Melton East Precinct Structure Plan Utilities Servicing Assessment

Victorian Planning Authority 2022-09-19



Document Control Record

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Executive summary

Aurecon has been engaged by the Victorian Planning Authority to undertake a desktop Utility Servicing Assessment (Report) for the Melton East Precinct Structure Plan (PSP). This report includes the identification of Service Authorities existing infrastructure and proposed servicing strategies, within and surrounding the Melton East PSP area that will support the future development of the precinct.

The assessment has been undertaken in consultation with key Utility Service Authorities across water, recycled water, sewerage, stormwater drainage, electricity, gas and telecommunication services. A Service Authority Opportunities workshop was also held to confirm existing services, including subsequent land and easement requirements. The workshop discussions also established a greater understanding of proposed future servicing strategies and identified servicing constraints and opportunities to enhance sustainability within the precinct.

The projected growth in the precinct will impact on some existing services and Service Authorities ability to cater for initial development, which may determine preferred development fronts. Temporary potable water supply for some properties within the southern area of the precinct may occur from the existing supply in the south. Existing network service capacities for gas and sewerage services have indicated their preferred development fronts from the south east and eastern boundaries of the PSP, respectively. The possibility for interim sewerage and temporary sewage services for non-sequential developments, was also identified.

The Report identifies the potential servicing opportunities in relation to Class A recycled water and stormwater harvesting which may be further considered within the separate Integrated Water Management assessment being undertaken for the precinct.

In relation to Developer Service Schemes for stormwater drainage, there are two catchment areas within the precinct, with rate chargers not to be finalised until after the PSP has been approved. Ridgeline and depression constraints within the northern and southern catchment areas respectively are currently being worked through, with stormwater drainage concept plans likely to be finalised by the end of 2022.

The Report has also identified the potential of future alternative gas servicing options and the subsequent impact to the electricity power grid.

Melton City Council's Environmental plans which include their preference for all utility services to be located underground to limit the impacts on tree planting and enhance urban amenity, may be further explored in the separate Climate Resilience Assessment being undertaken for the precinct.

A summary of the conclusions and recommendations resolved through the assessment are detailed below.

Utility Service	Recommendations & Conclusion
Water and Alternative water requirements, including whether class A recycled water will be mandamented. Melton East PSP are subject to the completion of an Integrated Water Management Pl	
Recycled Water	will be undertaken for the PSP.
Sewerage	Although the future sewer servicing strategy has been provided and recently reviewed by Greater Western Water, the pipe sizing and subsequent easement requirements may alter based on actual projected lot growth. The need for interim Pump Stations and temporary assets, to cater for non-sequential developments could impact the current servicing strategy plans.
Stormwater drainage	Ridgeline and depression constraints for the northern and southern catchments are to be further investigated by Melbourne Water.
	The finalisation of contribution rate chargers for the High Street Melton DSS (northern catchment) and the Kororoit Upper Creek DSS (southern catchment) is not likely to occur until after the PSP has been approved.
Electricity	In relation to future electrical servicing requirements, gas servicing forecasting will have an impact on the level of resource allocation that may be required. A potential increase in the use of alternative gas options such as electrical vehicles (EV), needs to be considered in relation to the future electricity servicing requirements within the PSP area.



Utility Service	Recommendations & Conclusion
Gas	Based on existing system capacities, it would be preferential for the staging of development to start from the south east of the PSP.
	Alternative gas options are to be considered and further explored in the Climate Resilience Review Assessment for the PSP.
Telecommunication	Future telecommunication servicing requirements within the precinct may need to be further explored, to determine when new contracted telecommunication servicing works will be undertaken within the PSP.
Other (Roads)	The location of future roads should be provided to each of the Service Authorities to facilitate future infrastructure requirements, servicing alignments and establish a greater understanding of land area and easement requirements.



Contents

1	Introduction	on		7
	1.1	Backg	ground	7
	1.2	Scope	e of Assessment	g
	1.3	Servic	e Authorities	9
	1.4	Gener	ral Assumptions and Limitations	10
2	Key Utility	Consid	lerations and Opportunities	11
3	Methodolo	gy		14
	3.1	Incepti	tion Meeting	14
	3.2	Comm	nunication with Service Authorities	14
	3.3	Servic	e Authorities Opportunity Workshop	14
4	Situationa	l Analys	sis Report - (Data Collection and Research Outcome)	15
	4.1	Water	and Recycled Water	15
		4.1.1	Existing Services	16
		4.1.2	Service Implications	17
	4.2	Sewer	rage	18
		4.2.1	Existing Services	
		4.2.2	Services Implications	
	4.3		water and Drainage	
		4.3.1	Existing Services	22
		4.3.2	Services Implications	25
	4.4	Electri	icity	26
		4.4.1	Existing Services	27
		4.4.2	Services Implications	29
	4.5	Gas S	Service	30
		4.5.1	Existing Services	30
		4.5.2	Services Implications	
	4.6	Teleco	ommunications	
		4.6.1	Existing Services	33
		4.6.2	Services Implications	33
5	Summary	of Situat	tional Analysis	35
	5.1	Conclu	usions and Recommendations	35
6	Utilities Se	ervicing	Assessment	36
	6.1	Water	and Recycled Water	36
	6.2		rage	
	6.3		water and Drainage	
	6.4	Electri	icity	39
	6.5		Service	
	6.6	Teleco	ommunications	41
7	Summary	of Utiliti	ies Servicing Assessment	42
	7 1	Conclu	usions and Recommendations	42



Appendices

Appendix	A GWW Water Capital Works Augmentation	43
Appendix	A1 Updated GWW Water Capital Works Augmentation	46
Appendix	B GWW Sewer Infrastructure Planning	52
Appendix	C Service Authority Opportunity Workshop Meeting Record	54
Figures		
Figure 1	Melton East Precinct Structure Plan Area	
Figure 2	Melton East PSP All Existing Utility Services	
Figure 3	Existing Potable Water with Future Arterial Roads	
Figure 4	Existing Recycled Water with Future Arterial Roads	
Figure 5	Existing Sewer Services	
Figure 6	PSP Contour Plan	
Figure 7	Proposed Beatty's Rd SPS Flow Projection & Staged Pump Rate	
Figure 8	Existing Council Drainage & Future Melbourne Water Drainage	
Figure 9	Northern and Southern Catchments	
	Existing Flood Plains & Wetlands	
	Areas of Interest for Melbourne Water	
-	Existing Electricity Services	
•	New 22kv Overhead Power Line	
•	Existing Gas Services	
Figure 15	Existing Telecommunication Services	32
Figure 16	Development Services Scheme Contribution Rates	39
Tables		
		_
	Key Service Authorities	
	Summary of Utility Consideration and Opportunities	
	Water Service Authorities	
	Sewer Service Authorities	
	GWW Proposed Sewer Infrastructure Staging Works	
	Stormwater and Drainage Service Authorities	
	Electricity Service Authority	
	Electricity Feeder Forecast Load	
	Electricity Feeder Locations	
	Gas Service Authority	
	Telecommunication Service Authorities	
	Situational Analysis Recommendations & Conclusions	
	Key Objectives to understand Servicing Strategies	
Table 14	Utilities Servicing Assessment Conclusions and Recommendations	42



1 Introduction

Aurecon has been engaged by the Victorian Planning Authority (VPA) to undertake a desktop Infrastructure Utilities Servicing Assessment for the Melton East Precinct Structure Plan (PSP). The intent of this assessment is to inform the VPA of the current utilities that exist within the precinct and those that are required to facilitate the precincts development in accordance with the structure planning process.

The latest projections provided by the VPA predict that the Melton East PSP will deliver a combined total of approximately 12,895 lots and 3,868 jobs. VPA has confirmed that these latest growth projections should inform all Utility Service Providers (USPs) to enable their forward asset planning to be targeted for the precinct.

Through the research and data collection obtained from the Service Authorities, a Situational Analysis was completed (phase 1). This analysis confirms existing utility service information for the precinct and has directly informed the determination of future augmentation works required to service the projected growth.

Servicing advice of the existing utility infrastructure has been provided within this report and includes the location of all current services, identifying existing constraints and opportunities. These constraints and opportunities were tested with the USP through a Service Authority Opportunity workshop to inform the anticipated augmentation of utilities.

This Utilities Servicing Assessment (phase 2) provides details on proposed future servicing strategies including indicative alignments and service sizing. The assessment has also determined an understanding of preferred development fronts and staging implications based on available capacity in the existing service networks and catchment areas.

Servicing constraints that may influence the precincts development and the opportunity of servicing to enhance sustainability within the Melton East PSP, have also been investigated and detailed.

1.1 Background

The VPA has commenced planning for the Melton East PSP, which is located 30km north-west of Melbourne's CBD, to the east of the existing Melton township. The PSP encompasses an area of 1,005ha, bounded by Kororoit Creek to the north-east, Western Freeway to the south, Leakes Road to the east and the Melton Highway to the north-west (Figure 1).

The PSP will complement existing surrounding urban development through the provision of both residential and commercial land use. The precinct forms the next logical extension of urban development within the west growth corridor of Melbourne along the Western Freeway, connecting Caroline Springs, through Rockbank to Melton.

The precinct is included within the Melbourne Strategic Assessment area and includes Biodiversity Conservation Strategy Conservation Areas along Kororoit Creek.



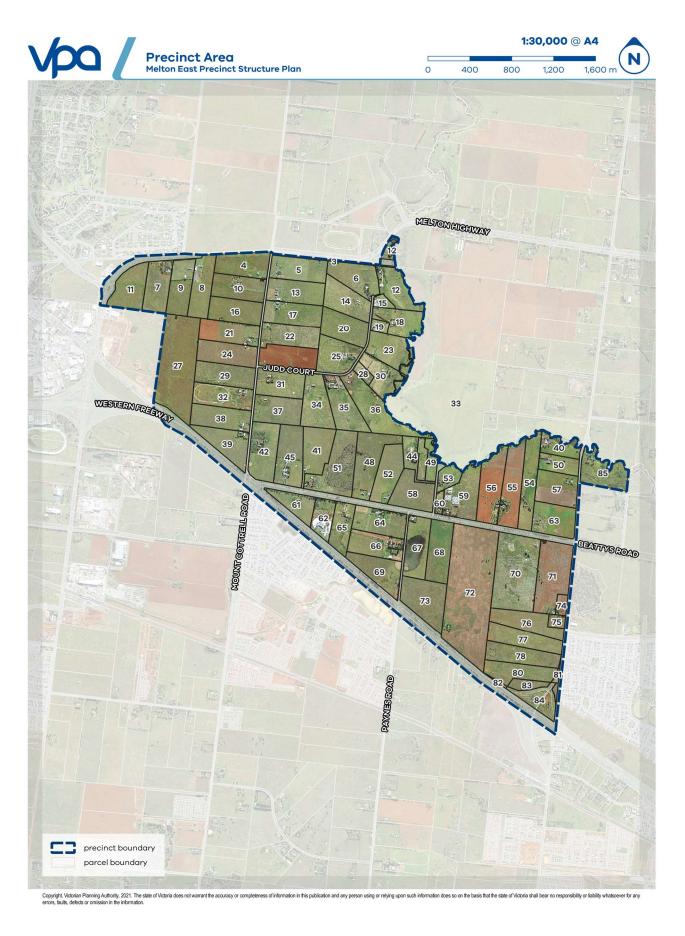


Figure 1 Melton East Precinct Structure Plan Area

1.2 Scope of Assessment

This report provides an overview of existing utility service infrastructure within the Melton East precinct. It details a high-level assessment of options to meet the service and sustainability requirements for the future planned community of this precinct.

The Situational Analysis, completed as phase 1, incorporates:

- the latest spatial data identifying the location, size and pipe material type for all existing underground and above ground infrastructure, provided from key USP.
- GIS plans of existing key utility infrastructure within the precinct.
- utility services implications directly affecting the VPA's precinct planning.
- identified sustainability opportunities, in collaboration with the Service Authorities.
- identified further analysis required for the utility servicing opportunities.
- developed recommendations and conclusions to proceed to completing a Utilities Servicing Assessment, as phase 2.

The Utilities Servicing Assessment, completed as phase 2, defines the future development servicing requirements for the Melton East PSP based on the population projects, that are forecast for the precinct. These demand projections formed the basis of a facilitated workshop with key Service Authorities in relation to the confirmation of existing services and understanding of future sustainable servicing strategies. The outputs of the workshop and Service Authorities network strategies, have identified:

- future servicing arrangements and requirements, including potential service sizing, capacity, and alignments.
- preferred development fronts based on capacity requirements.
- land and easement needs.
- further action items from the Service Authorities to be pursued with VPA.
- recommendations and conclusions to inform the precinct planning infrastructure requirements for Melton East.

1.3 Service Authorities

As part of the Situational Analysis a dial before you dig (DBYD) was completed to confirm the service authorities within the precinct. The Service Authorities and key stakeholders engaged as part of this analysis are listed in Table 1 below.

Table 1 Key Service Authorities

Service Infrastructure	Service Authorities	Other Stakeholders
Water	Greater Western Water	Melbourne Water
Recycled Water	Greater Western Water	Melbourne Water
Sewerage	Greater Western Water	Melbourne Water
Stormwater drainage	Melbourne Water ■ (Catchments >60ha) Melton City Council ■ (Catchments ≤60ha)	Greater Western Water
Electricity	Powercor Australia Ltd	
Gas	Ausnet Services	



Service Infrastructure	Service Authorities	Other Stakeholders
Telecommunications	Telstra Corporation	Nextgen / Vocus Communications
	Optus	TPG Telecomm (Vic)
	Opticomm Networks	
	NBN Co Ltd	

Stakeholders listed under 'other stakeholders' for each service infrastructure were generally not consulted on that topic as they were identified as either not being the key stakeholder, having no assets in the area or were unlikely to be directly affected by the Melton East PSP development.

There are many other stakeholders with an interest in the Melton East PSP development including local business owners, social infrastructure owners and other areas within local and state governments. The main developer within the Melton East PSP is 3L Alliance which owns a significant portion of the land (approx. 50%). These are all outside the scope of this report but should be engaged by the VPA throughout the development of the structure plan within Melton East.

1.4 General Assumptions and Limitations

This report is limited based on the assumptions and qualifications provided throughout, in addition to the following general assumptions:

- The relevant Service Authorities have been determined based on the DBYD enquiry and the locations of existing above ground and underground services. Any associated easements are approximate based on spatial data provided by the Service Authorities and relevant stakeholders.
- The service locations should not be relied upon for any detailed planning or design works, or for construction activities. Physical access constraints have been identified where data has been provided. However, this should be confirmed by site visits prior to any nearby works occurring.
- Spatial data including pipe sizes, pipe material and levels is current as of March to May 2022 and is also based on spatial data provided by the Service Authorities. Where updated spatial information has not been received it has been assumed that any recent changes to infrastructure will have negligible impact on this assessment.
- This assessment has not included any site inspections, service proving or other reviews of existing infrastructure condition.
- Current and / or future practices relating to sustainability considerations for climate resilience have been
 requested from the Service Authorities to determine opportunities for climate resilience with applicable
 outcomes based on information made available by each servicing authority to date.
- The assessment has been based on current information provided by the Service Authorities represented at the Service Authority Opportunity workshop, held on 16th June 2022.
- Subsequent discussions and or correspondence with Melbourne Water, Greater Western Water and Powercor
 occurred to clarify follow up action items raised from the Service Authority Opportunity workshop.
- Action items raised that still require further analysis from the Service Authorities at the time of writing this
 report, have been identified as an analysis in progress.



2 Key Utility Considerations and Opportunities

The following is a summary of the key considerations and opportunities for the utility services within and surrounding the Melton East PSP area. Additional considerations and opportunities identified as part of the Utilities Servicing Assessment (phase 2) have also been included in blue text within Table 2.

Table 2 Summary of Utility Consideration and Opportunities

Utility Service	Considerations	Opportunities
Water and Recycled Water	Upgrades will likely be required across parts of the water reticulation network to handle the anticipated growth. Larger distribution pipes including those managed by Melbourne Water should have sufficient capacity. Class A recycled water not currently available for residential use to supply the Melton East PSP, however there are existing recycled water assets outside of the precinct area. Future infrastructure strategy and sizing of assets have been based on a projected growth of 7,000 lots and not the projected 12,895 within the PSP. Greater Western Water have subsequently confirmed that there will be no change to the potable water network future servicing plans.	Implementation of measures such as rainwater tanks and stormwater harvesting may help to reduce potable water demand for residential uses. Further explore a diverse source of water supply and integrated water management to improve water efficiency. Review of servicing strategies and understanding on whether Class A recycled water is to be mandated within the PSP area may be captured under the proposed Integrated Water Management (IWM) assessment.
Sewerage	It is expected that most of the catchment can drain by gravity to the east of the PSP. Both the sequencing of development and need for land acquisition is important. Future infrastructure strategy and sizing of assets have been based on a projected growth of 7,000 lots and not the projected 12,895 within the PSP.	A greater understanding of future employment opportunities within the PSP would aid in the future sewerage requirements within the area. Although the servicing strategy will remain unchanged, the proposed future sewer sizing determined may be impacted by the projected growth forecast of 12,895 lots.
Stormwater drainage	Two drainage schemes are applicable for the area: Northern catchment – High Street Melton Southern catchment – Kororoit Creek Upper The main outfall for the Kororoit Creek Upper Drainage Scheme, and the catchments to the south, will likely be under construction or constructed prior to the gazettal of the Melton East PSP. Further background assessments, including biodiversity and cultural values, will be required to inform the preferred drainage servicing strategy. Existing flood plain areas undergoing investigations are to confirm ultimate stormwater mitigation infrastructure required for development. Investigations required include	Melbourne Water to provide strategic guidance in relation to Integrated Water Management (IWM) investigations. As the design of constructed waterways are yet to be finalised, there is still some level of flexibility. Melbourne Water is working closely to align the development of the preferred drainage servicing strategy and associated background investigations to better align with the VPA's program. Collection of Stormwater (ie: stormwater harvesting) is an option being explored by Melbourne Water, Greater Western Water and Melton City Council. Melton City Council has an Integrated Water Management Plan (2018-2028). The 3 objectives are: • Reduced reliance on potable (drinking) water • Healthy waterways and wetlands • Valued landscapes that are connected and accessible

Utility Service	Considerations	Opportunities
	cultural heritage, ecology and stormwater design. The City of Melton is an area of low rainfall, so conserving water in the landscape is beneficial.	This Plan recognises the role of water in providing a liveable and resilient city and transition to a water sensitive city which is adaptive with multi-functional infrastructure and urban design, reinforcing water sensitive values and behaviours.
	The northern catchment has ridgeline constraints impacting the limitation for the outfall and Melbourne Water are further investigating the depressions within the southern catchment. Properties south of Western Freeway which are outside of the Melton East PSP are not likely to initially be included in the southern catchment area Development Services Schemes contribution chargers.	Council are asking all the new developments to prepare an Integrated Water Management Plan (IWMP) demonstrating stormwater/rainwater re-use measures. At a minimum, they are required to provide Street tree passive irrigation and rainwater tanks for toilet flushing and irrigation on all lots greater than 300m². Understanding depressions and wetlands in relation to cultural heritage is important to ensure that those values are considered and incorporated within the Development Service Schemes. For the Kororoit Upper Creek DSS, there is opportunity to determine whether the scheme will capture costs for properties to the south of Western Freeway and outside of the Melton East PSP boundary.
Electricity	Some existing 22kV feeders are already highly loaded and are expected to be augmented to increase capacity and supply greater demand loads. The impact of any new road(s) will need to be reviewed once submitted as it will change the electricity servicing alignments. Gas servicing forecasting will impact the level of resource allocation that may be required for electricity services (eg: Electrical Vehicles). Overhead powerlines are a concern for Melton City Council, in relation to its impact to future tree and reserve planning.	The forecast load for 2025 is based on approved load connections to the feeders. Clearer understanding on the consultation process with Road Authorities (ie: VicRoads & Melton City Council), in relation to the determination of overhead powerlines inclusive of land area and easement requirements or underground cable services, is beneficial to better plan for future service alignments.
Gas	The Western and Southern nearby networks are currently located at the fringes of the network, with limited capacity available. There are significant gas supply constraints to the west of the PSP, with limited capacity to the south. Supply from the south won't cater for the full projected growth within the PSP area, however initial staged development needs would be able to be serviced.	The Eastern network has sufficient capacity available to support the proposed growth. Supply extension from the existing Eastern network is likely the most cost-effective option. Connection from the east of the PSP is subject to the customer contribution modelling with costs to be determined and provided on a case by case basis and based on number of lots and take-up rates. An understanding of what the likely gas service take-up rate would be beneficial for the precinct planning, considering there are no capital or augmentation works currently planned for the PSP.
Telecommunication	Determination of future telecommunications service requirements are to be further considered.	Optimising the utilisation of existing telecommunication networks surrounding the Melton East PSP area is to be further explored.
	Opticomm have no new contracts projected for the PSP area.	A better understanding of all other telecommunication service providers future network requirements would be beneficial for the precinct planning.

Utility Service	Considerations	Opportunities
Other (Roads)	Service Authorities such as Powercor have raised that there are no new roads shown in the PSP layout.	Understanding of arterial road and path networks will enhance informing of stormwater infrastructure (culvert crossing, waterway locations).
	The transport network and alignment of major roads will heavily influence the alignment of constructed waterways and major drainage infrastructure.	Knowing the final location of future roads, will enhance the efficient planning of future Service Authorities services within the PSP area and may facilitate a reduction in land area and easement requirements.
	It is noted that the main arterial roads will be a key requirement for future stormwater service strategy in relation to service locations and alignments and to set sufficient levels.	
	The proposed sewer alignments may change to reflect any major road plan alterations due to land and easement requirements.	



3 Methodology

The following is a brief description of the process undertaken to complete the Situational Analysis and Utilities Servicing Assessment Reports. The Utilities Servicing Assessment forms phase 2 of this process and the final report for VPA and Service Authorities review.

3.1 Inception Meeting

An inception meeting with VPA was held on 2nd March 2022 to discuss the precinct site overview and updates from agencies and landowners. The Melton East PSP population and job growth projections, including the PSP timeline was outlined.

Confirmation of the Service Authorities provided through DBYD and the process required to engage them, including key contacts were discussed. Existing VPA GIS and development data for work completed on the PSP was requested.

To facilitate the stakeholder engagement with the relevant Service Authorities, a letter of introduction was provided from the VPA advising Service Authorities that Aurecon would be undertaking a Utility Servicing Assessment on their behalf.

3.2 Communication with Service Authorities

Each Service Authority was contacted and provided with the Melton East PSP growth projections, Development Plans and GIS spatial data requirements. The following data was requested from the Service Authorities:

- Existing servicing infrastructure, including:
 - GIS data with all current existing service infrastructure and any associated easements
 - The location and type of existing underground (including depth) and/or above-ground infrastructure
 - Indicative location of possible future servicing infrastructure identified
 - Information on current access to existing service infrastructure and any access constraints
 - o Information on current capacity of all existing service infrastructure
 - Network Planning details and plans for future development and any augmentation works identified
- · Details of existing capital and maintenance programs
- Details of existing strategies including relevant staging of work programs
- Details of current and / or future practices relating to sustainability considerations for climate resilience

This request for information was met with various responses as some of the Service Authorities provided part of the information requested, whilst others required confidentiality and data sharing agreements. A process of negotiations was entered into over data sharing, including fee for service from the VPA, prior to certain authorities providing their requested information.

3.3 Service Authorities Opportunity Workshop

The Utilities Servicing Assessment included a facilitated online Service Authority Opportunity Workshop with all relevant stakeholders. A project overview, key objectives and confirming of existing services and understanding future servicing strategies, previously provided as part of the Situational Analysis, was presented.

The facilitated discussions raised questions related to reviewing the objectives and assistance in resolving key constraints identified to future servicing strategies within the precinct. This was inclusive of sustainable environmental servicing opportunities within the PSP and the process of exploring these options with the Service Authorities as part of the precinct planning process. A meeting record of the workshop is included in Appendix C.

Action items identified from the workshop discussions that required further clarification, were pursued with Melbourne Water, Greater Western Water and Powercor through subsequent correspondence and discussions.



4 Situational Analysis Report - (Data Collection and Research Outcome)

A summary of the data collected and obtained from the Service Authorities and the research outcomes for each of the utility infrastructure services is detailed within Section 4. Overall recommendations and conclusions from these findings are provided in Section 5.

An overview of all existing utility services within and surrounding the Melton East PSP area is provided in Figure 2

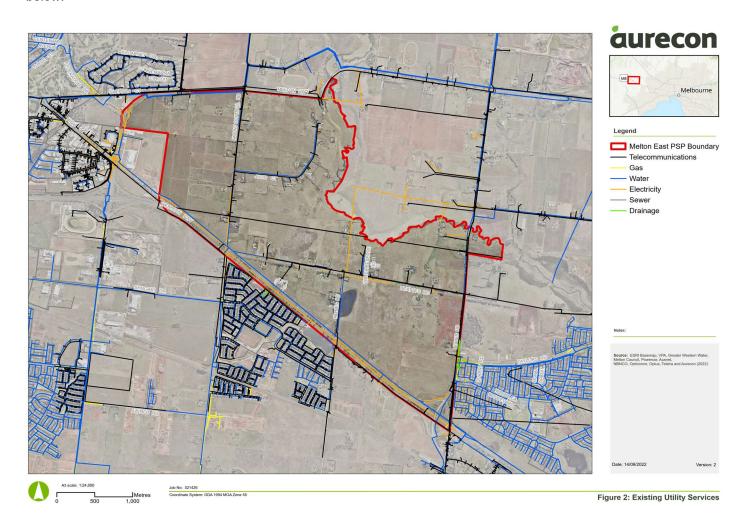


Figure 2 Melton East PSP All Existing Utility Services

4.1 Water and Recycled Water

The key water and recycled water stakeholders engaged are shown in Table 3.

Table 3 Water Service Authorities

Service Authorities
Greater Western Water
Melbourne Water

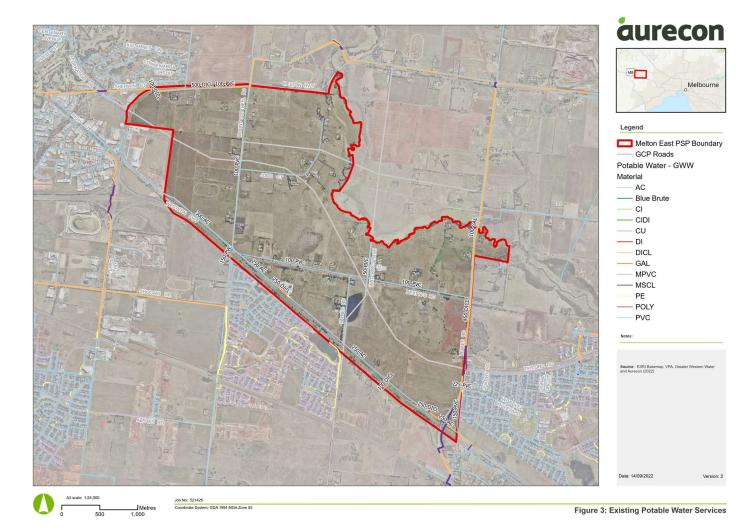
4.1.1 Existing Services

There is existing water supply surrounding the Melton East PSP and existing recycled water on the east and northern sides of the precinct area.

All existing assets are situated below ground and are accessible for emergency repairs and maintenance purposes, with the following summary of the existing water and recycled water infrastructure.

Water Supply

- Major transfer assets along the PSP eastern boundary, include
 - 450mm dia Ductile Iron Cement Lined (DICL) main in Leakes Road
 - 375mm Modified Polyvinyl Chloride (MPVC) approximately 250m north of the intersection of Leakes Road and Woodlea Boulevard
 - 225mm PVC at the intersection of Leakes Road and Woodlea Boulevard
- Distribution assets along Melton Highway (within northern boundary of PSP)
 - 500 DICL water main
- Water mains along Western Freeway (within southern boundary of the PSP)
 - 250 DICL water main
 - 250-300 Asbestos Cement (AC) water mains
- · Reticulated water mains exist within the PSP in the following street locations
 - 100 PVC mains Melton Highway, Paynes Road, Judd Court, Beattys Road and Leakes Road
 - 50 PVC mains Water Reserve Road







It is also noted that Melbourne Water does not have any existing or planned water supply infrastructure within this precinct area.

Recycled Water Supply

- Class A recycled water is not currently available for residential use within the Melton East PSP.
- The following existing Class A recycled water mains are located outside of the PSP area. This includes:
 - 225mm PVC main at the intersection of Leakes Road and Woodlea Boulevard and a 375mm PVC main approximately 250m to the north of this intersection, along the eastern boundary of the PSP.
 - 300mm DICL/PVC main approximately 635m south of the southern boundary of the PSP, crossing Mount Cottrell Road which supply properties south of Western Highway.
- Class B recycled water is available within the Melton East PSP and includes.
 - a 100dia PVC main along Melton Highway within the north to north eastern boundary of the PSP and outside of the PSP area.

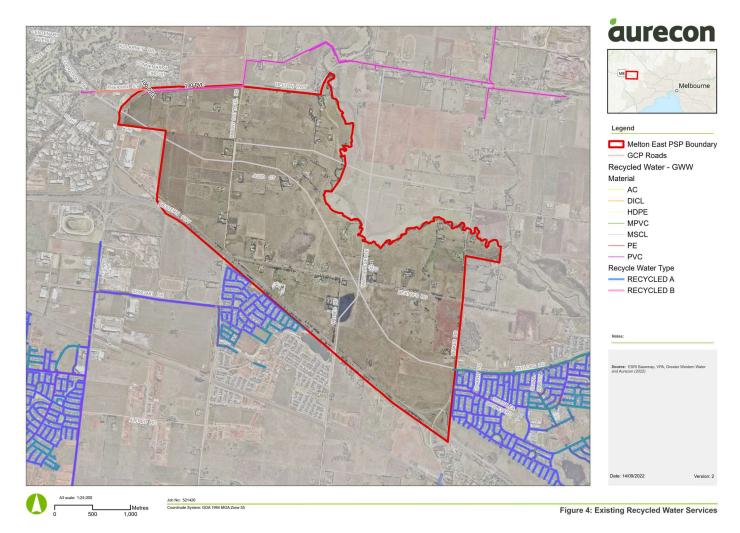


Figure 4 Existing Recycled Water with Future Arterial Roads

4.1.2 Service Implications

The Greater Wester Water (GWW) current Water Master Plans, detail capacity requirements of future water and Class A recycled water assets. These have been developed using Victoria in Future 2015 and forecast growth projections of approximately 7,000 residential lots within the Melton East PSP. Details of the *GWW Water Master Plans (2023-2038) that were received and proposed future works in GIS format, have been included in Appendix A.

Water Supply

- Distribution assets through the PSP will follow any major road alignments
- Western Freeway may be a water supply boundary

In accordance with the current master planning, a temporary pump station will be constructed between 2023-2028 at the corner of Judd Court and Mount Cottrell Road to boost pressures in the network as development occurs. The pump station will be decommissioned in 2033-2038 and supply will be via a large distribution main. Alignments of reticulation water mains are yet to be confirmed and are pending final PSP layouts.

Recycled Water Supply

- Transfer from Sunbury to Melton
- Possible stormwater harvesting scheme(s)
- Class A connection between the suburbs of Thornhill Park and Aintree
- Investigating the water mass balance for the area

Proposed future infrastructure works includes the two alignments for trunk recycled watermains that will run through the PSP. Smaller reticulation mains will come off these distribution mains to provide recycled water to the PSP. Exact alignments of the reticulation mains haven't been finalised and are dependent on the final PSP layouts.

Melbourne Water are also proposing a stormwater harvesting scheme for the PSP. There are 12 retarding basins which have been identified and draft alignments have been proposed.

*Note: GWW Water Master Plans (2023-2038) have been subsequently superseded by Water Master Plans (2018-2067) which were provided by GWW in September 2022. These have been included in Appendix A1 for information.

4.2 Sewerage

The key sewerage stakeholders engaged are shown in Table 4:

Table 4 Sewer Service Authorities

Service Authorities
Greater Western Water
Melbourne Water

4.2.1 Existing Services

There are no existing sewer infrastructure services within the Melton East PSP area. Melbourne Water does not have any existing or planned sewer infrastructure within this precinct area.

There are sewer infrastructure services surrounding the precinct, including south of Western Freeway along the southern boundary of the precinct. However, the catchment area for these sewers does not include the Melton East PSP area.



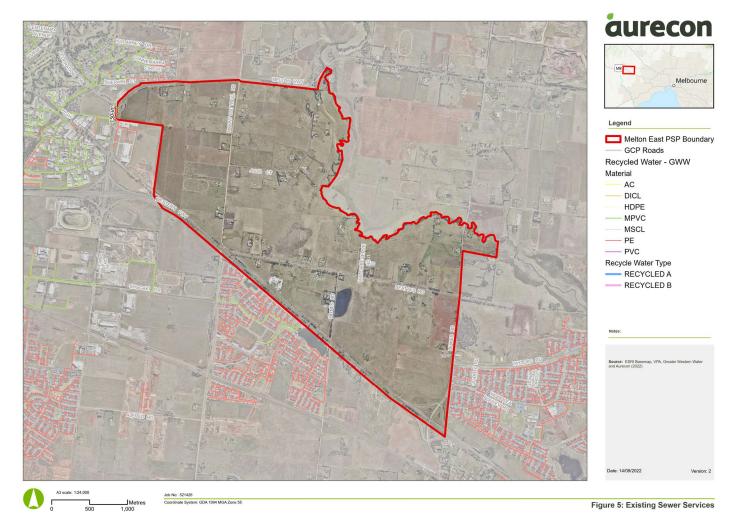


Figure 5 Existing Sewer Services

4.2.2 Services Implications

Based on the contours, the natural fall of the land within the precinct is from the northwest to the southeast boundary. Although there are no sewers currently available within the precinct area, the PSP is planned to be connected to the sewer network within the adjoining suburb of Aintree, directly east of the precinct.

In accordance with GWW current sewer master planning, most of the catchment will be serviced by gravity sewers draining to the east of the PSP area. Alignments of reticulation sewers are yet to be confirmed and are pending final PSP layout. The Sewer Master Plans were developed using Victoria in Future 2015 Forecast growth projections, estimating approximately 7,000 residential lots within the Melton East PSP. Details of the *GWW Sewer Infrastructure Planning (2023–2067) received and proposed future works in GIS format, have been included in Appendix B.

For GWW sewer assets, typical easements will be based on appropriate standards and land access will be required.

*Note: As advised by GWW in September 2022, their consultants (Spiire) are reviewing the Sewer Master Plan strategy with up-to-date growth and staging information. No timeframe was provided on when this may be finalised. It was confirmed that the overall servicing strategy (flows gravitating east) will not change, however sizing of assets may be refined with the updated data.

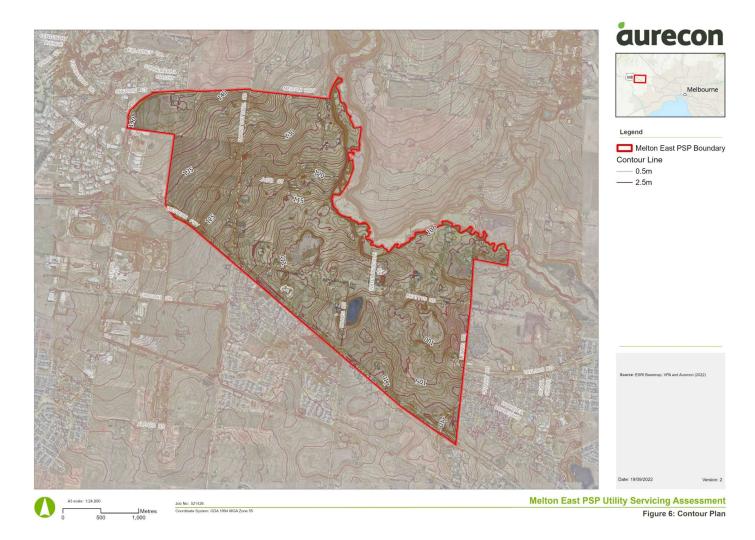


Figure 6 PSP Contour Plan

GWW have provided their proposed future infrastructure staging details as seen in Table 5 below.

It is proposed to service the area north of Beattys Road with a 450mm / 600mm diameter, main sewer along Beattys Road, discharging flow into the Rockbank North main sewer at Leakes Road. A local Sewer Pump Station (SPS) Beattys Road SPS, is also proposed near the intersection of Leakes Road and Beattys Road, servicing areas south of Beattys Road due to the flat topography.

The estimated flow projection and staged pump rate of the proposed Beattys Road SPS is shown in Figure 8 below. To service the early development of the area northwest of Leakes Road and Western Freeway, a temporary SPS is proposed to deliver flow into the existing 225mm sewer at Quarry Road (Woodlea area), before the construction and commissioning of the proposed Beattys Road SPS and sewers.

To service the early development of 65 High Street, a temporary SPS (High Street SPS) is proposed to deliver flow into the Tullidge SPS catchment. Flow will then be diverted to the Aintree SPS catchment after the construction and commissioning of the 450mm / 600mm Beattys Road Sewer. Alternatively, a 225mm reticulation sewer can be constructed across the Western Freeway and connect to the existing 225mm sewer north of Shogaki Drive SPS.

Based on GWW's growth forecast, the area northwest of Mount Cottrell Road and Western Freeway will begin to develop in 2028-2033. However, the confidence of growth forecast for this is low and therefore early development before 2033 planning horizon has not been considered in their current master planning. Construction of a temporary SPS and rising main may be required if development in this area commences before the construction and commissioning of the 450mm / 600mm Beattys Road Sewer (2033-2038).

Table 5 GWW Proposed Sewer Infrastructure Staging Works

MPID	Timing	CIID	PLID	Description	Size	Driver / Notes
MLS134	2023-2028	4473	3850	DEVID182 SPS (Temporary)	10 L/s @ 75 m (15 kW)	Development
MLS135	2023-2028	4481	3872	DEVID 182 Rising Main (Temporary)	110mm PE x 760m	Development
MLS136	2023-2028	4482	3873	High Street SPS (Temporary)	5 L/s @ 80 m (10 kW)	Development
MLS137	2023-2028	4483	3874	High Street Rising Main (Temporary)	75mm PE x 760m	Development
MLS138	2028-2033	2027	2027	Beattys Road SPS (Stage 1)	60 L/s @ 10 m (10 kW)	Development
MLS139	2028-2033	2028	2028	Beattys Road Rising Main	315mm PE x 200m	Development
MLS140	2028-2033	1162	1162	Beattys Road SPS Sewer	375mm x 1100m	Development
MLS141	2028-2033	1164	1164	Beattys Road SPS Sewer	300mm x 230m	Development
MLS142	2028-2033	4496	3899	DEVID182 SPS (Temporary) decommission		Commissioning of Beattys Road SPS
MLS143	2033-2038	1380	1380	Beattys Road (Grangefields) Sewer	600mm x 1400m	Development
MLS144	2033-2038	1166, 1552	1166, 1552	Beattys Road (Grangefields) Sewer	450mm x 1210m	Development
MLS145	2033-2038	1551	1551	Grangefields Sewer	375mm x 630m	Development
MLS146	2033-2038	1168, 1170	1168, 1170	Grangefields Sewer	300mm x 1390m	Development
MLS147	2033-2038	1165	1165	Water Reserve Road Sewer	300mm x 660m	Development
MLS148	2033-2038	4445	3900	High Street SPS (Temporary) decommission		Commissioning of Beattys Road (Grangefields) Sewer
MLS149	2038-2048	2027	2027	Beattys Road Emergency Storage	115 kL	Growth
MLS150	2048-2067	4484	3875	Beattys Road SPS (Stage 2)	90 L/s @ 10 m (15 kW)	Growth



Figure 7 Proposed Beatty's Rd SPS Flow Projection & Staged Pump Rate

4.3 Stormwater and Drainage

The key stormwater and drainage stakeholders engaged are shown in Table 6.

Table 6 Stormwater and Drainage Service Authorities

Service Authorities
Melbourne Water
Melton City Council

4.3.1 Existing Services

There are existing Melton City Council (MCC) underground stormwater drains and proposed Melbourne Water future drainage services within the PSP area.

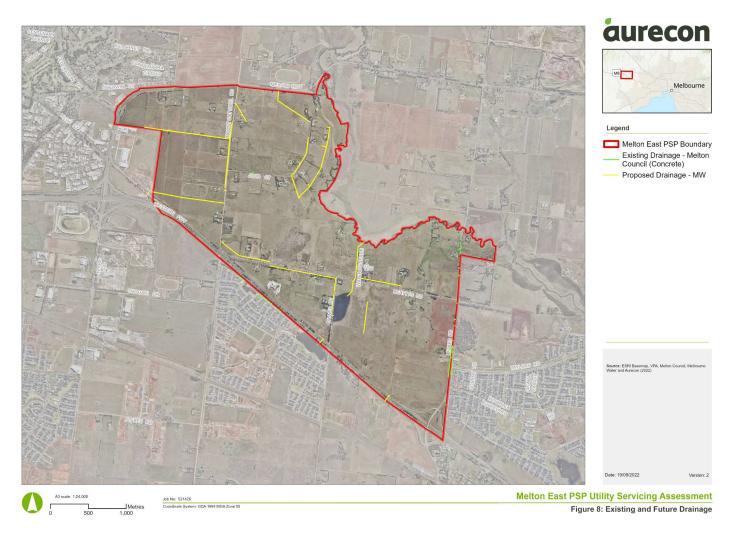


Figure 8 Existing Council Drainage & Future Melbourne Water Drainage

<u>Note:</u> The proposed Melbourne Water drainage details provided in figure 8 is an informal strategy only. Melbourne Water has no current formal completed drainage infrastructure strategy in place for the area.

Melton City Council

Council have the following existing underground stormwater drains within the PSP area:

- Concrete stormwater drains along Leakes Road approximately 140m north of the intersection of Woodlea Boulevard and Leakes Road to approximately 215m north of Rosemary Avenue. No pipe sizing details for these assets were provided.
- Based on the GIS data provided, there are also up to ten 300mm concrete stormwater drain-pipes crossing Leakes Road at various locations and the following concrete stormwater drain culverts:
 - three 450mm culverts
 - o one 600mm culvert
 - two 900mm culverts
 - two 1,200mm culverts
- There are also existing concrete stormwater drains on the south side of Western Highway outside of the PSP southern boundary for properties within the suburbs of Thornhill Park and to the east of the PSP for properties within Aintree.

Melbourne Water

The Melbourne Water Development Services Schemes (DSS) identified within the PSP are as follows:

- 4174 DSS High Street Melton
- 4141 DSS Kororoit Creek Upper

Further details of the identified DSS within the PSP is provided in Figure 9 below. Connection from the existing Shogaki DSS and Iramoo DSS which are catchments further south of the Kororoit Creek Upper catchment, is currently under construction.

PSP to MW DSS Context Engineering Investigations



Northern Catchment

"4174 DSS High Street Melton"

Standard approach to scheme assets, no major onsite constraints identified. Scheme shown indicates magnitude of infrastructure required and proposed locations. These are subject to change.

Some catchment flows required to be discharged downstream DSS for existing Herbaceous Wetlands.

Southern Catchment

"4140 DSS Kororoit Creek Upper"

Major local depression have been identified with potential existing wetlands co-located. Further options analysis require to confirm land take and flood plain management for existing and developed scenario. High value ecological wetland identified, need appropriate upstream catchment to function. Later slides will provide further explanation.

Figure 9 Northern and Southern Catchments

The following areas of interest in relation to existing flood plains and wetlands have been identified by Melbourne Water and are shown in Figures 10 and 11 below.



Existing Flood Plain and Wetlands

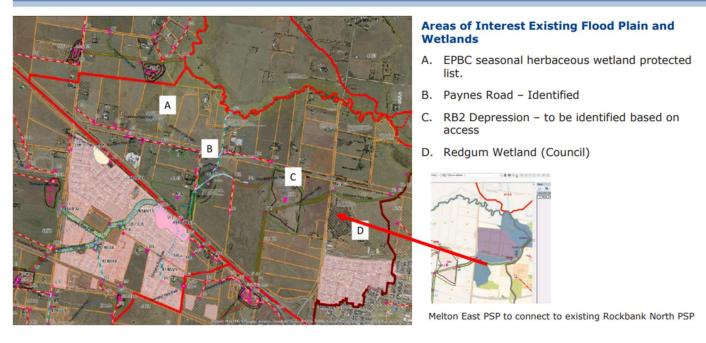


Figure 10 Existing Flood Plains & Wetlands

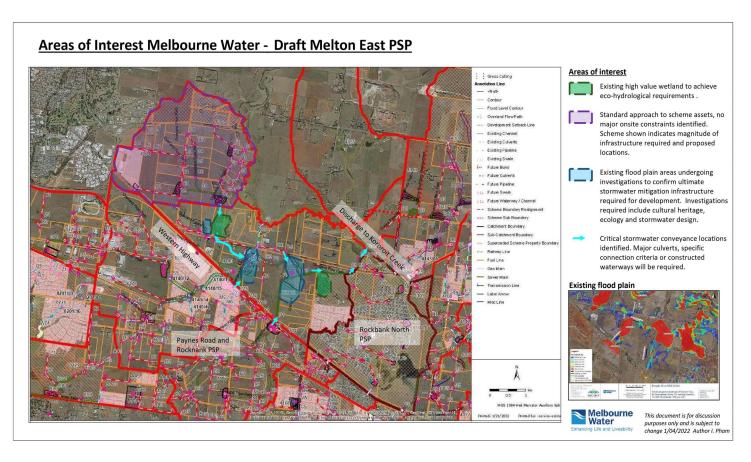


Figure 11 Areas of Interest for Melbourne Water

4.3.2 Services Implications

Council Stormwater Drainage (Catchments ≤ 60ha)

MCC will generally be following Melbourne Water's Development Servicing Schemes (DSS). Therefore, if Melbourne Water assets are not available at the time of development, Council will require them to be retarded to pre-developed levels and provide a suitable outfall arrangement. MCC do not have any projects (maintenance or new capital) planned within the Melton East area, within their 10 years Infrastructure Plan.

Melbourne Water Stormwater Drainage (Catchments > 60ha)

The proposed future stormwater drainage pipeline services provided by Melbourne Water via their GIS digital data within the precinct area, is shown in Figure 8 above (*Note: informal strategy only*).

The following initial summary has also been provided by Melbourne Water.

Initial Summary

The Melton East PSP is currently serviced by two development services schemes (DSS), the High Street Melton (HSM) DSS (4174) and the Kororoit Creek Upper (KCU) DSS (4140). The drainage servicing strategy for this precinct will be guided by these DSS's, which are still under investigation by Melbourne Water and their consultants. Both of these DSS's will ultimately drain to Kororoit Creek, and the Kororoit Creek Upper DSS will provide a free draining outfall for urban development outcomes to the south of this precinct.

Creation of Development Services Schemes

The planning and provision of new infrastructure to support greenfield development within Melbourne Water's operational boundary (waterway management district) is usually managed using a development services scheme (DSS).

A DSS comprises a drainage strategy for an area together with a pricing arrangement that allows Melbourne Water to require developers to contribute to the cost of the construction of works by Melbourne Water in connection with a development. Planning permit referrals received from councils under the Subdivision, and Planning and Environment Acts, are one trigger for this process.

A DSS is designed either before or in parallel to the preparation of a PSP, with the DSS preliminary layout confirmed prior to Public Exhibition of a PSP. This ensures that the land requirements for stormwater assets and waterway corridors are consistent between the preliminary DSS and the exhibited version of the future urban structure (FUS) and / or place-based plan (PBP).

Extensive consultation with all landowners within the DSS and Stakeholders (Agencies/Authorities) occurs at each DSS approval stage (interim, preliminary and final). This generally includes formal written correspondence and meetings. Each DSS approval stage is also approved internally, in alignment with Melbourne Water's Delegation of Authority Policy and Procedures.

Upon finalisation and gazettal of a PSP, Melbourne Water will ensure that the relevant DSS(s) still generally align with the expectations of the FUS / PBP, as well as the objectives, guidelines, and requirements of the PSP. Additional constraints (i.e. soil typology) and considerations (i.e. interactions with other infrastructure) raised through submissions to the Public Exhibition of the PSP and as expert evidence for the following Planning Panel may trigger the need for additional design work or engineering review of the DSS, which may take 12-18 months to complete. Engineering reviews are usually undertaken for DSS's that are already finalised and are based on a risk prioritisation assessment process. In most cases, the finalisation of a DSS will include additional design work, internal approvals, and further consultation with council's regarding asset responsibilities.

DSS will have annual financial reviews and engineering reviews at least once every five years. DSS require financial, engineering and environmental reviews on a regular basis to ensure costs are neither over nor under recovered and up-to-date requirements are included in the technical provision.

Downstream/Outfall Considerations

Both of these DSS's ultimately drain to Kororoit Creek. The KCU DSS will require construction of a waterway heading in an easterly direction from Leakes Road, that was provided for in the Rockbank North PSP, and is currently being designed as part of Woodlea Estate. The HSM DSS will require extensive negotiations with DELWP and the Registered Aboriginal Party (RAP) to determine the most appropriate outfall connection to Kororoit Creek.



Upstream Considerations

Both of these DSS's will be conveying flows from upstream catchments that have already been rezoned for urban development. Significant areas to the south of the Western Freeway, within the Paynes Road, Toolern and Rockbank PSP's, do not currently have a free draining outfall, which is severely delaying development proposals in these catchments. Significant investment has already been made in the construction of major drainage infrastructure to appropriately service these catchments, including culverts under the Western Freeway. However, early implementation of waterways through the KCU DSS is required to unlock the potential of the areas to the south. The HSM DSS will also service the commercial development site at 24 High Street Melton.

Flood Mapping

Flood modelling has been completed by Engeny for an interim outfall scenario for the Shogaki Drive DSS that covers some of the Melton East PSP area.

The mapping does not reflect the most updated flooding infrastructure within Woodlea development area to the east. The modelling was provided primarily for understanding of the interim scenario within the catchment and does not reflect pre-existing conditions or ultimate development conditions.

High Street Melton DSS (4174)

A standard approach design of scheme assets is proposed for the area. No major onsite constraints have been currently identified. The current scheme indicates the magnitude of infrastructure required and their proposed locations. Assets were completed for preliminary contribution rates. These are subject to change as part of the VPA processes and need to be formally designed for scheme finalisation.

It has been identified by Alluvium that some catchment flows are required to be discharged downstream KCU DSS for existing herbaceous wetlands.

Kororoit Creek Upper DSS (4140)

Major local depressions have been identified with potential existing wetlands co-located. Further options analysis is required and is being completed by Melbourne Water to confirm asset footprints for developed scenarios.

Limited flood mapping that has been completed in the area, provides an indicative magnitude of infrastructure required for the developed scheme. Infrastructure required for the future scheme include stormwater retardation and quality treatment within these existing depressions. Connectivity between these depressions/flood plains will also be required via constructed waterways, based on the magnitude of catchment flows.

A high value ecological wetland has been identified in a depression to the northern area adjacent to Beattys Road. An eco-hydrological report by Alluvium has identified the wetland requires flows from upstream catchment to function.

A Melbourne Water / VPA pitching presentation outlined the location and general understanding of the current requirements and how it correlates to potential asset footprint. There are existing wetlands where the level of protection is still being confirmed, therefore options of conservative land footprint is required where stormwater quality infrastructure is to be located outside of the wetland protected areas.

4.4 Electricity

The key electricity stakeholder engaged is shown in Table 7.

Table 7 Electricity Service Authority

Service Authority

Powercor Australia Ltd

4.4.1 Existing Services

The main distribution of electricity lines includes existing 66kV and 22kV overhead power lines. They are serving as feeder backbones to supply existing, proposed, and new developments in the Rockbank, Bonnie Brook, Aintree, Deanside and surrounding areas.

The existing 66kV overhead powerlines are located along the following streets within the PSP area:

- Melton Highway
- Mount Cottrell Road
- Beattys Road
- Paynes Road

The existing 22kV overhead powerlines are located along the following streets within the PSP area:

- Judd Court
- Water Reserve Road

There are existing 22kV underground cables surrounding the PSP area along the eastern, southern, and north western boundaries, servicing existing properties within these areas.



Figure 12 Existing Electricity Services

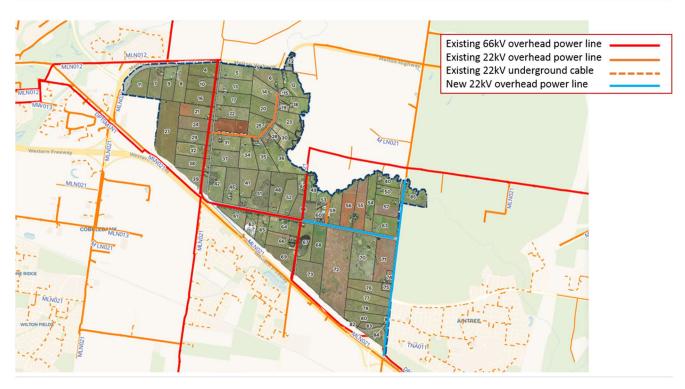


Figure 13 New 22kv Overhead Power Line

Current capacity of all existing service infrastructure

There is strong load growth from the new residential and commercial developments in the area. The following table shows the existing capacities and forecast loads on existing 22kV feeders that are within, or in the vicinity of the Melton East precinct.

The forecast load for 2025 in Table 8 below is based on approved load connections to the feeders.

Table 8 Electricity Feeder Forecast Load

	Feeder rating	2021 actual max load		2025 forecast max load	
	MVA	MVA	Utilization	MVA	Utilization
MLN012	10.9	5.5	50%	6.6	61%
MLN013 *	14.2	8.9	63%	13.8	97%
MLN021 *	10.9	13.4	123%	18.4	169%
TNA011 *	19.1	7.5	39%	23.7	124%

^{*}Upgrade works are planned to relieve the forecast high loads on these feeders.

Note: MVA – Megavolt amperes

Table 9 Electricity Feeder Locations

Feeder ID	Street Location
MLN012	 Judd Court - (within PSP area), Mount Cottrell Road - (within PSP between Beattys Road to beyond the northern boundary) Melton Highway - (northern boundary of the PSP area) Highett Road - (approx. 350m outside of the northern boundary of the PSP area)
MLN013	Not Identified on GIS Digital data provided by Powercor
MLN021	 Leakes Road - North East boundary of PSP (approximately 280m south of Tarletons Road) Leakes Road - (approx. 190m north of Leakes Road & Rosemary Avenue intersection) – PSP Eastern boundary Within PSP north eastern boundary (approx. 400m west of Leakes Road) Tarletons Road - (outside of northern PSP boundary) Beattys Road - (within PSP area) Water Reserve Road - (within PSP area) North of Beattys Road - (approx. 195m west of Water Reserve Road) Mount Cottrell Road - (south of PSP to within PSP at the intersection of Mount Cottrell Road, Beattys Road & Western Highway) Paynes Road - (within PSP area and south of Western Highway), Western Highway - (outside of PSP area and within PSP area from west to east boundary) Melton Highway - (intersection of Melton Highway & Federation Drive within the north western boundary of the PSP area) South of Melton Highway - (within top north eastern boundary of the PSP area)
TNA011	 Leakes Road - (eastern line from Western Highway to north of Rosemary Avenue within the PSP Eastern Boundary) Western Highway - (intersection of Western Highway and Leakes Road, within south eastern boundary of PSP area)

4.4.2 Services Implications

A new section of 22kV overhead feeder is proposed on Beattys Road and Leakes Road shown in blue within Figure 13 above.

Powercor have indicated that some of the existing feeders may be augmented to facilitate the required greater supply loads. They have also advised that there are no new roads shown in the PSP layout. The impact of any new road(s) will need to be reviewed by Powercor to determine whether this will change their requirements.

Details of existing capital and maintenance programs

A new 22kV feeder is to be constructed along the Western Freeway later this year. Upgrades are planned in 2023 on existing 22kV feeders on Mt Cottrell Road and Beattys Road.

Details of existing strategies including relevant staging of work programs

All existing 66kV and 22kV feeders are planned to remain in service. Some existing 22kV feeders are already highly loaded and are expected to be augmented to increase capacity. The new proposed 22kV feeder will partially offload existing feeders and allow more load growth to be supplied from the existing feeders.

Additional 22kV feeder(s) are likely to be required to supply the proposed developments in the Melton East precinct. A new zone substation in Rockbank or Rockbank East may be established around 2032, subject to the timing of new developments and actual growth rates.



4.5 Gas Service

The key gas stakeholder engaged is shown in Table 10.

Table 10 Gas Service Authority



4.5.1 Existing Services

There are nearby existing gas distribution infrastructure servicing existing properties in the West, South and East directions of the Melton East PSP area, with a variety of gas network capacity availability.

West of PSP

At the northwest boundary of the PSP area, an existing 110mm P8 gas main is within Sherwin Court. Feeding into this line are existing 63mm P8 gas lines in Connemarra Circuit and Killarney Drive. West of the PSP in Melton Highway, there is an existing 125mm P10 gas line, which the 100mm S7 gas line along High Street feeds into.

South of PSP

An existing 180mm P10 gas main coming from west of Mount Cottrell Road and crossing Mount Cottrell Road (approximately 640m south of the PSP boundary), is the source of supply servicing properties south of Western Freeway and outside the PSP.

East of PSP

There is an existing live 200mm S7 gas service within the Melton East PSP area. This service is within Leakes Road south of the PSP area, crosses Western Highway and continues north along Leakes Road within the eastern boundary of the PSP area, to the intersection of Woodlea Boulevard and Leakes Road. No other existing gas services are within the PSP boundary.

At the intersection of Woodlea Boulevard and Leakes Road outside of the PSP boundary, a separate existing 200mm S11 line continues parallel to Leakes Road and then within Signal Street, towards Taylors Road to the east of the PSP. Another existing separate 125mm P10 gas service ending at the intersection Woodlea Boulevard and Leakes Road runs along Woodlea Boulevard, with 63mm P10 lines feeding into this to service existing properties south of the PSP boundary area.



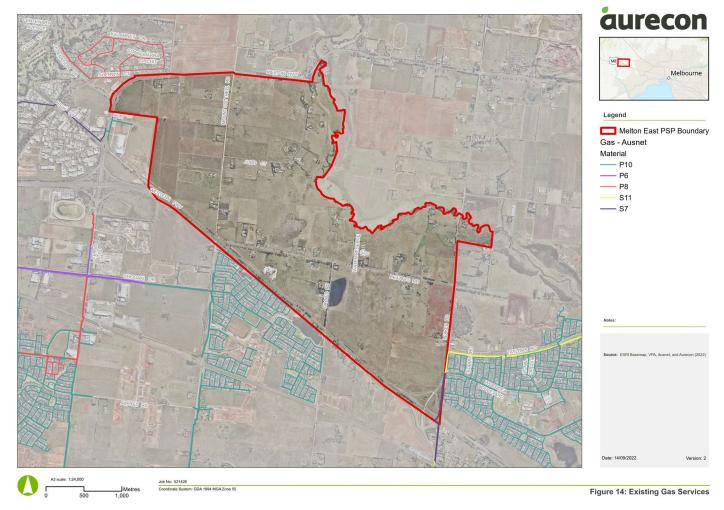


Figure 14 Existing Gas Services

4.5.2 Services Implications

The Western and Southern nearby networks are currently located at the fringes of the network with limited capacity available. The Eastern network has a much higher capacity available due to its proximity to the supply source with large distribution mains traversing along Taylors Road and south to Leakes Road.

Further expansion from nearby Western and Southern networks is likely to require network reinforcements to support the entire proposed residential and commercial growth. The Eastern network has sufficient capacity available to support the proposed growth. For the provision of growth within the Melton East PSP area and future gas service requirements, supply extension from the existing Eastern network is the most cost-effective location.

4.6 Telecommunications

The key telecommunication stakeholders engaged are shown in Table 11.

Table 11 Telecommunication Service Authorities

Service Authorities	Comments
Telstra Corporation	GIS Digital data received
Optus	GIS Digital Data received
Opticomm Networks	GIS Digital Data received
NBN Co Ltd	GIS Digital Data received
Nextgen / Vocus	No assets in the area and no further details
Communication	to be provided
TGP Telecom (Vic)	

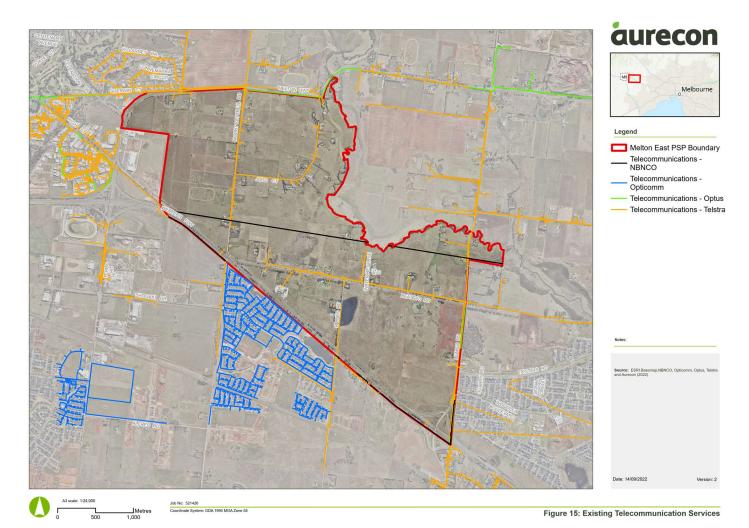


Figure 15 Existing Telecommunication Services

4.6.1 Existing Services

Telstra Existing Services

The location details of services were only provided by Telstra. The existing Telstra services within the PSP area, are located within some land areas and the following street locations, as shown in Figure 15 above.

- Melton Highway
- Mount Cottrell Road
- Judd Court
- Western Freeway
- Paynes Road
- Beattys Road
- Water Reserve Road
- Leakes Road

There are also existing Telstra services outside of and surrounding the north, south, east and western boundaries of the PSP area.

Optus Existing Services

Existing underground Optus services are located within Melton Highway along the northern boundary of the PSP area and along Leakes Road from the southern boundary (intersection of Leakes Road and Western Highway) to the northern boundary of the PSP area and beyond towards the intersection of Leakes Road and Melton Highway.

Opticomm Existing Services

There are no existing Opticomm services within the PSP area. There are existing Opticomm services within Mount Cottrell Road outside of the southern boundary of the PSP area in Thornhill Park. This is servicing existing properties outside of the PSP area between Paynes Road and Mount Cottrell Road down to the V Line train that crosses both Mount Cottrell Road and Paynes Road, approximately 1.6km and 930m away respectively.

The existing Opticomm Service in Mount Cottrell Road is also north of the intersection of Alfred Road and Mount Cottrell Road.

NBN Existing Services

There are locations where the existing NBN underground optical fibre cables are within the Melton East PSP area. This includes approximately 580m of underground optical fibre (72 Fibre) within Leakes Road from the intersection of Western Highway to south of the Woodlea Boulevard and Leakes Road intersection.

From the intersection of Western Highway to Leakes Road, the underground optical fibre cable (288 Fibre) extends along Western Highway to the intersection of Paynes Road where the optical fibre cable is (144 fibre). An optical fibre cable (288 Fibre) is also along Western Freeway from the intersection of Mount Cottrell Road and extends to the western boundary of the PSP area.

There is also an existing NBN copper cable (2 Pair) running approximately 500 to 600m parallel to and north of Beattys Road, all the way from the western to eastern boundary of the PSP area. This cable crosses both Leakes Road and Mount Cottrell Road and runs into Western Freeway on the western boundary of the PSP.

Details of the existing NBN cables servicing existing properties surrounding the Melton East PSP area were not provided by NBN Co Ltd as part of their GIS digital data submission.

4.6.2 Services Implications

Telstra

Future extension of existing Telstra services within and surrounding the PSP area may be utilised, to service development within the precinct.



Optus

Extension of the existing underground Optus services would be required from Leakes Road and Melton Highway, to service the Melton East PSP.

Opticomm

Future Opticomm telecommunication services within the Melton East PSP would be best served from connecting into the existing service within Mount Cottrell Road that currently stops outside the southern boundary of the PSP area.

<u>NBN</u>

Extensions of the NBN underground optical fibre cable may occur from the existing services within the PSP, along Leakes Road and Western Freeway.



5 Summary of Situational Analysis

5.1 Conclusions and Recommendations

The following is a summary of the existing services analysis with considerations for future service requirements included in the recommendation and conclusions.

Table 12 Situational Analysis Recommendations & Conclusions

Utility Service	Recommendations & Conclusion			
Water & Recycled Water	Staging of proposed future planned water and recycled water (Class A) works, are to be further explored with GWW. Current GWW's Water Master Plans was developed using Victoria in Future 2015 with growth projections of approximately 7,000 residential lots. This will need to be reviewed and updated in-line with VPA's projected growth of 12,895 lots.			
Sewerage	Within the PSP, the natural fall of the land is from the northwest to the southeast boundary with most of the precinct to be serviced from existing sewers outside of the PSP eastern boundary. Staging of proposed future planned sewerage works, are to be further explored with GWW. Current GWW's Sewer Master Plans was developed using Victoria in Future 2015 with growth projections of approximately 7,000 residential lots. This will need to be reviewed inline with VPA's projected growth of 12,895 lots.			
Stormwater drainage	Stormwater harvesting options to be further explored with Melbourne Water, GWW and MCC as part of possible Integrated Water Management (IWM) within the precinct.			
Electricity	Further details on proposed planned upgrades in 2023 on the existing 22 kV feeders on Mt Cottrell Road and Beattys Road and forecast loads proposed for 2025, are to be explored. The impact of any new road(s) will need to be reviewed to determine whether this will impact on the electricity requirements.			
Gas	Supply extension from the existing Eastern network is the most cost-effective location for the expected growth within the Melton East PSP area.			
Telecommunication	Minimal telecommunication services currently exist within the Melton East PSP, however existing services surrounding the Melton East PSP have been identified. Future telecommunication servicing requirements within the precinct are to be further explored.			
Other (Roads)	Details on the proposed arterial roads and all roads within the Melton East PSP are to be provided to the Service Authorities, as this would be beneficial in assisting with future infrastructure requirements, including alignment locations.			

An understanding of the lot densities and type of development such as residential, commercial / industrial or mixed-use development proposed within the PSP would also be beneficial for Service Authorities future network planning requirements.



6 Utilities Servicing Assessment

The Utilities Servicing Assessment commenced with the Service Authority Opportunity workshop. This workshop facilitated detailed discussions on existing utilities and the augmentation required to these networks to support the future delivery of urban development in Melton East. The following key objectives and topic areas to understand the future servicing strategies, for each Service Authority were explored within the Service Authority Opportunity workshop discussions.

Table 13 Key Objectives to understand Servicing Strategies

Key Objectives	Topic Areas	Reasons
Servicing Strategy	 Opportunities and Constraints Land & Easement Requirements Preferred Developer Fronts & Points of Connection Applicable Developer Chargers Major Infrastructure Requirements Capital & Augmentation Programs 	Constraints that VPA need to be aware of and assistance in resolving key constraints identified
Sustainable Environmental Servicing	 Water Integration Stormwater Harvesting Energy Efficiencies Other 	Explore servicing to enhance sustainability

Based on these discussions specific themes were determined and associated action items were resolved to determine the Utilities Servicing Assessment outcomes, for each of the utility infrastructure service. This assessment findings are detailed for each utility service, as follows.

6.1 Water and Recycled Water

Existing Services – Potable Water

GWW have advised that the existing distribution services along the PSP boundary and the current existing 50mm, 100mm mains within the precinct may need to be replaced, or require augmentation works in the future. To cater for the projected growth within the precinct.

Servicing Strategy Clarification – Potable Water

West of Mount Cottrell Road potable water is to be supplied by the Melton system. Temporary supply for some properties within the southern area of the PSP may occur from the existing supply in the south, should development initially proceed in this location. Confirmation in relation to the potable water supply boundary elevation levels within the southern area of the Melton East PSP and outside of the southern boundary (i.e.: south of Western Freeway) required clarification. Although different zone boundaries exist, GWW have confirmed that the Melton East PSP area is currently in the same water supply network as the existing networks, both east and south of the PSP area.

In 2028 the Melton East PSP area will be split into two supply zones, with the area north of Judd Court and west of Mt Cottrell Road supplied via the Melton Township zone. The remaining area is to be supplied via the Thornhill Park zone. This will remain until 2038, when the eastern zone of the Melton East PSP will be re-zoned to be in the same network as the Aintree network, where the Melton Freeway will become the supply zone boundary.

Following the discussions held with GWW which explored why the current growth projection of 7,000 lots based on 2015 forecasting data was used to determine the future servicing strategy. GWW have subsequently confirmed after a review of the projected lot numbers, that there will be no change to their potable water network future servicing plans that were previously provided as the network can accommodate the increased growth (see *Appendix A).

*Note: GWW Water Master Plans (2023-2038) have been subsequently superseded by Water Master Plans (2018-2067) which were provided by GWW in September 2022. These have been included in Appendix A1 for information.



Existing Services - Recycled Water

GWW confirmed that no Class A recycled water currently exists within the PSP area. However, Class A recycled water does surround the PSP boundary and a Class B recycled water main exists within the northern boundary of the PSP. Alternative water is being discussed with Melbourne Water and MCC and is a considered in GWW future sustainable environmental servicing planning.

Servicing Strategies Clarification - Recycled Water

Similar to potable water future servicing plans, GWW have subsequently reviewed their future recycled water servicing strategy based on the projected growth of 12,895 lots. GWW have advised that there are still no current plans to mandate Class A recycled water within the Melton East PSP area, at this stage.

Alternative water requirements within the Melton East PSP will be confirmed following the completion of the Integrated Water Management Plan, that is being developed by the VPA and 3L Alliance (Developer) / Spiire (Consultant).

6.2 Sewerage

Existing Services - Sewer

GWW have confirmed that there are no current existing sewers within the PSP area. The catchment gravitates to the south east boundary, with future flows anticipated to be directed to the adjoining Aintree suburb area.

Servicing Strategy Clarification - Sewer

The previous sewer servicing strategy provided by GWW was confirmed as current within the workshop discussions. Initially based on a forecast growth of 7,000 lots the servicing strategy acknowledged that pipe sizing and easement requirements may change after a modelling review of the actual projected lot numbers occurs.

Subsequently, GWW confirmed that there would be no change to the overall sewerage servicing strategy. However, the proposed future sewer size will be fully reviewed to determine the impact of a project growth forecast of 12,895 lots.

GWW completed a review of their sewerage strategy and sewer sizing. Confirming no change to the servicing strategy was expected as the previously provided strategy included in the Situational Analysis report (see *Appendix B) is adequate.

GWW have indicated that the proposed sewer alignments may change to reflect any major road plan alterations due to land and easement requirements. Development fronts are expected to start from the south east of the PSP area and continue through to the north west. Any interim sewerage services that may be required to service initial non sequential development outside of the south east area are likely to be too early for GWW to consider. As any interim temporary works installed could remain part of the permanent strategy works. Interim Pump Stations and temporary assets however are preferred over any sewer reduction requirements, to cater for non-sequential development.

*Note: As advised by GWW in September 2022, their consultants (Spiire) are reviewing the Sewer Master Plan strategy with up-to-date growth and staging information. No timeframe was provided on when this may be finalised. It was confirmed that the overall servicing strategy (flows gravitating east) will not change, however sizing of assets may be refined with the updated data.

6.3 Stormwater and Drainage

Existing Services – Council Stormwater Drainage

MCC confirmed that some of their existing underground stormwater drains and culverts exist along the eastern and southern boundaries of the PSP area. Discussions are currently occurring with Melbourne Water regarding stormwater drainage implementation strategies which consider the key landowner (3L Alliance) in relation to the land availability for future stormwater drain requirements.



Existing Services - Melbourne Water Stormwater Drainage

Melbourne Water have confirmed the existing flood plains and wetlands that have been identified for the Development Services Schemes (DSS) and applicable two catchments:

- Northern catchment High Street Melton DSS
- Southern Catchment Kororoit Creek Upper DSS

There are flooding issues outstanding to be resolved, with existing stormwater challenges. The area north of the freeway has yet to be finalised with an optioneering process occurring for wetland areas.

Within the workshop discussions, for the southern catchment (i.e.: Kororoit Upper Creek DSS), considerations on whether the DSS will capture properties to the south of the Western Freeway and outside of the Melton East PSP boundary was raised, to determine whether monetary contributions were to be considered for the relevant properties within the Melton East PSP. This detail and nexus are covered in the servicing strategy clarification below.

Servicing Strategy Clarification - Melbourne Water Stormwater Drainage

Melbourne Water have indicated a reasonable level of confidence in relation to their future servicing locations within the PSP area. There is a ridgeline along Kororoit Creek and an appropriate waterflow is required to feed this catchment and subsequent outflow to Kororoit Creek is being investigated.

Northern catchment (High Street Melton DSS)

Currently the servicing strategy requirements for the northern catchment needs to take into consideration the ridgeline constraints which is impacting the limitation for the outfall. Further details on the northern catchment constraints (i.e.: ridgelines) were requested from Melbourne Water and this analysis remains in progress.

Melbourne Water will also be discussing issues relating to the Growling Grass Frog population and land requirements for drainage reserves with the Department Environment Land Water and Planning (DELWP).

It is noted that the main arterial roads will be a key requirement for the future stormwater service strategy, in relation to service locations, alignments and to set sufficient drainage levels.

Southern catchment (Kororoit Creek Upper DSS)

The understanding of cultural heritage value related to the natural depressions and wetlands is important to ensure that those values are considered and incorporated within the Development Service Schemes.

At this stage Melbourne Water are still investigating the depressions within the southern catchment to ensure sufficient information is readily available to make informed decisions. Further details on these depressions have been requested from Melbourne Water and this remains an analysis in progress.

Currently it is understood that:

- both the northern and southern catchment areas remain as 'work in progress' with discussions pending with DELWP in relation to wetland/natural depressions and vegetation requirements for the southern catchment.
- concept plans for both the northern and southern catchments are likely to be finalised by the end of this calendar year, with land area contingencies being adopted, to also cater for cultural heritage.

Melbourne Water have confirmed that the current latest details in relation to the DSS contribution chargers are shown in Figure 16 below for both the High Street Melton DSS (preliminary rates) and Kororoit Upper Creek DSS (interim rates).





1. Scheme on preliminary rates.

	Greenfield scheme name	Current base rate (standard residential) (\$/ha)				Rate changes		
No.		Hydraulic	Water quality	Includes scheme WQ works	Calculator	Effective date	Hydraulic	Water quality
4140	Kororoit Creek Upper DS	\$78,000	\$24,000	Yes	Calculator			

^{1.} Scheme on interim rates - these should not be relied upon for development feasibility purposes as the final rate may be significantly higher.

Figure 16 Development Services Scheme Contribution Rates

Appropriate catchment areas will cater for the applicable DSS contribution rate chargers and properties south of Western Freeway which are outside of the Melton East PSP. These areas are not likely to initially be included in the southern catchment area DSS contribution chargers. This is based on other infrastructure that is likely to be provided within the existing DSS, further south of the Kororoit Creek Upper catchment.

Melbourne Water do undertake DSS annual financial reviews as well as DSS Engineering reviews every 3-5 years, to facilitate any applicable contribution charge alterations to the DSS. These reviews may include engaging external consultants and liaising with landowners, developers, and other Service Authorities.

The contribution rate chargers for the High Street Melton DSS (northern catchment) and the Kororoit Upper Creek DSS (southern catchment) are likely to be finalised between 3 to 6 months after the Melton East PSP is gazetted.

6.4 Electricity

Existing Services - Electricity

Powercor have confirmed the existing service information previously provided and that the Melton East PSP is projected to be one of their biggest growth areas.

All existing overhead powerline services are to remain and there are no plans to remove any of these existing services and replace them with underground cables. MCC's preference would be for electrical services to all be located underground to prevent potential future disruptions to local services and to reduce the need for land area allocation and easement requirements.

In the workshop Powercor sought clarification of the type of developments the projected lot growth is anticipating, to fully understand future customer consumption forecasting requirements. They were advised that the PSP will be a completely residential precinct with a 20 dwellings per hectare density target comprising of townhouses and detached dwellings. There will also be multiple commercial town centres (not major activity centres) which will comprise of local shops.

Servicing Strategies Clarification – Electricity

The previous servicing strategy information provided by Powercor has been confirmed as being the latest available. There is some supply availability in the existing service network, however existing feeders are highly loaded with expectation that augmentation and upgrade works will be required to supply the development areas.

The future 22kV overhead powerline within Leakes Road and Beattys Road remains scheduled to be installed later this year. This was an area of concern for MCC in relation to its impact to future tree and reserve planning. Although



out of this reports scope of works, environmental considerations within the Melton East PSP may also be further explored with MCC, in-line with their current Environmental Plan (2017-2027) as they are working to improve environmental outcomes in the municipality.

Further clarification from Powercor was requested in relation to the consultation with MCC for the new 22kV overhead powerlines that are proposed to be installed later this year in Beattys Road and Leakes Road and their subsequent land area and easement requirements. Powercor have clarified that the new 22kV overhead powerline work in Beattys Road and Leakes Road are customer initiated works for supplying the Woodlea Precinct development area. These new overhead powerlines were planned some time ago and will be completed well before the Melton East PSP area is anticipated to be completed. Subsequently, coordination of these proposed 22kV overhead powerlines with relevant service authorities does not appear to have occurred to date. Powercor have advised that the relevant service authorities will be engaged when the design is done for these overhead powerline works which is anticipated to occur in the coming months.

Powercor also stated that they provide the least cost technically acceptable (LCTA) solution to connect customers. The proposed overhead powerlines in Beattys Road and Leakes Road is part of the LCTA solution for connecting the Woodlea Precinct, therefore these powerlines are to be retained. Any additional work beyond the LCTA (e.g. underground cables), will need to be funded by customers.

It is anticipated that all future developer requests for extensions and services are all to be underground. For new electrical assets within the PSP area, it will be assessed on a case by case basis once connection requests are submitted. Developers will generally request for the installation of underground electrical cables and fund the additional cost.

Powercor have advised that they coordinate with Service Authorities for new overhead powerlines or underground cables as a matter of courtesy and good practice. However, under the terms of their distribution licence they are permitted to install assets as required within road reserves. For arterial roads, the road authority is VicRoads / Department of Transport, and for smaller roads it would be local councils. When Powercor complete a detailed design for new powerlines, they will forward a copy of the design plan to the responsible authorities for review and comment.

In relation to future electrical services, gas servicing forecasting will also have an impact on the level of resource allocation that may be required. The Federal Government will be looking to forecast the gas roadmap, and this will determine the extent of gas alternatives (e.g.: Electrical Vehicles) which may need to be considered in relation to future electrical servicing requirements.

6.5 Gas Service

Existing Services - Gas

Ausnet Services confirmed their existing services details previously provided, including the eastern side adjacent to the Melton East PSP area, has sufficient capacity to extend into the PSP. There is currently limited capacity if supply was to be extended from the west or the south.

Future Servicing Strategy Discussions - Gas

Any future gas services will typically follow the water main alignments and generally wait for the road to be built. In general, the typical easement requirement would be a 2m wide gas easement either side of the service. If the water mains are installed prior to the gas mains, alternative trenching will then have to be provided by the developer within easements that are approximately 2m wide.

Connection from the east of the PSP is subject to the customer contribution modelling with costs to be determined and provided on a case by case basis and based on the number of lots and take up rates.

There are significant gas supply constraints to the west of the PSP, with limited capacity to the south. If supply was to be connected from the south there won't be ability to connect the full projected growth within the Melton East PSP area. However initial development as per staging needs would be able to be serviced. In relation to gas service supply availability, it would be preferential for the staging of development to start from the south east of the PSP.

No capital works or augmentation works are currently planned for the PSP area, with the closest works being in Werribee.



It is not a servicing condition that all properties must be supplied by gas. In situations where developers do not want gas within their developments, this will be assessed on a case by case basis. Gas extension requirements are also assessed on a case by case basis. Alternative gas options are to be considered and further explored in the Climate Resilience Review Assessment which is outside the scope of this report.

MCC have been facing challenges in established areas regarding introducing gas lines in retrospect to development. This has included pressures from the public to introduce gas lines when they were not originally provided. MCC was also particularly interested in future gas service supply matters. There is a larger focus on not relying on the fossil fuel and this may impact future gas servicing requirements. Alternative gas services and considerations regarding environmental impacts will likely be highlighted in the Federal Government gas roadmap.

6.6 Telecommunications

Existing Services – Telecommunications

Opticomm Services validated that they have no existing services within the PSP area and that services exist outside the southern boundary. Currently Opticomm have no new contracts projected for the PSP area.

<u>Note:</u> Optus, Telstra and NBN Co Ltd were not represented at the Service Authority Opportunity Workshop held. Future Telecommunication Servicing Strategies were subsequently not explored within the Service Authority Opportunity Workshop due to no telecommunication services representatives being present during the Servicing Strategy and Sustainable Environmental Servicing discussions.



7 Summary of Utilities Servicing Assessment

7.1 Conclusions and Recommendations

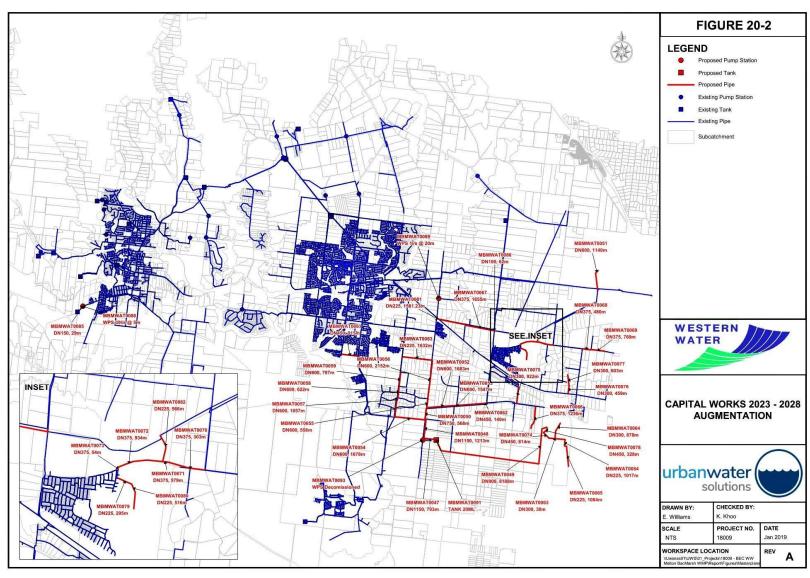
Table 14 Utilities Servicing Assessment Conclusions and Recommendations

Utility Service	Recommendations & Conclusion
Water and Recycled Water	Alternative water requirements, including whether class A recycled water will be mandated within the Melton East PSP are subject to the completion of an Integrated Water Management Plan (IWMP) that will be undertaken for the PSP.
Sewerage	Although the future sewer servicing strategy has been provided and recently reviewed by Greater Western Water, the pipe sizing and subsequent easement requirements may alter based on actual projected lot growth. The need for interim Pump Stations and temporary assets, to cater for non-sequential developments could impact the current servicing strategy plans.
Stormwater drainage	Ridgeline and depression constraints for the northern and southern catchments are to be further investigated by Melbourne Water.
	The finalisation of contribution rate chargers for the High Street Melton DSS (northern catchment) and the Kororoit Upper Creek DSS (southern catchment) is not likely to occur until after the PSP has been approved.
Electricity	In relation to future electrical servicing requirements, gas servicing forecasting will have an impact on the level of resource allocation that may be required. A potential increase in the use of alternative gas options such as electrical vehicles (EV), needs to be considered in relation to the future electricity servicing requirements within the PSP area.
Gas	Based on existing system capacities, it would be preferential for the staging of development to start from the south east of the PSP.
	Alternative gas options are to be considered and further explored in the Climate Resilience Review Assessment for the PSP.
Telecommunication	Future telecommunication servicing requirements within the precinct may need to be further explored, to determine when new contracted telecommunication servicing works will be undertaken within the PSP.
Other (Roads)	The location of future roads should be provided to each of the Service Authorities to facilitate future infrastructure requirements, servicing alignments and establish a greater understanding of land area and easement requirements.

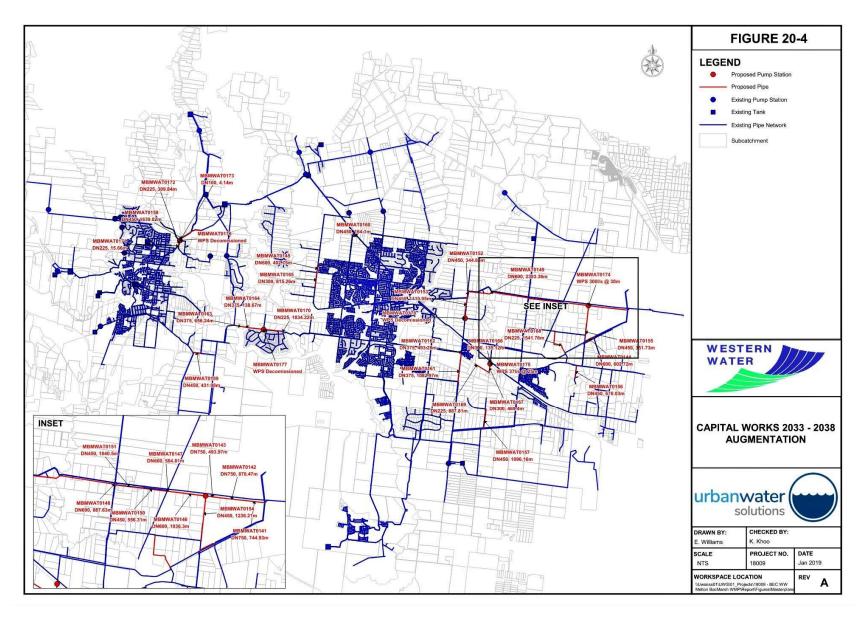


Appendix A GWW Water Capital Works Augmentation

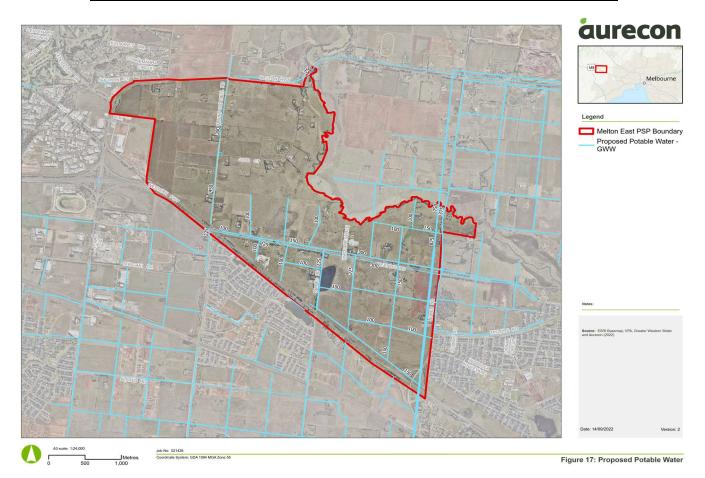
Greater Western Water - Water (Capital Works 2023-2028 Augmentation) - Note: Superseded refer to Appendix A1



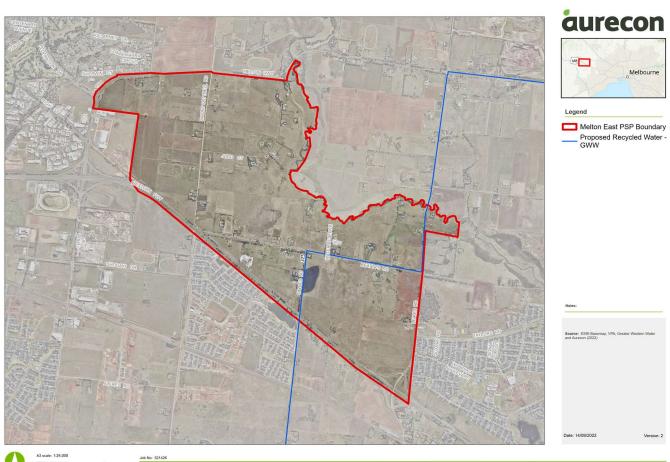
Greater Western Water - Water (Capital Works 2033-2038 Augmentation) - Note: Superseded refer to Appendix A1



Greater Western Water – Potable Water Proposed Works (GIS data format received)



Greater Western Water - Recycled Water Proposed Works (GIS data format received)



Appendix A1 Updated GWW Water Capital Works Augmentation

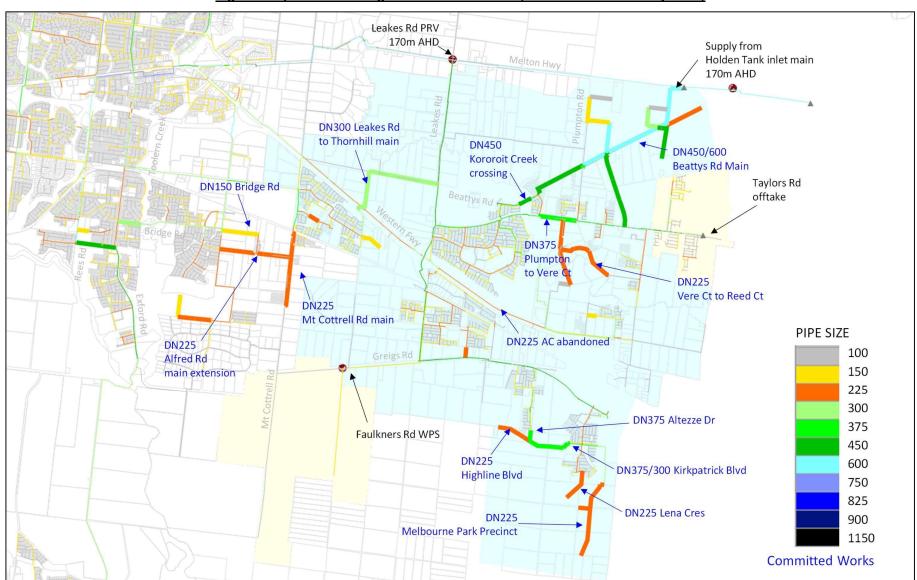


Fig 4-1: Capital Works Augmentation 2018-2023 (CH2M Beca Plan - May 2022)

Holden Tank Mt Cottrell WPS Melton Hwy PIPE SIZE Mt Cottrell Tank

Fig 4-2: Capital Works Augmentation 2023-2028 (CH2M Beca Plan - May 2022)



Fig 4-3: Capital Works Augmentation 2028-2033 (CH2M Beca Plan - May 2022)

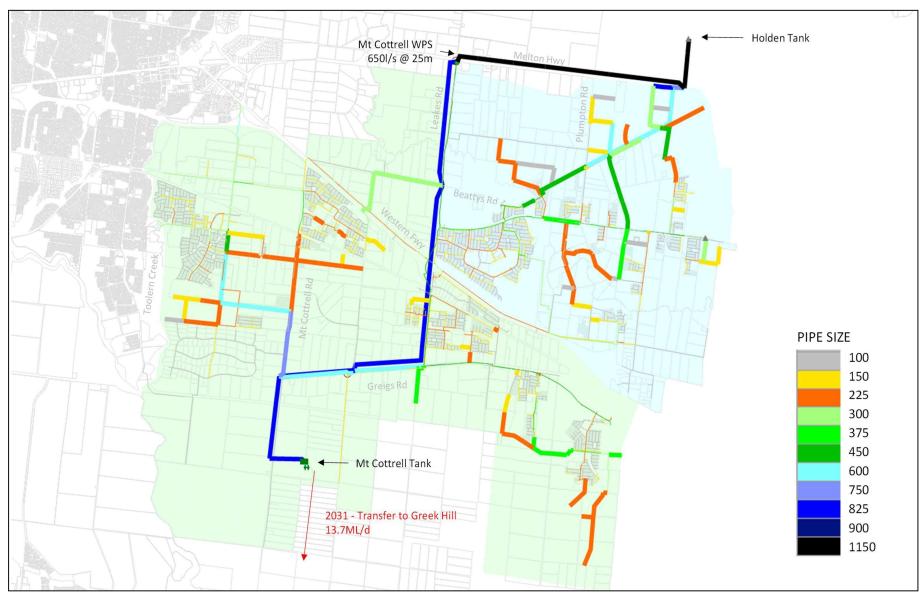


Fig 4-4: Capital Works Augmentation 2033-2038 (CH2M Beca Plan - May 2022)

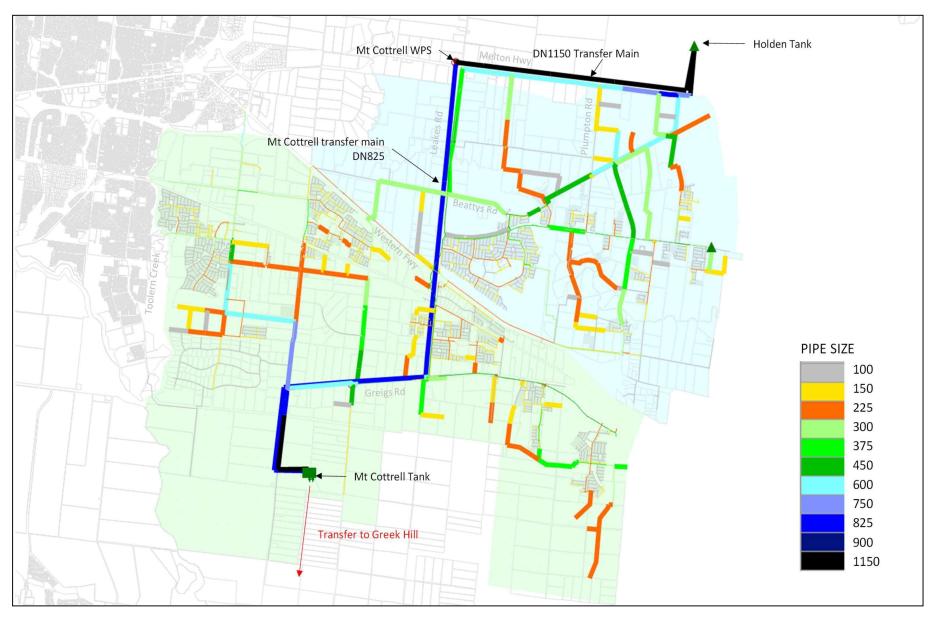


Fig 4-5: Capital Works Augmentation 2038-2048 (CH2M Beca Plan - May 2022)

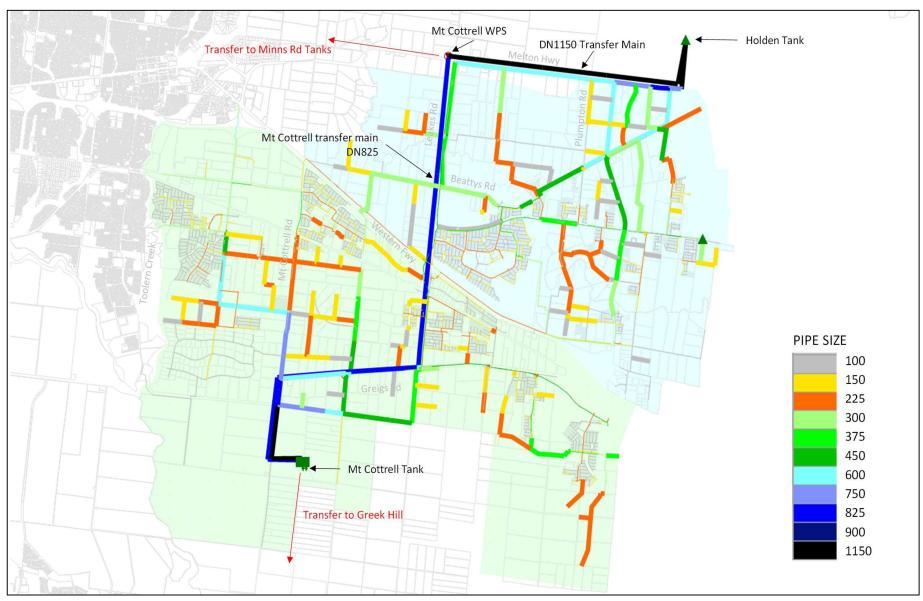
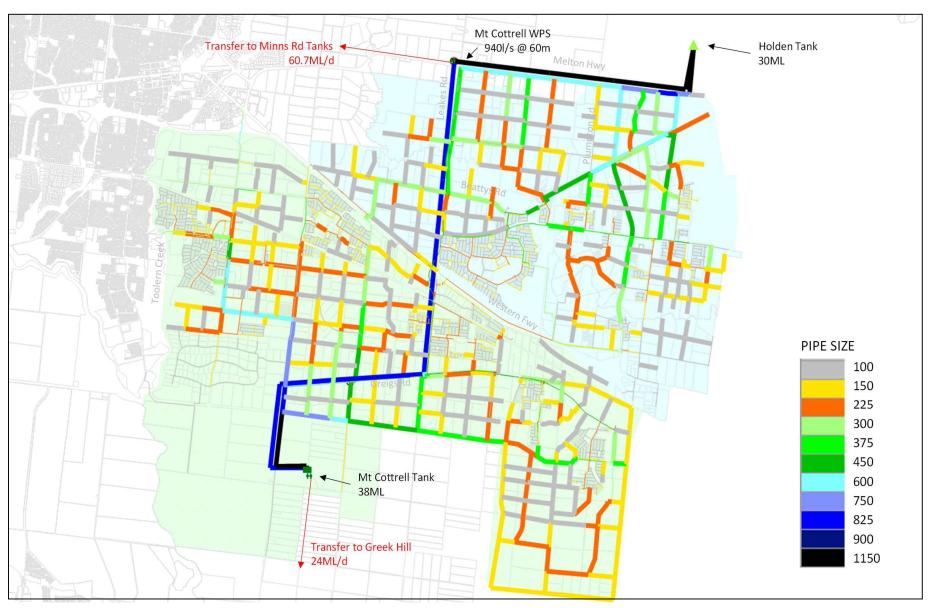


Fig 4-6 Capital Works Augmentation 2048-2067 (CH2M Beca Plan - May 2022)



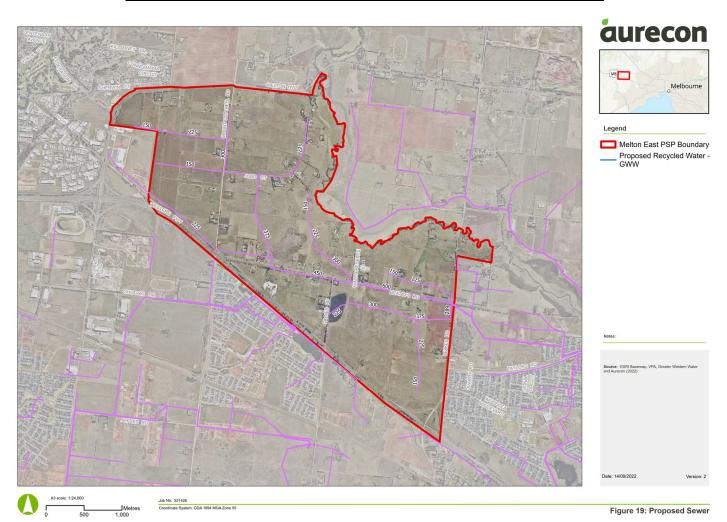
Appendix B GWW Sewer Infrastructure Planning

Greater Western Water - Sewer (Capital Works Augmentation)

WESTERN INFRASTRUCTURE PLANNING | MELTON WASTEWATER MASTER PLAN WATER Beattys Road SPS Stage 1 - 60 L/s (2028-2033) Aintree SPS Emergency Storage 115 kL (2038-2048) Rockbank North Town Center SPS 110 L/s (35Hz) (2023-2028); not operation (2023-2028) 150 Stage 2 - 90 L/s (2048-2067) 185 L/s (50Hz) (2038-2048); decommission (2048-2067) UNNAMED 300 300 225 Monument SPS (Temp) High Street SPS (Temp) 55 L/s (2020-2023) 5 L/s (2023-2028) decommission (2033-2038) decommission (2033-2038) Bonnie Brook SPS Rd SPS Temp - 36 L/s (2020-2023); Stage 1 - 160 L/s (2033-2038) Storage 30kl Shogaki Dr SPS Emergency Storage 1170 kL (2038-2048) Stage 2 - 230 L/s (2048-2067) Bowery SPS (Temp) 25 L/s (2020-2023) decommission (2023-2028) Stage 2 - 150 L/s DEVID182 SPS (Temp) Vere Court SPS (Temp) 10 L/s (2023-2028) 15 L/s (2023-2028) decommission (2028-2033) decommission (2028-2033) Sewage Pump Station Marlee SPS (Temp) 45 L/s (2020-2023) - - Rising Main decommission (2023-2028) Carolina SPS (Temp) Gravity Sewer < 300mm 20 L/s (2020-2023) decommission (2023-2028) Gravity Sewer >= 300mm Clarke Rd SPS 2020-2023 ___ 2023-2028 Sinclair Road SPS Stage 1 - 80 L/s (2023-2028) 2028-2033 Emergency Storage 590kL (2028-2033) Stage 2 - 140 L/s (2048-2067) 2033-2038 2038-2048 Deanside Dr SPS1 Stage 1 - 225 L/s (2023-2028) 2048-2067 Stage 2 - 335 L/s (2038-2048) 2067-Ultimate Deanside Dr SPS2 435 L/s Temp - 25 L/s (2020-2023); Stage 1 - 140 L/s (2033-2038) 25 L/s (2020-2023) Existing Emergency Storage 615kL (2038-2048) decommission (2028-2033) Stage 2 - 180 L/s (2048-2067)



Greater Western Water – Sewer Proposed Works (GIS data format received)



Appendix C Service Authority Opportunity Workshop Meeting Record

Project number	P521426	Meeting date	2022-06-16
Project name	Melton East PSP Utility Servicing Assessment	Recorded by	Luciano (Lou) Giannone
Meeting/subject	Service Authority Opportunity Workshop	Total pages	8

Present	Apology	Name	Organisation	Contact details
$\overline{\checkmark}$		Zachary Powell	VPA	Zachary.Powell@vpa.vic.gov.au
V		Rion Casey	VPA	Rion.Casey@vpa.vic.gov.au
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\square		Ian Pham	Melbourne Water	lan.Pham@melbournewater.com.au
\square		Shuyi Li	Powercor	Shli@powercor.com.au
$\overline{\checkmark}$		Dennis Hionis	Greater Western Water	Dennis.Hionis@gww.com.au
$\overline{\square}$		Thahn Ngyuen	Ausnet Services	Thanh.nguyen@ausnetservices.com.au
\square		Anastasia Badina	Melton City Council	AnastasiaB@melton.vic.gov.au
$\overline{\checkmark}$		Kelly Archibald	Melton City Council	Kellya@melton.vic.gov.au
\square		Innoka Habakkala	Melton City Council	InokaS@melton.vic.gov.au
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\square		Arman Bilimoria	Aurecon	Arman.bilimoria@aurecongroup.com
\square		Luciano (Lou) Giannone	Aurecon	Luciano.giannone@aurecongroup.com

Item	Topic	Actions
1	Project Overview Zachary VPA 6 months into PSP process Number of background assessments across the site being conducted with the Utilities Servicing Assessment making up 1 of approximately 20 The PSP report will be communicated back to key government stakeholders to get it published Next steps: VPA Vision & workshops Number of background assessments to come – will then be compiled and published on the website	VPA to continue liaising with Service Authorities regarding PSP process & progress
2	Existing Services – Telecommunications Ben Cross (Opticomm Services) Validated that no existing services are within the PSP and that services exists outside the southern boundary of the PSP area No new contracts projected for the PSP area Optus, Telstra & NBN Not represented at the workshop	None
3	 Existing Services – Gas Thanh Nguyen (Ausnet Services) Confirmed existing services details No further comments other than the eastern side adjacent to the area has sufficient capacity to extend into the PSP There is currently limited capacity if supply was to be extended from the west or the south 	None
4	 Existing Services - Electricity Shuyi Li (PowerCor) Confirmed existing service information Existing feeders are highly loaded, expect augmentation/upgrade required to supply the new development Melton East projected to be one of Powercor's biggest growth areas Keen to keep all existing overhead assets as is, do not have an intention to remove them and put them underground 	Location of Electrical services (overhead or underground services) may need to be further discussed with Powercor

Item	Торіс	Actions
	 Shuyi wants an indication of the combination lot types for the approximate 13,000 lots. Reason being this is used to forecast customer consumption Gas forecast impacts the amount of resource allocation required from a Powercor perspective 	
	Indication of proposed development provided in group commentary below:	
	 Zach Powell (VPA) Fully residential precinct Mixture of 20 dwellings per hectare (town houses, detached dwellings, houses). Look at neighbouring Aintree suburb development as an example Melton East PSP likely to be denser than Aintree No multi town houses Commercial town centres (Multiple) not major activity centres however will comprise of local shops Federal government looking to forecast the gas roadmap Will determine if there are gas alternatives down the track Bhavin – Council Locate electrical infrastructure underground to prevent issues in the long run. Land and easement requirements for future services Council will see more service authority requests if there are overhead powerlines 	
5	Existing Services – Sewer Dennis Hionis (Greater Western Water) Confirmed there are no current existing sewers in PSP	None
	 PSP Catchment gravitates to south east boundary with future flows to be directed to the Aintree suburb area 	
6	Existing Services – Potable Water Dennis Hionis (Greater Western Water) Confirmed existing distribution services along PSP boundary and that current existing 50mm and 100mm mains inside PSP may need to be replaced/augmented in the future	None
	replaced/augmented in the future	
7	 Existing Services – Recycled Water Dennis Hionis (Greater Western Water) Confirmed no Class A recycled water within PSP but surrounding the area and Class B recycled water main within northern boundary of PSP Alternative water is being discussed & considered in their future planning 	Determination on whether Class A recycled water is to be mandated for the PSP to be further explored with GWW
	Existing Services – Stormwater Drainage	Diagrapia
8	 Melton Council Confirmed some existing underground stormwater drains and culverts exist along eastern and southern boundaries of PSP Discussions occurring with Melbourne Water regarding stormwater drainage implementation strategies key landowner (3L Alliance) to be considered regarding land availability for stormwater drain requirements 	Discussions between Melbourne Water & 3L Alliance regarding land requirements needed as part of future planning

Item	Topic	Actions
	Existing Services – Stormwater Drainage cont.	
	Laurence Newcome & Ian Pham (Melbourne Water)	
9	 Confirmed existing flood plains and wetlands identified and Development Services Schemes (DSS) Northern catchment – High Street Melton Southern Catchment – Kororoit Creek Upper Stormwater challenges exist Nothing yet finalised for area north of the freeway Flooding issues to be resolved Water quality levels discussed Wetlands – upstream have already been identified Optioneering process occurring (eg: not fully treated) Flood retention discussions Stormwater quality treatment Wetlands Detention basins Southern Development Services Scheme may capture properties to the south outside of the PSP Monetary contributions to be considered in Melton East PSP 	Melbourne Water to provide further details on Developer Contribution Scheme chargers
	Servicing Strategies Provided – Electricity	
	Shuyi Li (Powercor)	
10	 Confirmed previous servicing strategy information provided Some supply availability exists New future 22kV will be overhead (Leakes Rd & Beattys Rd) Can this be done underground raised by Council Affects street tree delivery Already scoped, designed and budgeted for to proceed as overhead powerlines Future Developer requests for extensions and services are all to be underground Council - Beattys Road is a source of concern due to future tree and reserve planning PowerCor open to discussions however belief was that Council had already been engaged in the process for the new 22kv feeder to be constructed at the end of this year 	Clarification on Powercor's consultation with Council, on new 22kV overhead powerlines proposed in Beattys Rd & Leakes Rd to be considered
	Servicing Strategies Provided – Sewer	
11	 Dennis Hionis (Greater Western Water) Confirmed previous servicing strategy information provided Forecast for 7,000 lots, pipe sizing & easement requirements may change Proposed sewer alignments might change with road plans Development to start from south east and work north west Would any interim assets installed remain part of the permanent strategy works? this was raised Too early for GWW to consider Interim Pump Stations & temporary assets are preferred over any eduction requirements 	GWW to review future pipe sizing and any augmentation works required, based on projected lot growth in PSP of 12,895 lots

Item	Topic	Actions
12	Servicing Strategies Provided - Potable Water Dennis Hionis (Greater Western Water) Confirmed previous servicing strategy information provided West of Mount Cottrell Rd to be supplied by the Melton system Can temporarily supply some properties in southern area of PSP and come off the existing supply in the south Different zone boundaries exist, however elevation levels close Rion (VPA) Is there a reason why 7,000 lots projected not the actual 13,000? GWW based this on 2015 forecasting information − Lou (Aurecon) Will be updated to account for additional lots − Analysis will have to be updated − Dennis (GWW)	GWW to review future pipe sizing and any augmentation works required, based on projected lot growth in PSP of 12,895 lots GWW to confirm water supply boundary elevation levels within southern area of PSP and outside of southern boundary
13	Servicing Strategies Provided – Recycled Water Dennis Hionis (Greater Western Water) Confirmed previous servicing strategy information provided With 13,000 lots being more than 7,000 forecasted, Andrew Chapman (Aurecon) flagged that infrastructure sizing will need to change Dennis to ask his team around timing to deliver that update If sizing increases, there may be larger land & easement requirements	GWW to review future pipe sizing and any augmentation works required, based on projected lot growth in PSP of 12,895 lots GWW to clarify if Class A recycled water to be mandated within PSP area
14	Laurence Newcome & Ian Pham (Melbourne Water) ○ Previous servicing strategy information provided presented ○ (Laurence) - Reasonable level of confidence regarding future service locations ○ Ridge line along Kororoit creek ○ Need to ensure that there is an appropriate water flow to feed catchment ○ Looking for an appropriate outflow to Kororoit creek ○ Northern catchment - Business as Usual (BAU) ○ Constraint based on ridgelines ○ Limitation for outfall ○ Infrastructure optioned ○ DELWP discussions regarding growling grass frog will be occurring next week ○ Land will be required for drainage reserve ○ Interested to see if there will be any co-location of infrastructure services ○ Arterial Roads will be a key requirement for future stormwater service location & alignments and to set levels ○ Southern catchment ○ Important to understand depressions (cultural heritage) ensuring any DSS considers those values ○ Not enough information or decisions made regarding the depressions ○ Recognise depressions that could serve multiple functions (drainage, etc.)	Melbourne Water to provide further details on northern catchment constraints (ridgelines) Melbourne Water to provide further details on depressions within southern catchment



Item	Торіс	Actions
	Future Servicing Strategy Discussions – Gas	
Item 15	Future Servicing Strategy Discussions – Gas Thanh Ngyuen (AusNet Gas) Gas Services typically follows the water alignment Connection from the east is subject to the customer contribution modelling The supply component will be based on customer contribution Costs to be determined and provided on case by case basis Occurs once application is received from developer and based on number of lots and take up rates What happens if some developers do not want gas? Still Business as Usual (BAU), at the moment Assessed on a case by case basis Extension requirements also assessed on a case by case basis Not a servicing condition that all properties must have gas (can be opted in and out) Constraints to west, with limited capacity to south No capital works or augmentation works planned Alternative gas options to be considered Climate resilience review assessment - (Out of Aurecon Scope) Bhavin (Council) in response, raised the issue that Council have been facing challenges in established areas regarding introducing gas lines Lots of internal pressures from public to introduce gas lines when they were not originally provided Would council have a say in relation to whether gas would be provided to the precinct area?	Ausnet Gas Services to provide better understanding on implications to their network if no gas services are requested by Developers and alternative gas options are determined in the Government Roadmap
	Thanh (AusNet) ○ Type of easement sizing required	
	 2m either side, generally wait for road to go through If water laid prior to gas from an alignment side do you see any issues for gas? Alternative trenching will then have to be provided by the developer within easements roughly 2m wide either side 	
	 Any interim servicing from a gas perspective? Significant constraints in the west Less significant in the south – If supply was to be connected from the south there won't be ability to connect the whole 13,000 future lots but will be able to support the initial development as per staging needs ideally development staging starts in the south east for supply reasons No capital augmentation programs, closest is in Werribee 	



Item	Topic	Actions
	Future Servicing Strategy Discussions – Electricity	
	Shuyi Li (PowerCor)	
	Lot size is important, (>600m2) or (300-400m2) impacts use of electricity. Floatrical Values (FV) chargers add a level of augmentation requirements.	
	 Electrical Vehicle (EV) chargers add a level of augmentation requirements Most common is a 7kw for normal residential 2.5-5kw 	
	 Additional charge is a massive extra load. Need to be clear on what the developer 	
	provides	
	 The charger can use up to 7kw, need to allow for greater electricity consumption 	Powercor to be clear on EV
	Now trand towards EVs, they can smooth the lead	charge
	 On road charging infrastructure option was raised 	requirements and
	 Powercor unable to respond to this option at this stage 	impact to power grid
	 Need to know if the developers want to provide EV chargers to the customers 	considerations as
	 Further augmentation will be required should this be the case 	part of the climate
	Better grid planning, minimise retrofitting	resilience review -
	(Raised by Council) - There needs to be provision to easily transfer to EV charging technology. Makes it engine for there to be a transition.	(Out of Aurecon
	 charging technology. Makes it easier for there to be a transition Battery power packs are going to be required, meaning there will need to be 	Scope)
16	 Battery power packs are going to be required, meaning there will need to be better facilitation to enable this 	
	If climate resilience is a requirement then there needs to be some consideration	
	for battery storage from solar energy	Future power
	 This means that the electricity provider will have to provide a better grid to 	lines to be
	cater for this	underground, overhead
	 Idea of a community battery discussed below: 	powerlines
	 PowerCor would facilitate and be open to this 	proposed in
	o Energy demand:	Leakes Rd &
	o Can only supply a limited number of clients per substation	Beattys Rd to be
	 500kV substations from day 1 of development would be required if more battery use is present, as opposed to 350kV substations 	further explored
	 What area size for 500kV substations is required for reserve land? 	with Powercor
	■ Unable to answer exact area but would be larger than 350kV	
	substations.	
	 (Council Raised) - No easements within open space or road reserves - cost 	
	implications (for above ground assets)	
	 Anything at ground level that may require upgrades or relocation. 	
	Therefore, they will have to allow for purchase of designated land	
	 20 lots per hectare – Council would like a better idea around what lot sizes to 	
	expect – (Answer: 250m2 - 300m2 averaged likely)	
	 (Council) - What is required to get the powerlines underground? 	
	 For new PSP power should all be underground raised 	
	o (Powercor) - Any future works within PSP will be underground but assessed on a	
	case by case basis	
	Council need to understand which above ground electrical services are gaing to be leasted eleng Leakes Rd and Reatty and Reatt	
	going to be located along Leakes Rd and Beattys Rd	
	 (Council) - Trees are to be planted and this is important to consider If services are above ground level then this creates more complexity for 	
	trees	
	 Location of services is important in relation to tree planting 	
	 Maturity size of trees an issue in other PSP - Service locations 	

Item	Topic	Actions
	Future Servicing Strategy Discussions – Potable & Recycled Water & Sewer	
17	Dannia Hiania (Creater Mestary Metary)	
	Dennis Hionis (Greater Western Water)	
	 Need to update infrastructure sizing for sewer, potable & recycled water for VPA growth projections (ie: population approx. 13,000 lots) Assets preferred to be located outside private properties along road alignments Would like to investigate alternative water Looking to connect alternative water sources – looking into it, not mandating it Is GWW supportive of mandating recycled/storm water raised Recycled Water possibly being looked at for mandating (yet to be determined) Water Plan 2023-2028 (may consider Recycled water) (Andrew – Aurecon) - PSP has looked to facilitate mandating of recycled water for other precincts There is existing recycled water around the PSP Any land sites required raised if class a recycled water is to be mandated Temporary water pump station required in Mount Cottrell Rd Land site requirements for temp water PS in Mt Cottrell Rd Existing sewer and water networks are located to the east (Aintree) and south (Thornhill Park) that can provide temporary servicing. Supply from the south will be challenging due to crossing of Western Fwy Integrated open space requirements - discussions between Melb Water & Council occurring 	GWW to review future sewer, potable & recycled water sizing and infrastructure land/easement needs Understanding on when a decision on mandating or not mandating Class A recycled water to be clarifies by GWW
	Future Servicing Strategy Discussions – Stormwater Drainage	Status on
		Integrated Water
	Laurence Newcome & Ian Pham (Melbourne Water)	Management
	 Internal Melbourne Water team looking into IWM in terms of reuse cases 	(IWM) strategies
	 IWM being investigated and coordinated with GWW 	between Melbourne Water,
	Storm water harvesting being considered Pick of land take in terms of earliegy and depressions.	GWW & Council
	 Risk of land take in terms of ecology and depressions Identifying most efficient infrastructure which will then lead to the financial 	to be further
18	modelling	explored - (Out of Aurecon Scope)
	Financial modelling being looked at - Developer Scheme charge Contributions for lots systems of DSD possible at house days and the systems because the systems are supplied to the systems of the system of the systems of the sy	Adrecon Ocope)
	 Contributions for lots outside of PSP southern boundary may be considered for southern lots in PSP if it drains that way (initial 	Melbourne Water
	development staging)	to determine
	 Co-locating drainage with recreation and multifunction of sites 	Developer Service Scheme
	 (Council) - Make sure infrastructure is above the flood lines Upstream and downstream connections available – (North & South Catchments) 	Chargers and
	 Upstream and downstream connections available – (North & South Catchments) WSUD strategy - support landscape and environment 	advise when this
		may be finalised

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