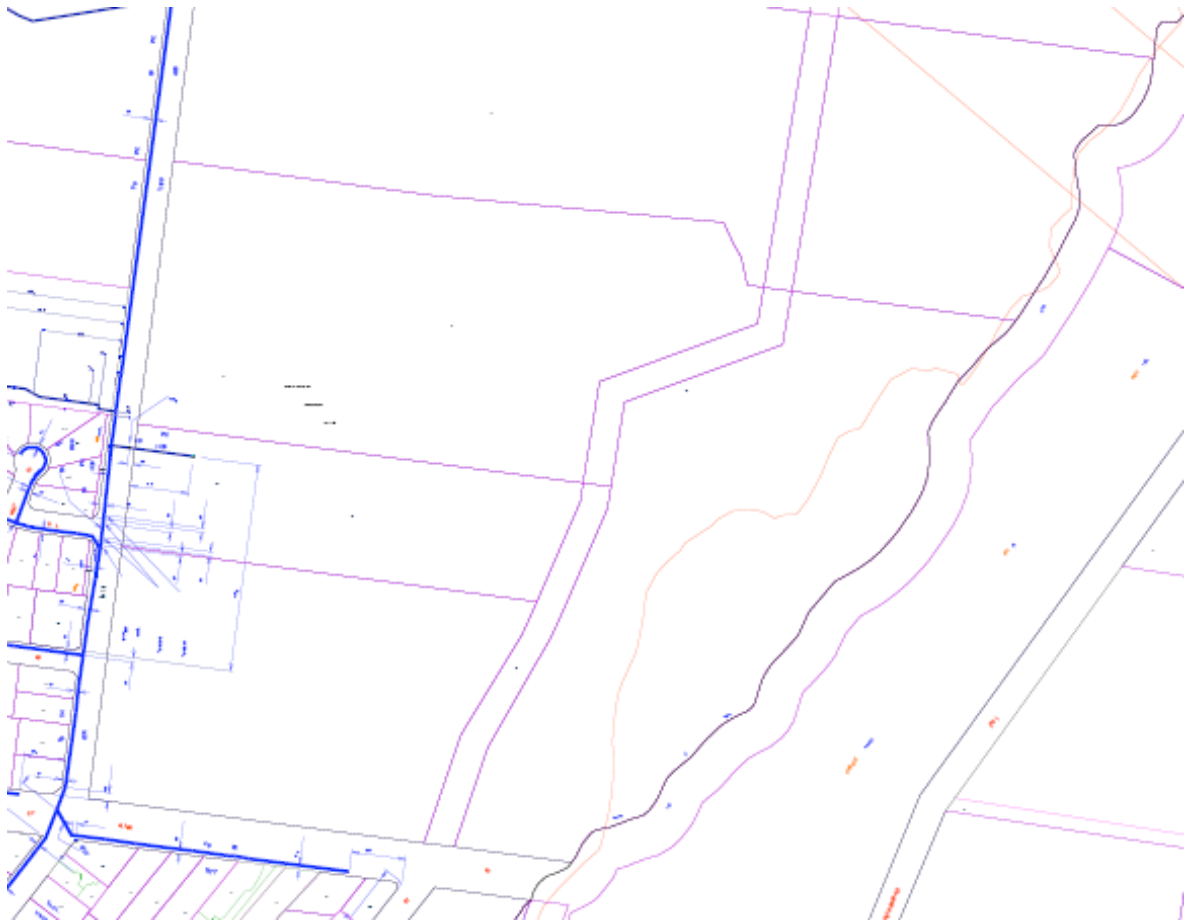


Figure 14: Existing Gas Distribution Mains

## 5 Conclusion

Based on our experience and the investigations carried out, SMEC believes that the Subject Site has availability and access, subject to Authority approvals, for connection to all necessary services. The extension of any services would be in accordance with the standard development process.

Based on the preliminary advice received from SEW, construction of an additional DN150mm water main to connect to the existing infrastructure in Manuka Road and Allan Street will be required. The existing and proposed sewer infrastructure has capacity to service the development and will be confirmed upon formal application.

The existing high voltage electrical infrastructure in Manuka Road is believed to have capacity to service the proposed development size. Electrical distribution must be via underground supply and 1 No. kiosk (min) within the subject site will be required. Telecommunication and gas services appear readily available to service the subject site in accordance with the retailer's terms and conditions.

Onsite retardation and stormwater quality treatment to meet best practice objectives will be required in accordance with the City of Casey and Melbourne Water's guidelines. The configuration of proposed stormwater system has been detailed within the Manuka Road Stormwater Management Plan.

The information in this report is preliminary and has been obtained as a result of servicing advice requests and discussions with officers from the relevant authorities and may differ at a future date when development conditions are officially requested. SMEC cannot accept responsibility if any Authority changes its requirements after the date of this report.

## Redefining exceptional

Through our specialist expertise, we're challenging boundaries to deliver advanced infrastructure solutions.

[www.smec.com](http://www.smec.com)