



## **Wallan South Utility Services Assessment**

Situational Analysis

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D/19/5148



## Wallan South Utility Services Assessment

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## Statement of Limitations

The sole purpose of this report and the associated services performed by Jacobs is to prepare a High Level Servicing and Infrastructure Assessment (including sewerage, potable water, recycled water, electricity, gas and telecommunications) in accordance with the scope of services set out in the contract between Jacobs and the Client. That scope of services, as described in this report, was developed with the Client.

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This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by Jacobs for use of any part of this report in any other context.

This report is limited to a high level servicing assessment of the utility services infrastructure and is based on verbal and written advice received from the Dial Before You Dig service and service providers prior to 30 December 2019. Access to information by service providers was limited during the assessment due to the preliminary status of the precinct.

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## Executive Summary

### Project Overview

Jacobs, on behalf of the Victorian Planning Authority, are to complete a Utility Servicing Assessment for the Wallan South Precinct Structure Plan (PSP) areas near Wallan, Victoria. For each utility service, undertake an assessment in the context of the existing and future development of the site identifying the relevant authority, existing servicing infrastructure, future servicing needs and relevant considerations for planning for the site.

This Utility Servicing Assessment will be presented as a “Situational Analysis Report” outlining methodology, outcome of investigations, services layout plans, cross sections at appropriate locations, utility services implications and recommendation.

### Project Scope

This report identifies the high level opportunities and constraints to development with respect to water, sewerage, recycled water, main drainage, electricity, gas and telecommunications services to inform the preparation of the PSP. This PSP is located within the Northern Growth Corridor. The capacity of existing services and the likely future infrastructure requirements have been assessed in consultation with the relevant authorities and provided in this report.

The report has been developed in consultation with key utility service providers and agencies including Yarra Valley Water, AusNet Services (Electricity), APA Networks (Gas), Telstra and NBN Co, and Melbourne Water (Drainage) describes the preliminary high level authority advice provided by these providers in respect of the servicing requirements for the precinct.

### Assessment

This assessment has identified the existing infrastructure within and adjacent to the PSP area, responsibility, constraints of existing services, anticipated future requirements, considerations and expectations of the utility service providers and agencies for the future draft urban master planning phase.

### Staging

Staging information has been identified as a key a consideration by Yarra Valley Water. It would be reasonable to assume that each agency would expect the provision of a detailed master plan, staging and proposed timing of the precinct’s development be provided.

### Potential Cost Implications

As a consequence of essential services legislation, in most cases, service authorities are required to bear the cost of trunk infrastructure provisions and typical development costs at an allotment level.

Costing information has been presented for Yarra Valley Water (New Customer Contributions) however the costing contributions required were not available from the other service providers.

### Conclusion and Recommendations

From the assessment and discussions with servicing authorities the PSP development area appears to be suitable for further development. No other major constraints were identified.

Key recommendations for the Wallan South precinct are the development of a detailed masterplan for the precinct including staging options for submission to authorities to initiate formal discussions and the provision of detailed preliminary utility servicing advice.

## 1. Introduction

### PSP Objective

The Victorian Planning Authority (VPA) is concurrently preparing a number of Precinct Structure Plans (PSPs) for precincts within the current growth corridors of Melbourne. The purpose of a PSP is to guide and facilitate development in the growth areas and to make sure that adequate and prompt planning is available to support future development within these precincts.

PSPs are master plans for whole communities which usually cater for between 10,000 to 30,000 people. Precinct structure planning is considered to be fundamental to making Victoria's growth areas great places to live, both today and for future generations. PSPs lay out roads, shopping centres, schools, parks, housing, employment and the connections to transport.

The development of greenfield sites, along with urban consolidation, is an important part of the Victorian State Government's strategy to address strong population growth and the housing and employment demands that flow from this.

One of the key aspects of the PSP process is the planning and provision of adequate utility servicing infrastructure for these developing precincts. New developments place additional load on existing services infrastructure which often necessitates augmentation of existing infrastructure to varying degrees.

The utility services authorities are responsible for planning, designing, constructing and maintaining trunk supply and distribution of utilities within the precinct. Authorities identified within the Wallan South precinct are:

- APA Networks – Gas distribution
- APA Group – Gas transmission
- AusNet Services – Electricity distribution / supply
- Melbourne Water – Main Scheme Drainage
- Mitchell Shire Council – Local Drainage
- NBN Co – Telecommunications
- Telstra – Telecommunications
- Yarra Valley Water – Sewer, water and recycled water

This report identifies the high-level opportunities and constraints to development with respect to utility services infrastructure. The capacity of existing services and the likely future infrastructure requirements have been assessed in consultation with the relevant authorities and provided within this report.

### Project Scope

JACOBS was commissioned by VPA to undertake a high-level utilities servicing assessment report for the Wallan South precinct and identify current services and utilities infrastructure capacity issues within the precinct, noting identified key opportunities and constraints for the provision of servicing and utility infrastructure to fully service the precinct into the future.

JACOBS consulted with the relevant service authorities identified by undertaking a site inspection and undertaking Dial Before You Dig inquiries, reviewing supplied infrastructure data to assess the capacity of existing services and identify future services, with the details discussed throughout the report.

### Key Stakeholders

The Victoria Planning Authority (VPA) is the statutory authority responsible for overseeing the preparation of all PSPs in Melbourne's growth areas and advising the Minister for Planning on their approval. The VPA works in partnership with Growth Area Councils to complete the planning for Melbourne's Growth Areas.

The VPA is managing the preparation of the Wallan South PSP. As it is located within the Mitchell Shire Council, the Mitchell Shire Council is also a key stakeholder in the preparation and implementation of the PSP.

Yarra Valley Water participate in Department of Environment, Land, Water and Planning (DELWP) Integrated Water Management (IWM) forums in the Dandenong, Maribyrnong, Werribee, Westernport and Yarra catchments. These bring key agencies – including planners and local councils – together to examine opportunities for shared value projects with liveability benefits. Yarra Valley Water's priority is to ensure that their water and wastewater services are resilient to climate change, drought and population growth.

### Key Existing Features

Important existing features in the Wallan South PSP (existing and proposed under the Growth Corridor Plan) include:

- Beveridge PSP (southern boundary)
- Major Roads (Old Sydney Road, Northern Highway & Hume Highway), as well as future road creek crossings
- The Strathbaird Creek and tributaries, with the creek should be retained and maintained
- Duke Street Drain continuing from the Wallan township north of Taylors Lane
- Existing Wallan Station to the north east (off Wallan-Whittlesea Rd)
- A future Central Activity Centre
- A mixed business/residential precinct, and future industrial precinct to the east and south of Wallan East PSP.
- An existing rural industry
- The Wallan Sewerage Treatment Plant, which is located east of the Hume Highway at the end of S Station Street outside Wallan South PSP area, and part of the new sewerage infrastructure that will ultimately connect Wallan and surrounds to Melbourne's metropolitan sewerage network. Under the current (future) growth predictions, the new infrastructure is scheduled for completion in 2021.

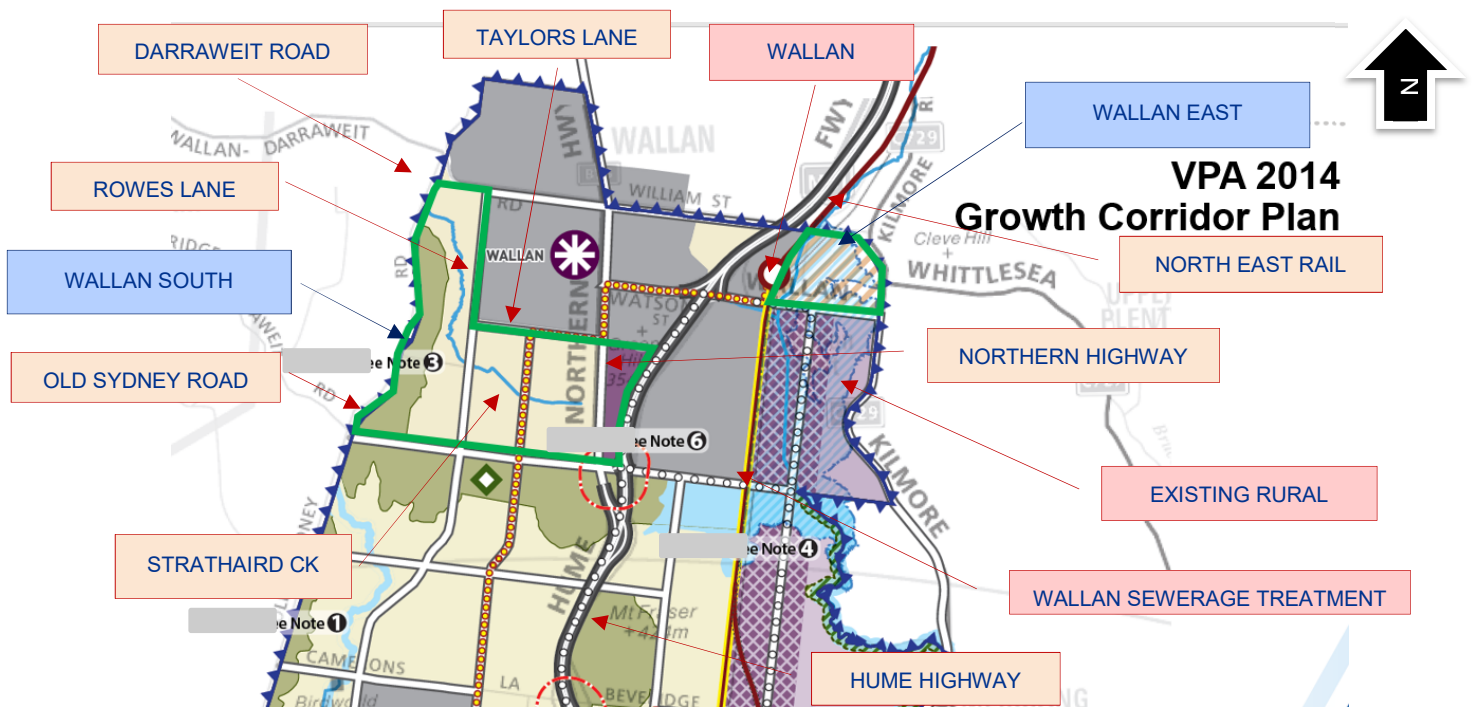


Figure 1.1: Wallan South PSP Key Features (Not To Scale)

## Information Sources

The information within this report has been collated from the following sources:

- A Dial-Before-You-Dig enquiry to determine the extent of readily available services information and to assess the size and location of existing services.
- Publicly available aerial and street level photography and cadastral and contour information.
- Correspondence, meetings and phone conversations with personnel from the various utility service authorities who provided information about future servicing strategies and master planning.
- Websites of service authorities, industry associations and government departments to obtain further information about the capacities of existing assets, plans for future assets, policies, standards and legislation governing development.
- Excludes servicing strategies by land owners.

## 2. Methodology

In order to understand the extent of utilities, a desktop study was conducted for each of the site. Dial Before You Dig (DBYD) has been requested for the site and their immediate surrounds. The following companies responded to the request where required with information on the location of utility assets:

- APA Group (Gas)
- AusNet (Electricity)
- Melbourne Water (Drainage)
- NBN Co. (Communications)
- NextGen (Communication Distribution)
- Telstra (Communications)
- Yarra Valley Water (Sewerage, Water)

The information from each of these sources is 2 dimensional and indicative only, service proving will be required to determine exact location, depth and condition of the assets. The asset information has been consolidated on to a single drawing.

### 3. Site Overview

Wallan South is an 806ha site, located 43 km north of Melbourne's CBD. The study is within the Mitchell Shire Council. It is bounded on the west by Old Sydney Road, to the south by property boundaries, to the east by the Hume Freeway and to the north by Taylors Lane and Darraweit Road. The study area is currently grassed farmland with some woodlands to the east. Strathaird Creek is surrounded by vegetation runs through the study area from the north (Darraweit Road), as well as Duke Street Drain from the north of Taylors Lane, a Melbourne water asset. The Northern Highway, transitioning to High Street in Wallan, runs through the study area. The topography of the study area is quite variable in direction and grade, however generally the site falls from the north to the south.



Figure 3.1: Wallan East & Wallan South PSPs (Not To Scale)



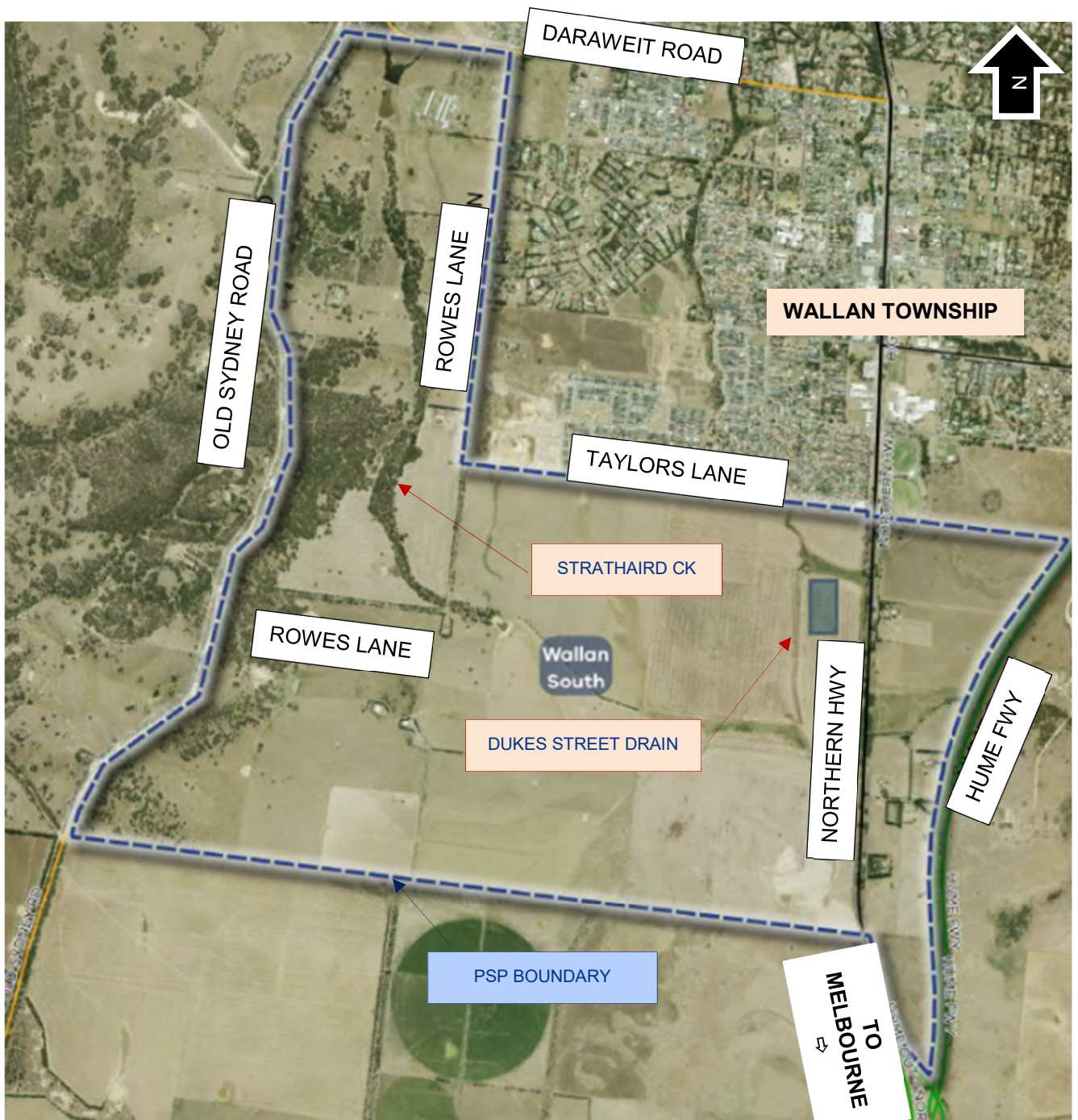


Figure 3.2: Study area for Wallan South (Not To Scale)



## 4. Water and Sewer Supply

Yarra Valley Water (YVW) is the responsible authority for the provision of sewerage, potable and recycled water services for the Wallan South Precinct.

YVW is continually monitoring interim and long-term servicing strategies for sewerage and water supply for the entire North (Hume Highway) Corridor of which Wallan South forms a part.

The timing of the construction of the various elements will be determined in part by development demand and part by YVW's Water Plans that provide budgets and a programme of works. Current mapping indicates a strategy period from 2019 to 2035, with these time frames may alter depending on progression of development.

Major assets when constructed as part of ultimate servicing strategies are classified as "shared assets" and therefore YVW funded. Where a developer requires assets ahead of YVW Infrastructure Works Programme, Incremental Financing Costs (bring forward costs) will be charged and levied on the developer. Assets classified as being interim or temporary are typically expected to be funded by developers as required.

Full development of this and adjoining precincts will require extensive capital works by YVW, which will most likely be partly funded by developers. These works will require coordination with the YVW development program.

### 4.1 Current servicing arrangements

Yarra Valley has provided preliminary high level advice for servicing the Wallan South precinct. Information provided identifies servicing within the Wallan South precinct and links to neighbouring PSP's Beveridge and Wallan East and the existing township of Wallan.

Data has been sourced directly from YVW directly and from their Asset Map site  
[https://webmap.yvw.com.au/yvw\\_ext/](https://webmap.yvw.com.au/yvw_ext/)

#### 4.1.1 Water

Water supply services for the precinct are provided by Yarra Valley Water

The YVW Asset Map, indicates the following existing water assets:

- DN600 water supply pipe (non-tapping) along the Northern Highway (western alignment) of the study area.
- DN100 water supply pipe main also runs along the eastern alignment of Rows Lane from Windsor Dr for approximately 600m south and services adjacent existing properties (east side).
- There is no other existing water supply to the study area.

According to the YVW data map, it appears the DN600 pipe supplies much of the reticulated water for Wallan, particularly in the western part of the town.

Refer Appendix A.2.1 - YVW 'Beveridge Wallan Planned Water Assets'

#### 4.1.2 Non-Drinking Water

Non-Drinking Water services for the precinct will be provided by Yarra Valley Water.

From the YVW Asset Map, indicates the following existing non-drinking water assets:

- DN225 non-drinking water supply main along an Un-named Road (southern alignment) of the study area. This main appears to cross both the Western and Hume Highways from the east, then heads south.
- There are no existing non-drinking water supply mains within the study area.

Refer Appendix A.2.2 - YVW 'Beveridge Wallan Planned NDW Assets'

#### **4.1.3 Sewer**

Sewer services for the precinct will be provided by Yarra Valley Water.

According to the YVW data map, it appears there is no existing sewer supply within the study area.

There is an existing DN150 and DN225 sewer service along the northern alignment of Taylors Ln, starting near the intersection the Northern Highway heading west to the Taylors Lane (Wallan) Pumping Station (SPS704) situated at Dukes Street Drain.

Refer Appendix A.2.3 – YVW 'Beveridge Wallan Planned Sewer Assets'

## **4.2 Constraints**

### **Yarra Valley Water preliminary advice**

Preliminary advice received from Yarra Valley Water indicated a number of constraints and are outlined as follows:

- Yarra Valley Water have no immediate works planned to support the Wallan South PSP, with core trunk services (all assets) proposed Post 2027.
- There are lead-in works planned prior to 2027
  - NDW lead in works 2023 and 2024.
  - DW lead in works 2024 and 2026
  - Sewer 2021, 2025 and 2026
  - Note: Works proposed 2024 through to 2027 are subject to ESC water pricing review.
- Staging of development will be fundamental.
  - Water infrastructure supply will be from both the north (Darraweit Road) south east of the development and generally migrating north west
  - Non-drinking water infrastructure supply will be from the south east of the development and generally migrating north west
  - Sewer infrastructure supply will be from the east of the development via an un-named road (approx. 500m north of Macsfield Road) and generally migrating west
  - Refer Appendix A2 for Authority Servicing Layouts
- Where developments proceed out of sequence, temporary assets may be required to be constructed by the developer until permanent infrastructure is constructed.
- Yarra Valley Water's current position is not expecting any development works within the PSP area to commence until 2021 with some planned works 2019.
- Yarra Valley Water will require land for sewer pump station within the PSP.

### 4.3 Development opportunities

#### 4.3.1 Water

Yarra Valley Water planned works data indicates the following water supply infrastructure is required within the PSP area.

Works currently planned for 2019-2035

- DN225 water main along Macsfield Road / Northern Highway crossing (PWGW0210) - 2019
- DN225 water main within study area (PWGW0257) – 2024 / 2026
- DN225 water main within study area (PWGW0291) – 2035
- DN450 loop water main along an un-named road being the southern boundary of the study area (PWGWX110) - 2026
- DN300 water main within study area (PWGW0550) - 2029
- DN225 water main within study area (PWGW0549) - 2030
- DN225 water main off Darraweit Road south into the study area (PWGW0598) - 2030
- DN225 water main off Darraweit Road south into the study area (PWGW0612) - 2030

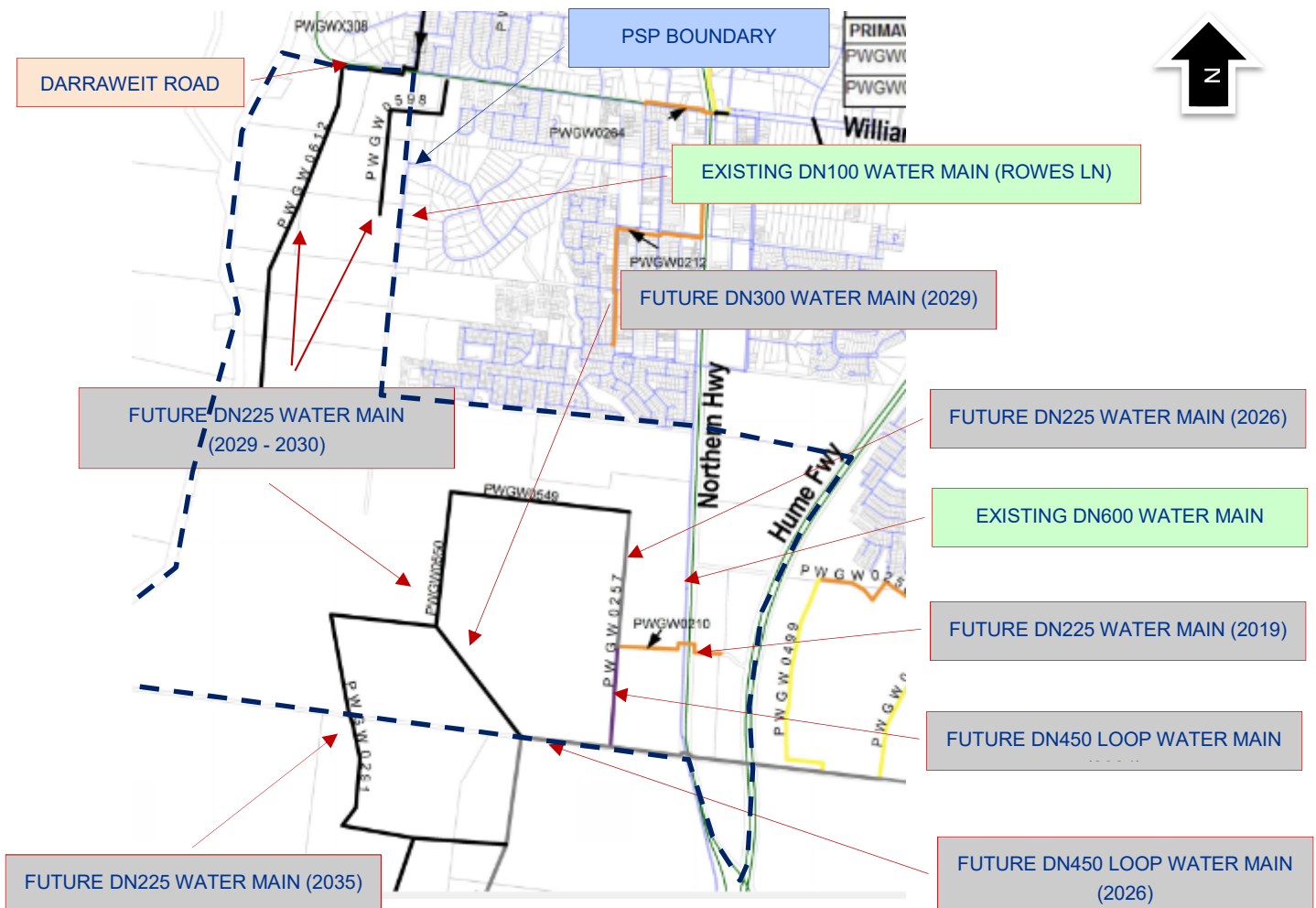


Figure 4.1 : YVW Beveridge Wallan Planned Water Assets - Refer Appendix A.2.1 (Not To Scale)

#### 4.3.2 Non-Drinking Water

Yarra Valley Water has advised that only part of the PSP area sits within the 'Mandated NDW Area'. The following future non-drinking water supply infrastructure is required within part of the PSP area.

Works currently planned for 2023-2035

- DN300 NDW main along an un-named road being the southern boundary of the study area (PWGW0539) – 2023
- DN225 NDW Loop Main within study area (PWGW0251) – 2024 - 2027
- DN225 NDW Hazelwynde North Link main (PWGW0404) – 2035
- DN300 NDW Inverlochy 1 Internal Loop Main along an un-named road being the southern boundary of the study area (PWGWX212) – 2027

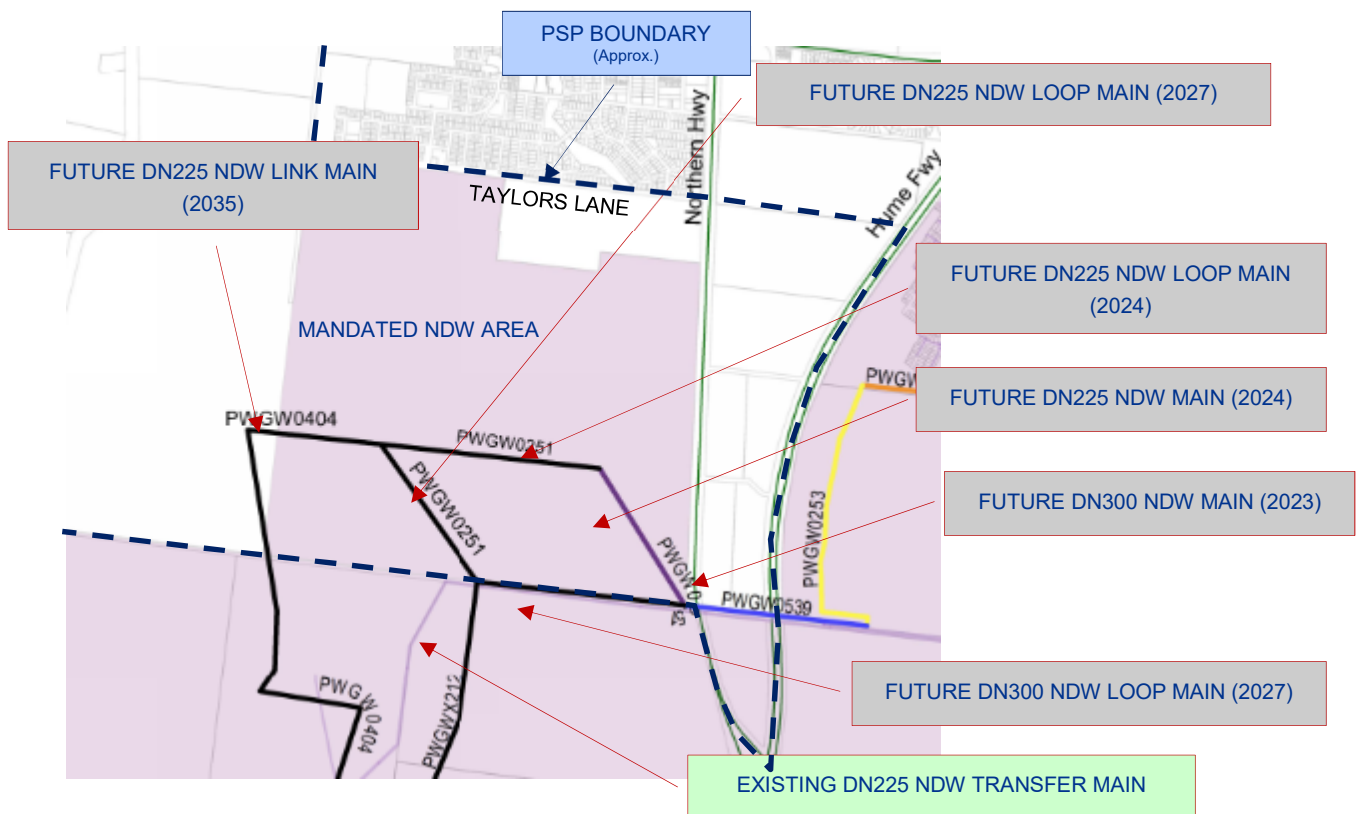


Figure 4.2 : YVW Beveridge Wallan Planned NDW Assets - Refer Appendix A.2.2 (Not To Scale)

#### 4.3.2 Sewer

Yarra Valley Water has indicated the following future trunk infrastructure services within the precinct.

Works currently planned for 2018 to Post 2027

- DN525 – DN825 Taylors Creek Branch Sewer Stage 2 (PSGW0162) – Mid 2021
- DN300 Taylors Creek West (PSGW0402) – Mid 2025
- DN750 Strathaird Creek Branch Sewer Stage 1 (PSGW0273) – 2026

- DN375 Rows Lane Branch Sewer and Rows Lane Rising Main (DN183) – Stages 1 to 3 (PSGW0389 to PSGW0392) – (2032-2034)
- DN300 - DN525 Strathaird Creek Branch Sewer (PSGW0397 to PSGW0400) – Post 2027

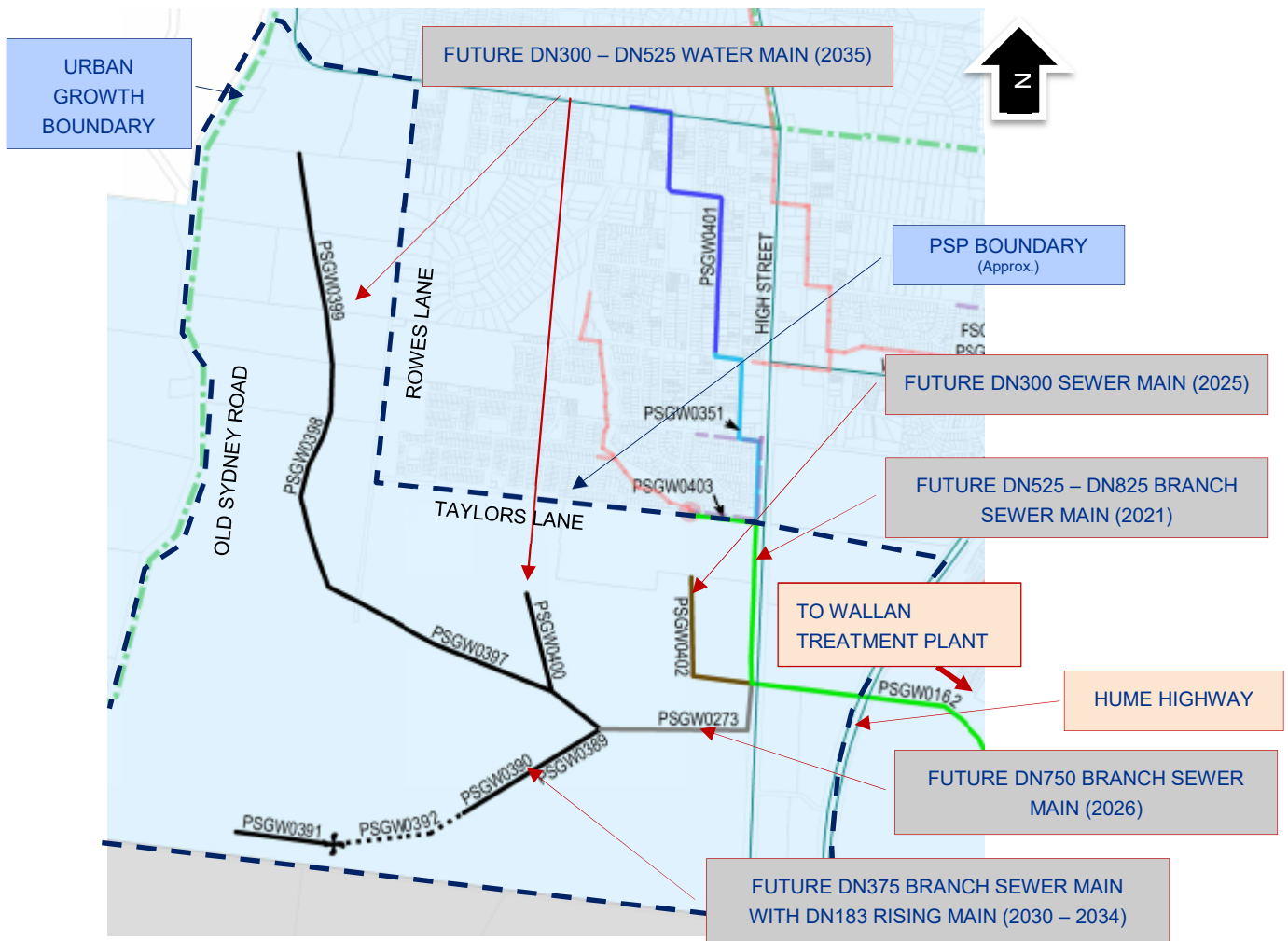


Figure 4.3 : YVW Beveridge Wallan Planned Sewer Assets - Refer Appendix A.2.3 (Not To Scale)

## 4.4 Adjacent Precincts

### 4.4.1 Water and Non-Drinking Water

Yarra Valley Water assets maps indicate there are existing water assets only to the east of Rows Lane and north of Thompsons Lane. There are no reticulated services east of the Hume Highway or immediately south of the southern precinct boundary other than the existing NDW transfer main.

### 4.4.2 Sewer

Yarra Valley Water assets maps indicate there are existing sewer assets to the east of Rows Lane and north of Thompsons Lane. There are no reticulated services east of the Hume Highway or immediately south of the southern precinct boundary.

#### 4.5 Current Yarra Valley Water Developer Fees and Charges

The Essential Services Commission (ESC) sets the standard rates for New Customer Contribution (NCC) charges. Yarra Valley Water uses these NCCs to provide the shared water, recycled water and sewerage services required to service urban growth.

The contributions for potable water, recycled water and sewerage supplies are determined on the area of development. Areas can be determined on Yarra Valley Water's Asset Map.

Yarra Valley Water:

- applies a scheduled charge on any connection of a new customer that is separately titled or is, or can be, individually metered, or
- calculates the financing cost of providing assets for a development when the assets are required ahead of when programmed by Yarra Valley Water.
- can apply a scheduled charge on any developments requiring an upside to the existing water service for water use.

Developers may be charged for up to 3 services – water, recycled water and sewerage. All developments within Yarra Valley Water's licensed area are subject to NCC charges.

Refer Yarra Valley Water website (<https://www.yvw.com.au/help-advice/develop-build/developers/new-customer-contributions>) for details and current fees and charges.

Region	Service	2018/19 Prices	2019/20 Prices
Standard	Water	\$704.41	\$713.79
	Sewer	\$704.41	\$713.79
	Recycled Water	\$704.41	\$713.79
New Urban Growth Area	Water	\$2,020.43	\$2,223.41
	Sewer	\$2,020.43	\$2,223.41
	Recycled Water	\$704.41	\$713.79
Greenvale/Mickleham	Water	\$2,020.43	\$2,223.41
	Sewer	\$2,020.43	\$2,223.41
	Recycled Water	\$704.41	\$713.79
Epping North	Water	\$1,028.23	\$1,041.92
	Sewer	\$1,028.23	\$1,041.92
	Recycled Water	\$704.41	\$713.79

Figure 4.4 : Yarra Valley Water Developer Contribution charges table 2019/20

## 5. Electricity

### 5.1 Current servicing arrangements

Electricity distribution for the precinct are provided by AusNet.

AusNet have confirmed that a 66kV and 22kV of overhead power lines and some sections of HV underground services are present within the existing road reserves of the precinct (refer to the Figure 4.1 below).

Note overhead lines are either 22kV or 66kV however DBYD does not specify which.

#### Taylors Lane

- Approximately 850m of inground LV electrical supply from Dunes Drain heading west to Maidenhair Drive.

#### Northern Highway

- 22kV Overhead supply predominately on the western alignment of Northern Highway to Taylors Lane. Approximately 500m from the southern most point of the precinct sits within the eastern alignment of the Northern Highway.
- The 22kV extends approximately 1200m west along the southern boundary of the precinct, then heads south into the adjacent Beveridge PSP precinct.

#### Rowes Lane

- Approximately 1300m of 22kV overhead supply within the northern alignment from Darraweit Rd and eastern alignment along Rowes Lane. The supply crosses Rowes Lane west into the Precinct properties, termination point within the precinct (east of Old Sydney Road).

#### Old Sydney Road

- From site observations and information from provided by Ausnet, 66kV overhead electricity supply runs along the eastern and western alignments of Old Sydney Road.
- Whilst this service extends north along Old Sydney Road through to Darraweit Road, it is not fully recognised / documented by any service provider as part of the dial before dig research, or through direct enquiries to date as shown in Figure 5.1.

#### Darraweit Road

- High voltage distribution lines run along the northern side of the road reserve and connects to Kangaroo Run to the north (outside of precinct).

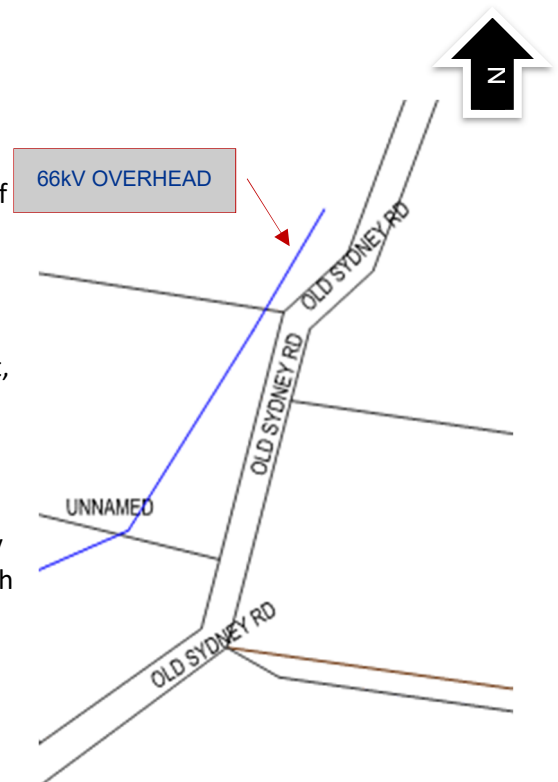


Figure 5.1 : Ausnet Old Northern Road Supply (DBYD) (Not To Scale)



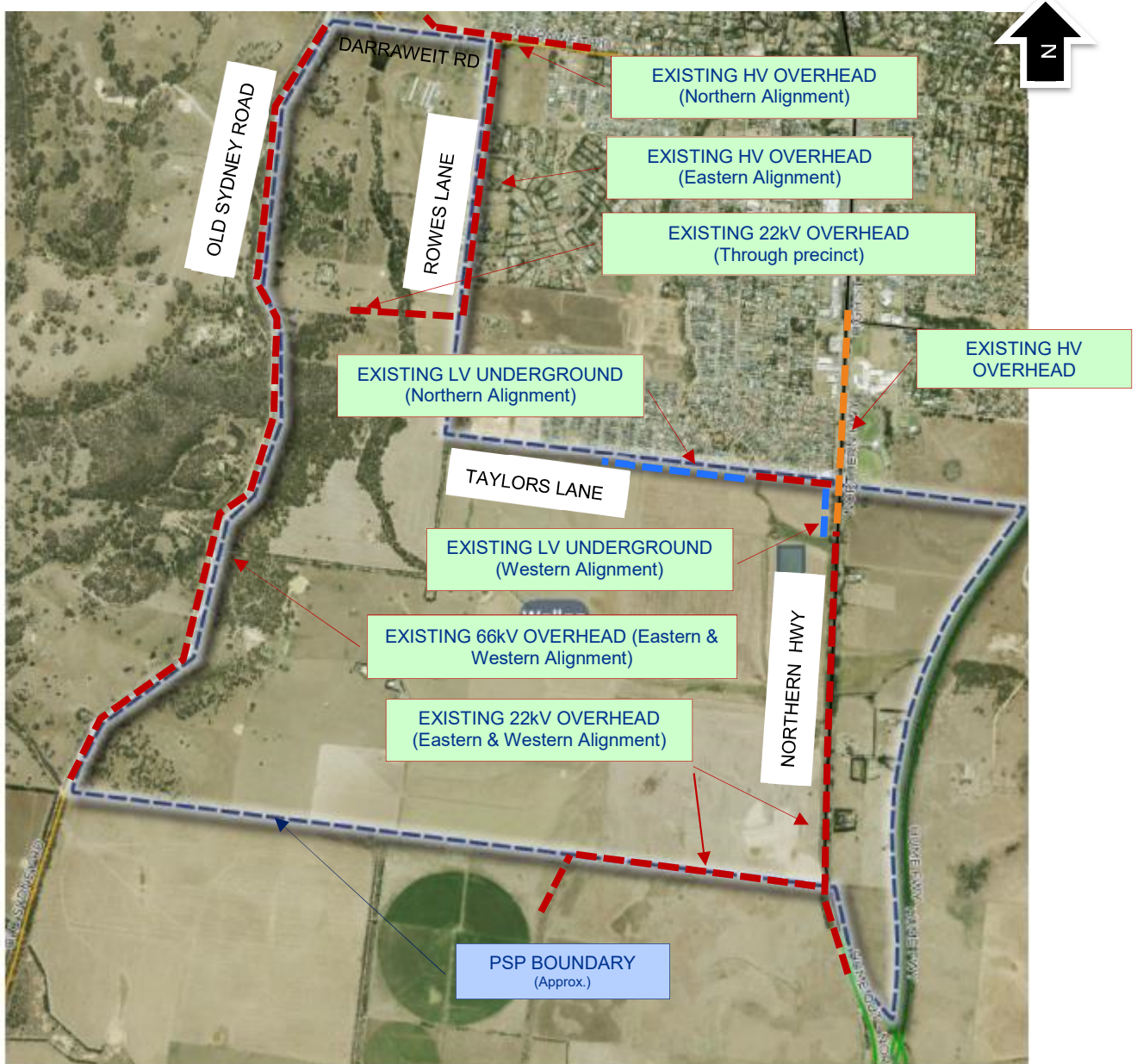


Figure 5.2 : Existing Low and High Voltage Electrical Services (Refer Appendix A.4.2) (Not To Scale)

## 5.2 Constraints

Ausnet Services have been contacted to provide advice on development constraints, and have provided the following advice:

- Augmentation of our network within the development area will be timed to match development.
- The developer can choose to underground some if not all of the lines outside the development area to suit the aesthetics of the new development. Within the development area, underground power is compulsory up to 22kV. Asset Alteration costs will be a developers responsibility.
- AusNet can most likely supply an initial 500 lots from existing infrastructure but will need to augment of their assets after that. Feeder augmentations can take up to 2 years. A new zone substation up to 3 years.



- These lead times need to be factored into the overall development of the area.
- A new zone substation will be required in the geographic area sometime in the future.
- AusNet has a 66kV line on the western side in Old Sydney road. This line would need to be cut into and then extended to a new zone substation site. The area required for a zone substation will be approximately 4000 square metres. The existing 66kV overhead line in Old Sydney road is at capacity and would need to be reconducted back to our South Morang zone substation to make the additional supply for 10,000 lots available.

### 5.3 Development opportunities

AusNet Services have been contacted to provide advice on development opportunities, and have provided the following advice:

- Installation of backbone electrical infrastructure will need to be considered when determining the staging of the development as our infrastructure is most likely not located where the initial staging will take place.
- There are no special additional requirements within the development area.
- New estates will be supplied from underground 22kV cables supplying kiosk substations within the development area. Kiosk reserves on title will be required.
- On average, one kiosk will be required for every 125 lots.
- Important to Note
  - Lot density per kiosk is under review as we adjust our network requirements to cater for solar.
  - Contrary to what may be expected, AusNet will need additional kiosks to cater for increased solar penetration.

## 6. Gas

### 6.1 Current servicing arrangements

Gas supply services for the Wallan South precinct are provided by APA Networks, who manage and operate the gas distribution networks on behalf of Australian Gas Networks (AGN)

APA data indicates there are no services within the Wallan South Precinct.

There is a domestic service that sits within the northern footpath alignment of Taylors Lane, that forms part of the existing residential supply north of Taylors Lane.

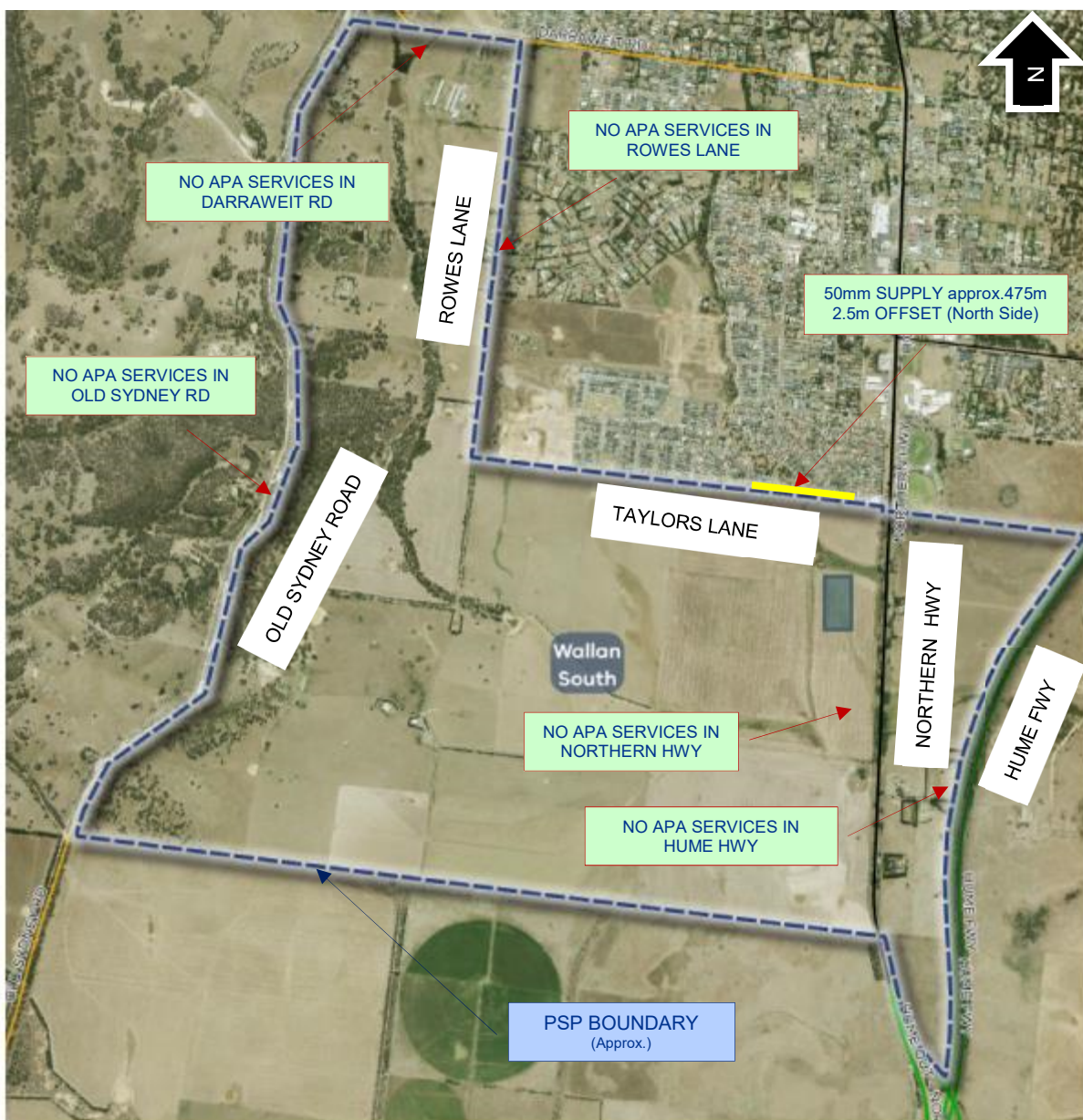


Figure 6.1 : APA Gas Supply (Not To Scale)







Figure 6.4 : APA William Street & Hume Highway existing crossing & City Gate location (Not To Scale)

### 6.3 Development opportunities

Based upon the potential future lot numbers of between 10,000 to 15,000 lots, APA have advised the following opportunities:

With the township of Beveridge to the south of Wallan, over the longer term, supply would extend from the south to provide a secondary means of servicing Wallan South and the precinct(s) between Wallan and Beveridge. APA Networks would require access to a publicly gazetted road e.g. Connector Road to lay this asset at a suitable offset. Timing would be dependent upon the rate of growth and also procurement of any third-party approvals in order to extend their network.

## 7. Telecommunications

### 7.1 Current servicing arrangements

#### NBN

NBN co. are the responsible authority for provision and installation of National Broadband Network infrastructure.

NBN have existing communication (Fixed Line) services in adjacent development areas north and to the east of the Hume Highway and a small section of service off Macsfield Road within the precinct. NBN mapping adjacent indicates area serviced and where build has commenced.

The following assets are provided around the study area:

- A P100 conduit on the northern side of Taylors Ln ending at Edwards Street and services the adjacent housing development. This appears to be a transmission cable as P50 and P25 conduit run down residential streets and to houses.
- A P100 conduit on a part the southern side of Darraweit Rd.
- A P35 conduit on the eastern side of Rows Ln servicing adjacent properties

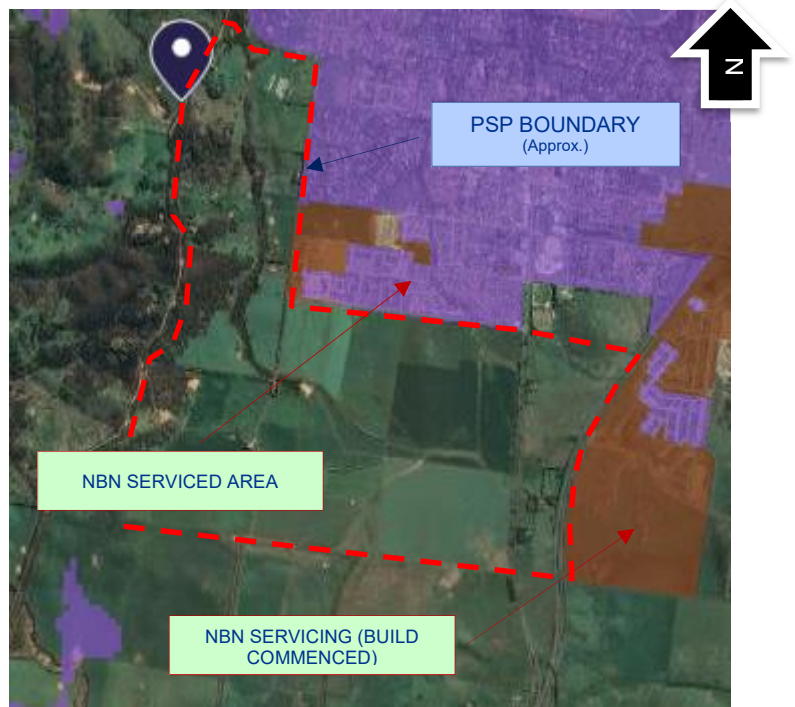


Figure 7.1 : NBN rollout map (Not To Scale)

#### Telstra

Telstra have existing communication services within and adjacent the precinct.

Cad data provided by Telstra indicate the service to be within the Northern Hwy predominantly on the western alignment with a shorter section along the eastern alignment which then runs along Macsfield Road and crossing the Hume Freeway head.





Figure 7.2 : Telstra Services (Not To Scale)

## 7.2 Constraints

### National Broadband Network (NBN) - Government Expectations

The Australian Government's expectations (NBN Co Ltd Statement of Expectations 24 August 2016), states that NBN's aim is to foster productivity and provide a platform for innovation in order to deliver economic and social benefits for all Australians. This statement provides guidance to NBN to help ensure its strategic direction aligns with the Government's objectives for the delivery of the network.

This current statement replaces previous statements provided and will be updated as required to reflect future decisions by the Government.

### 7.3 Development opportunities

It is anticipated that communication services for the area will be supplied through the NBN Co.

Current information obtained from the NBN Co website indicates that the service is unavailable or planned at this time, however, in surrounding residential areas the service is either available or under construction, as noted in [6.1 Current servicing arrangements](#) above.

## 8. Stormwater Drainage

### 8.1 Current Servicing Arrangements

Melbourne water is the responsible authority for waterways and major drainage infrastructure

Duke Street Drain is a Melbourne Water asset that runs parallel with the Northern Highway and conveys flows from developments north of the site. The drain crosses at Taylors Ln with an 8-box culvert configuration.

There are a number of other channels across the cross the study area which all flow towards a retarding basin in the South Eastern portion of the site. This basin drains to a DN2400 culvert which crosses the Northern Hwy.

There are small wetlands at the study area boundary at the Hume Highway which is crossed by a DN3000 culvert flows into Taylors Creek.



**Figure 8.1 Duke St Drain under Taylors Lane taken from Casey Court with the study area in the background** (Image Not To Scale)

There is also an unnamed ephemeral natural waterway flowing along the east of the study area and flows to the Duke St Drain, however only a portion of this channel has a Melbourne Water Easement. Melbourne Water drainage culverts are located at waterway road crossings at Darraweit Rd and Northern Highway.

The Melbourne Water 'Build Over Guide' document states that: Melbourne Water must protect its rights of access to ensure it is able to fulfil its statutory obligations relating to the installation and maintenance of assets. For any new subdivision, Melbourne Water will seek as a minimum to have a 6m easement located centrally over the asset. Each build over application is considered on a case-by-case basis, as there are a number of factors that may effect each proposal.

Mitchell Shire Council is responsible for drainage on local streets in the Study Area. Piped council stormwater drainage is visible along Taylors Road, elsewhere grassed swales are used. Information on these drainage assets are currently not provided by the council.

Property developers would be responsible for the installation local drainage to councils requirements.

NOTE: Also refer Land Capability Assessment for detailed stormwater drainage and flooding assessment being undertaken by others

## 8.2 Melbourne Drainage Strategies

Melbourne Water have several drainage strategies within the study area, with those being:

- 6523 Hadfield Road DS
- 6529 Taylors Creek East DS
- 6530 Wallan Airfield Strategy
- 6531 Taylors Creek DS
- 6535 Wallan Street Drain Strategy
- Whilst scheme maps are only available for '6529 Taylors Creek East DS' and '6531 Taylors Creek DS', they cover the PSP area and provide main drainage strategies – Refer Appendix A3.

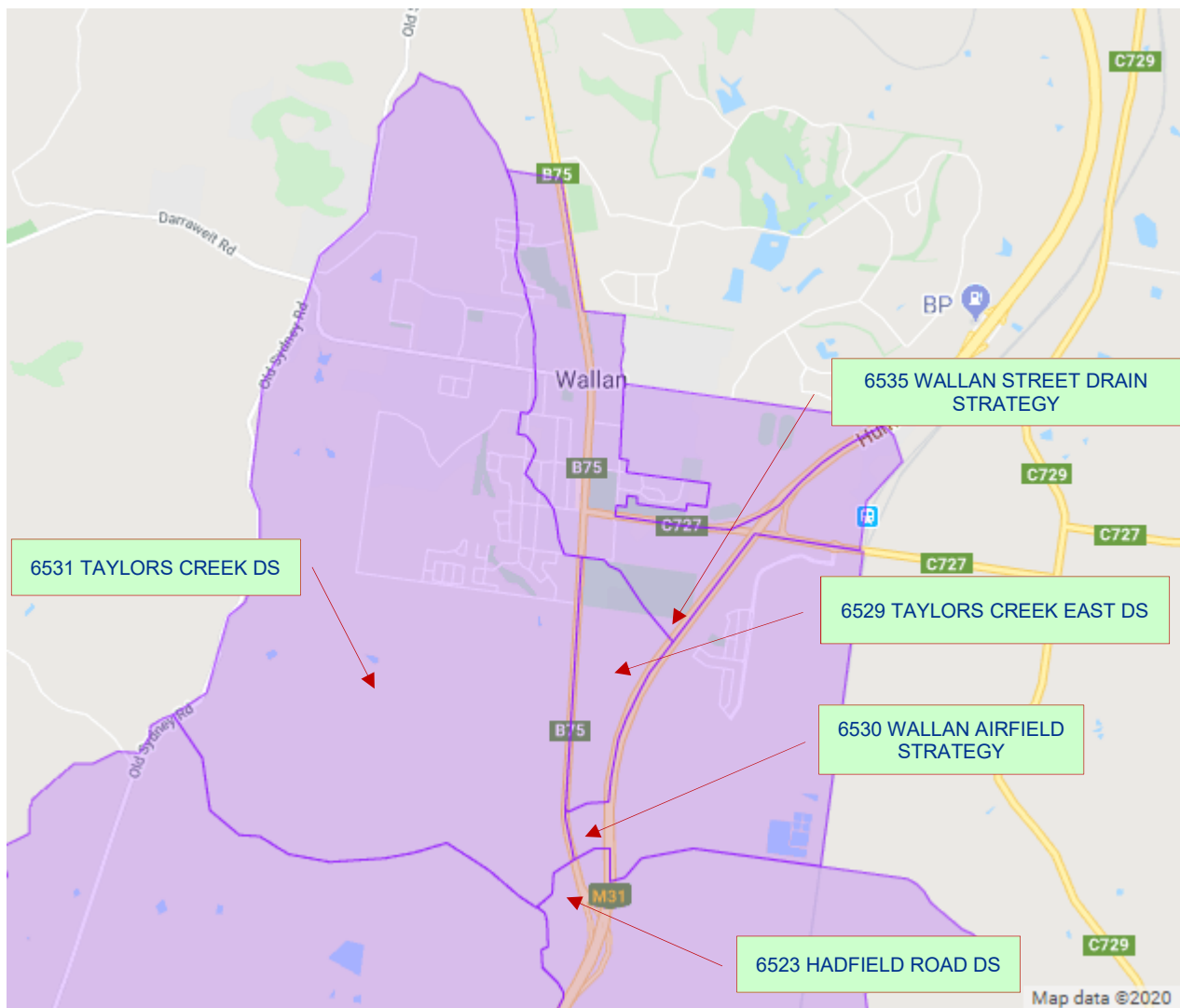


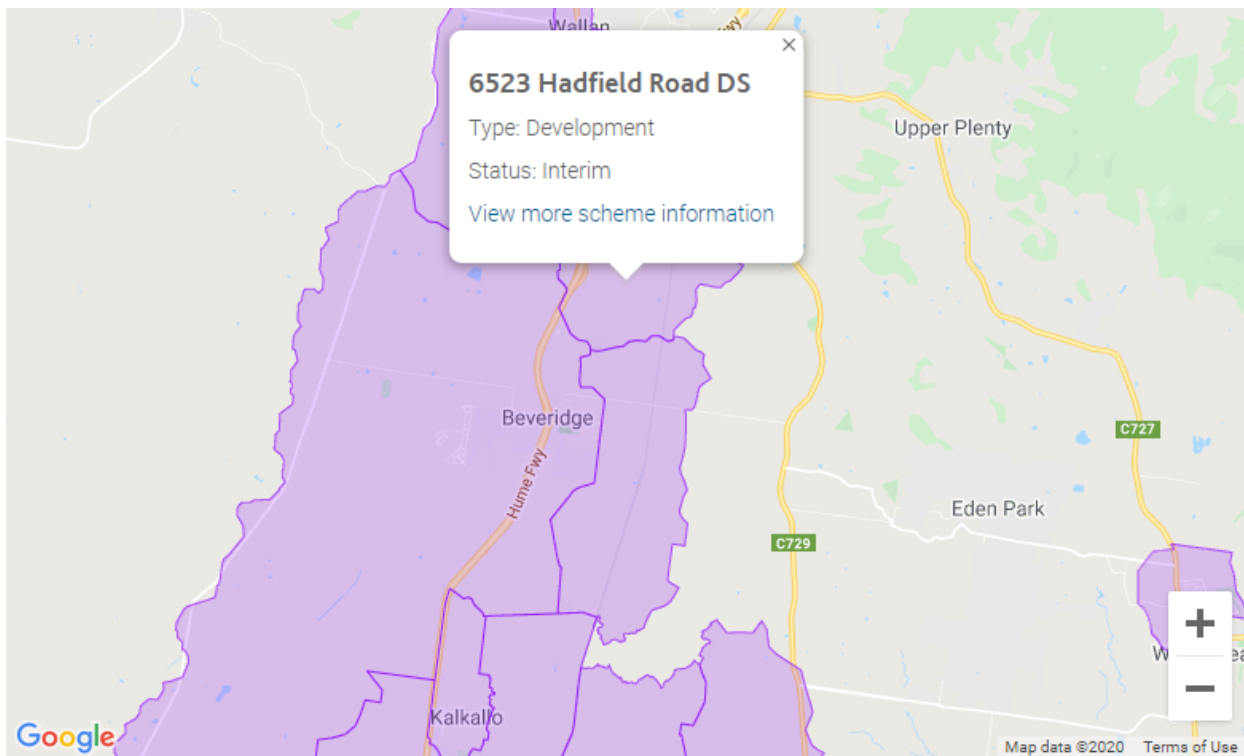
Figure 8.2 : Melbourne Water Drainage Schemes (Not To Scale)



### 8.3 Current Melbourne Water Developer Fees and Charges

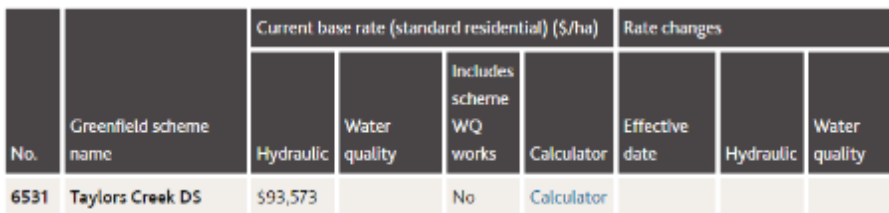
The current hydraulic base rate for standard residential properties as prescribed by Melbourne Water are:

Scheme	Hydraulic rate / ha	Water Quality rate / ha
6523 Hadfield Road DS	\$78,000	\$24,000
6529 Taylors Creek East DS	\$90,068	\$17,646
6530 Wallan Airfield Strategy	Nil	Nil
6531 Taylors Creek DS	\$93,573	
6535 Wallan Street Drain Strategy	Nil	Nil



No.	Greenfield scheme name	Current base rate (standard residential) (\$/ha)				Rate changes		
		Hydraulic	Water quality	Includes scheme WQ works	Calculator	Effective date	Hydraulic	Water quality
6523	Hadfield Road DS	\$78,000	\$24,000	Yes	<a href="#">Calculator</a>			

Figure 8.3 : Hadfield Road DS Fees (Map Not To Scale)



**6529 Taylors Creek East DS**

Type: Development

Status: Active

[View more scheme information](#)

Wallan

Home Farm

C720

C727

C737

C738

C729

M35

M39

Club Mandalay

Google

Map data ©2020

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No.	Greenfield scheme name	Current base rate (standard residential) (\$/ha)				Rate changes		
		Hydraulic	Water quality	Includes scheme WQ works	Calculator	Effective date	Hydraulic	Water quality
6529	Taylors Creek East DS	\$90,068	\$17,646	Yes	<a href="#">Calculator</a>			

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## 9. Governance

### Essential Services Commission Act 2001 and related Codes & Guidelines

The Essential Services Commission's (ESC) general regulatory powers are set out in the *Essential Services Commission Act 2001* and are applied to the Victorian electricity industry by the *Electricity Industry Act 2000*. This Act sets out the Commission's powers in respect to licensing and service regulation.

The objective under the *Essential Services Commission Act 2001* is to promote the long term interests of Victorian consumers with regard to the price, quality and reliability of essential services.

The ESC also has objectives under the *Electricity Industry Act 2000*:

To promote a consistent regulatory approach between the electricity industry and the gas industry, to the extent that it is efficient and practicable to do so to promote the development of full retail competition.

The ESC also has regulatory responsibilities prescribed by the *National Electricity (Victoria) Act 1997* and the National Electricity Code, which establishes the National Electricity Market in Victoria.

In addition to complying with the requirements of Victorian licences, codes and guidelines, electricity companies must also comply with the National Electricity Law and Rules.

### *Electricity Industry (Victoria) Act 2000*

The main purpose of this Act is to regulate the electricity supply industry.

### *Energy Safe Victoria (ESV)*

- Electricity Safety Act 1998 and subsequent amendments
- Electricity Safety (Electric Line Clearance) Regulations 2010

### *Gas Industry*

Energy Safe Victoria (ESV)

- Pipelines Act 2005 - Pipelines Regulations 2007
- Gas Safety Act 1997

### *Subdivision Act 1988*

This Act sets out the procedure for the subdivision and consolidation of land and regulates the management of and dealings with common property and the constitution and operation of bodies corporate. The Minister for Environment and Climate Change is responsible for administering this Act insofar as it relates to the management of the Officer of the Registrar-General and the Land Titles Officer. The Act is otherwise administered by the Minister for Consumer Affairs and the Minister for Planning.

### *Department of Transport*

DoT are the Victorian government agency with a unified approach to transport planning providing a singular, integrated focus, from improving buses in growing suburbs to making it easier to walk and cycle places and embracing new technology.

**Department of Environment, Land, Water and Planning**

DELWP are the Victorian government agency and responsible for creating a liveable, inclusive and sustainable Victoria with thriving natural environments, they bring together Victoria's climate change, energy, environment, water, forests, planning, local government and emergency management functions into a single department to maximise connections between the environment, community, industry and economy.

***Local Government Act 1989<sup>1</sup>***

The act provides a framework for the establishment and operation of councils and is the main legislative instrument for Victoria's councils.

Changes to the Act in 2003 included the insertion of a Local Government Charter outlining the purpose of local government is to provide a system under which Councils perform the functions and exercise the powers conferred by or under this Act and any other Act for the peace, order and good government of their municipal districts.

***Planning and Environment Act 1987<sup>2</sup>***

The Planning and Environment Act 1987, the Planning and Environment Regulations 2005 and the Planning and Environment (Fees) Regulations 2000 establish the legal framework for the planning system in Victoria.

The purpose of the Act is to establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interest of all Victorians.

**Environment Protection Authority Regulations**

The Environment Protection Authority (EPA) is the responsible authority for the administration of a number of Acts <sup>3</sup>

***Environment Protection Act 1970***

The purpose of this Act is to create a legislative framework for the protection of the environment in Victoria having regard to the principles of environment protection.

***Climate Change and Environment Protection Amendment Act 2012***

Amends the Environment Protection Act 1970 to improve community amenity and reduce business costs. These amendments came into operation on 13 February 2013.

***Pollution of Waters by Oils and Noxious Substances Act 1986***

The purpose is to protect the sea and other waters from pollution by oil and noxious substances.

***National Environment Protection Council (Victoria) Act 1995***

The National Environment Protection Council (Victoria) Act 1995 is complementary legislation to the other states and the Commonwealth. The Act establishes the National Environment Protection Council (NEPC), which comprises a Minister from the Commonwealth and each state and territory.

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<sup>1</sup> [DPCD - Local Government Acts and Regulations - Local Government Act](#)

<sup>2</sup> [DPCD - Planning Legislation](#)

<sup>3</sup> [Acts administered by EPA](#)

The objective of NEPC is to ensure people are equally protected from air, water and soil pollution and from noise, no matter where they live in Australia. By eliminating differences between participating states in the adoption or implementation of major environment protection measures, distortion of decisions made by the business community and potential fragmentation of markets will be prevented.

### **Water Industry Act 1994**

#### ***(Water - Sewer - Recycled Water)***

The Water Industry Act 1994 establishes the framework under which the three Melbourne water retailers are licensed and regulated by the Commission, together with the statutory functions, powers and obligations of the licensees.

### **Water Act 1989**

The Water Act 1989 provides the framework for the allocation and management of the State's water resources, including a bulk water entitlement regime and sets out the functions, rights and obligations and governance arrangements of regional urban water authorities and rural water authorities.

### **Telecommunications**

- Telecommunications Act 1997
- Telecommunications Regulations 2001
- Telecommunications (Low-impact Facilities) Determination 1997
- Telecommunications (Consumer Protection and Service Standards) Act 1999
- Australian Communications & Media Authority Act 2005
- Emergency Services Telecommunications Authority Act 2004

## 10. Guidelines and Standards

The following is a summary outlining some of the guidelines and standards that apply to the precinct. The summary is not an exhaustive list and is provided as a guide only.

### Water and Sewer Supply

- Melbourne Retail Water Agencies (MRWA) Specifications and Standards
  - MRWA Specification No. 04-02 - Water Quality Compliance
  - MRWA Specification No. 04-03.1 - Backfill Specification
  - WITS Survey Manual
  - MRWA Water Metering & Servicing Guidelines
  - Water Calculators
  - WSAA Water & Sewer Minimum Clearances
  - MRWA Standards (Click on sewer tab for sewer standard drawings)
- Yarra Valley Water specifications and standards
  - Water Supply Design Principles
  - Sewerage Design Principles
  - Standard Construction Specification
  - Water Quality Probe Installation in New Developments
  - Private Pump Station Policy
  - Application for Complex Planned Water Supply Asset Outage
  - Recycled Water (Victorian Government Mandated Area)
  - Land Development Manual

### Electricity

- AS 3000 - Electrical installations (Australian/New Zealand Wiring Rules)
- AS 3175 – Approval and test specification – Residual current-operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – General rules
- Electricity Distribution Code for Victoria, Energy Safe Australia

### Gas

- AS2885-2008 Pipelines—Gas and liquid petroleum General Requirements
- AS1432-2004 Copper tubes for plumbing, gas fitting and drainage applications

### Telecommunication

- AS/NZS 3084:2003 Telecommunications installations – Telecommunications pathways and spaces for commercial buildings
- ACA TS 102-1998 Telecommunications Technical Standard (Customer Equipment and Customer Cabling)

### Typical Services Location

The VPAs Engineering Design & Construction Manual provides specific road cross sections requirements to suit road types as nominated within the detailed PSP. This includes services allocation and offsets within road reserves, which are to be in accordance with the VPA EDCM and associated appendices along with relevant authority guidelines and offset criteria.

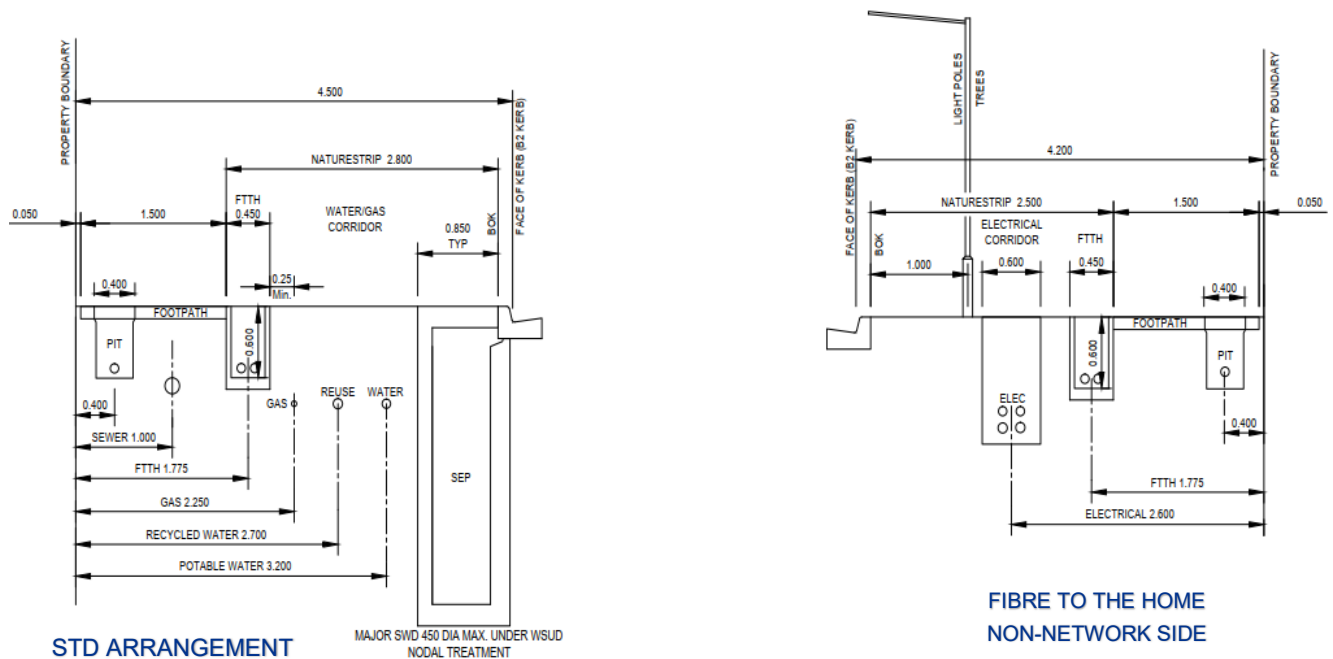


Figure 10.1 : EDCM Service Locations – Cross Sections for Access Street Appendix D – Figure 003 (Sections Not To Scale)

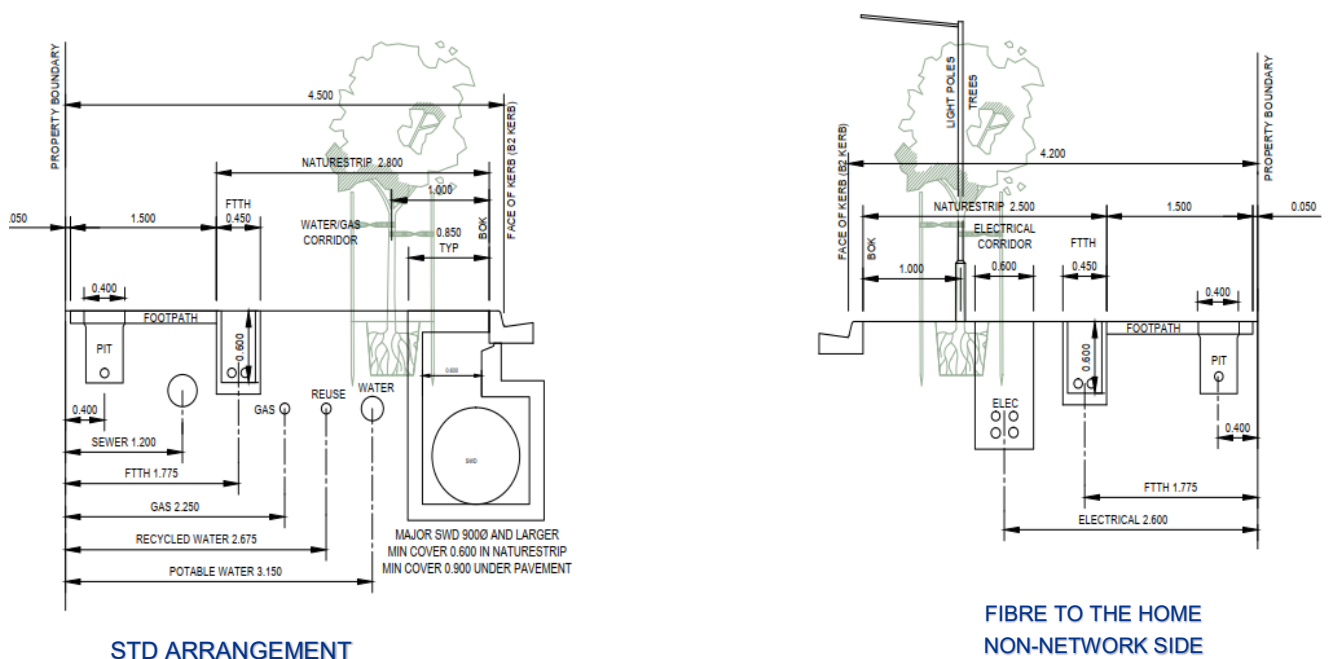


Figure 10.2 : EDCM Service Locations – Cross Sections for Trunk Services Appendix D – Figure 004 (Sections Not To Scale)

## 11. Conclusion and Recommendations

Based on discussions with authorities responsible for servicing the precinct, the following summary of assessment findings and recommendations will assist in facilitating the planning and implementation of adequate infrastructure servicing for the precinct.

It is also noted that the recommendations will require further detailed assessments to be undertaken by the stakeholders and are presented here for the benefit of VPA, to assist with future draft urban master plan and associated actions.

Timely awareness of development staging within a precinct enables service authorities to be proactive in the planning and delivery of critical infrastructure within the precinct. It also allows accurate budget forecasting and suitable resource allocation to occur.

As PSP documentation is a reference point for developers, it is recommended that early engagement with service authorities by developers be emphasised within the PSP. Service authorities appreciate knowing in advance the zoning and forecast timing of developments within precincts and it is recommended that timelines for development be provided.

From the assessment and discussions with servicing authorities the development area appears to be suitable for further development, with no major constraints identified.

The following outlines key infrastructure findings and recommendations.

### Water

- Yarra Valley Water is the responsible authority for water supply services.
- There are existing water supply mains within and adjacent the precinct.
- Yarra Valley Water have indicated future trunk water supply mains within the precinct and currently programmed to be delivered during and post 2020 capital project works.
- Sequencing of development within the precinct is to be considered as part of the master planning process.

### Non-Drinking Water

- Yarra Valley Water is the responsible authority for water supply services.
- There are no existing NDW supply mains within, however there is an existing transfer main along the southern boundary of the PSP.
- Yarra Valley Water have indicated future NDW supply mains within the precinct and currently programmed to be delivered during and post 2023 servicing the south eastern area of the PSP area only.
- Sequencing of development within the precinct is to be considered as part of the master planning process.

### Sewer

- Yarra Valley Water is the responsible authority for sewer services.
- There are no existing reticulated services within the precinct.
- Yarra Valley Water have indicated future sewer supply mains within the precinct and currently programmed to be delivered and continuing through to 2034.



- Sequencing of development within the precinct is to be considered as part of the master planning process.

### Electricity

- AusNet Services
  - AusNet is the responsible authority for electricity distribution.
  - AusNet have assets around the perimeter and within the PSP
  - A formal application is to be submitted with SP AusNet along with a detailed Master Plan through the SP AusNet website.

### Gas

- APA Network
  - APA is the responsible authority for gas supply
  - There are no existing reticulated services within the precinct.
  - The city gate (Wallan-Whittlesea Road) will need to be upgraded in the next 8-10 years
  - 100mm crossing duplication of the existing 150mm single crossing of the Hume Highway near William Street is required.

### Telecommunications

- NBN
  - NBN Co website indicates that the service is unavailable at this time.
  - NBN services in surrounding residential areas is either available or construction commenced.
  - NBN Co planning and design team require registration along with the submission of the new Master Plan through the NBN Co website.
- Telstra have assets within and adjacent to the precinct

### Drainage

- Melbourne Water
  - MWC drainage schemes are available for the PSP that will assist in forming the masterplan.

## **Appendix A. Servicing Layouts & Authority Communication**

### **A.1 Existing Utility Servicing Plans**

#### **A.1.1 Wallan South PSP Utility Servicing Plan**

### **A.2 Yarra Valley Water Planned Asset Maps**

#### **A.2.1 YVW Beveridge Wallan Planned Water Assets**

#### **A.2.2 YVW Beveridge Wallan Planned NDW Assets**

#### **A.2.3 YVW Beveridge Wallan Planned Sewer Assets**

### **A.3 Melbourne Water Drainage Scheme Maps**

#### **A.3.1 MWC 6531-Taylors-Creek-DSS.pdf**

#### **A.3.2 MWC 6529-Taylors-Creek-East-DSS.pdf**

### **A.4 Servicing Authority Communication Records**

#### **A.4.1 APA Communication Records (South)**

#### **A.4.2 AusNet Communication Records**

#### **A.4.3 YVW Communication Records**