This Volume 2 contains supporting documents, reports, guidelines and plans forming part of the Development Plan approved by Council pursuant to Schedule 11 to the Development Plan Overlay under the Yarra Planning Scheme (Development Plan). At its meeting on 2 December 2015 (Resolution), Council resolved to approve the Development Plan subject to certain further amendments being made to Volume 1 of the Development Plan. Council's CEO approved the further amended Volume 1 and endorsed the Development Plan on 27 May 2016.

The contents of this Volume 2 must be read subject to the Resolution and the contents of Volume 1 of the Development Plan. To the extent of any inconsistency between this Volume 2 and the Resolution and/or Volume 1, the Resolution and/or Volume 1 will prevail as applicable.
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7. Yarra Valley Water Servicing Advice
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1.0 GENERAL

The site has been acquired by a consortium consisting of Alphington Developments Pty Ltd and Alpha APM No.2 Pty Ltd (the Proponent). Reeds Consulting Pty Ltd has been engaged by Alphington Developments Pty Ltd to prepare this report on behalf of the Proponent.

The report will provide an overview of the engineering servicing issues and requirements associated with the redevelopment of the former Alphington paper mill site into residential and commercial precincts comprising 2,500 dwellings and retail/commercial floor space of approximately 18,500m2 (NLA). The subject land is known as 626 Heidelberg Road, Alphington and comprises 41 separate parcels totalling approximately 16.5Ha with frontages also to Latrobe Avenue, Lugton Street, Parkview Street and Chandler Highway.

The information contained in this report is based on investigations by Reeds Consulting which have been facilitated by our knowledge of the requirements of the City of Yarra together with a review of the information provided by the servicing authorities including Melbourne Water, Yarra Valley Water and Jemena. The information received is subject to confirmation at the time that the development proceeds.

The subject land is bounded by the Chandler Highway along the western boundary, Heidelberg Road along the northern boundary, the Yarra River along the southern boundary and Parkview Road along the eastern boundary.

The land is currently zoned “Mixed Use Zone” and development is proposed as shown on the indicative site master plan prepared by Rise Up Design in Annexure 1.

Annexure 1: Indicative Site Master Plan.

The land generally falls from Heidelberg Road to the Yarra River. A clearly defined “valley” runs through the site from Heidelberg Road to the Yarra River. Within this “valley” is located an existing Council drain which also collects flows from within the site and discharges to the river via a concrete endwall structure. A small portion of the site also drains to the south east where an existing bluestone channel directs flows to the river.

A low point located midway along the Heidelberg Road frontage contains a Council drain which directs flows under the existing building and through the site to the river as indicated above. There is no apparent existing water quality treatment for the site or the larger catchment.

Annexure 2: Existing Contour Plan.
Existing buildings on the site will be demolished with the exception of a few heritage buildings which are to remain and be adaptively re-used.

2.0 ROADWORKS

The development will be accessed via the existing Council roads Latrobe Avenue and Parkview Street together with a proposed new intersection to be constructed on Chandler Highway. The existing Council’s road reserves are 15.24m wide and contain a fully sealed 7.0m wide asphalt pavement with bluestone kerb and channel, a 1.25m wide footpath and nature strips. The existing Council roads are in a poor state of repair and will need to be upgraded with new pavements, kerb and channel, footpaths and nature strips. These works will be constructed to the standards of the City of Yarra.

Vic Roads is the responsible authority for the management of Heidelberg Road and Chandler Highway. The planning, design and construction of the new intersection on Chandler Highway and upgraded intersections on Heidelberg Road will require the approval of Vic Roads and the City of Yarra.

Pavement widths for the new Council roads have been determined by the traffic engineer and nature strip widths will be sufficient to cater for the required servicing infrastructure and landscaping requirements including rain gardens/tree pits. Typical road cross sections for the existing roads to be upgraded and the new roads are shown in Annexure 3.

Annexure 3: Typical road cross sections

New Council roads will be created as part of the subdivision of the site into the proposed precincts. These proposed new Council roads are shown on the preliminary master plan in Annexure 4.

Annexure 4: Proposed Council roads

The access points to the proposed development off Chandler Highway and Heidelberg Road, the road internal network including hierarchy and road widths will need to be designed in conjunction with the requirements of Council, Vic Roads and the findings of the Traffic Management Plan and Integrated Transport Plan in support of this application.

3.0 DRAINAGE

The drainage strategy for the site is designed satisfy the requirements of the authorities and will show how minor stormwater flows, major stormwater flows, stormwater retardation and the water quality treatment train combine to ensure protection to the Yarra River.
Melbourne Water is the responsible authority for catchment planning and main drainage and the City of Yarra is the responsible authority for the local drainage system.

The subject land is not contained within a Melbourne Water Drainage Scheme and therefore all drainage works will need to be designed and constructed to the requirements of the City of Yarra.

The stormwater quality contribution payable for the site will be charged under the Yarra City stormwater quality offset rate of $23,315/Ha by 1.0 for residential lots 300m2 to 600m2, by 1.15 for the high density residential development with lots sizes less than 300m2 and by 1.3 for the commercial precinct.

This contribution payable can be reduced depending on the extent of onsite best practice water quality objectives achieved. A preliminary assessment using a combination of the various water quality options available for the site has been prepared to demonstrate that the water quality outcomes can exceed the best practice objectives and therefore the stormwater quality charge will not be payable. The preliminary assessment will be detailed further in this report.

Melbourne Water advises that any redevelopment of the site will be expected to improve the quality of stormwater and lowering the quantity of stormwater discharged from the site. Any new connections to the river or any structures, such as jetties, will require the approval of both Melbourne Water and Parks Victoria.

The design and construction of shared paths from the development to the river’s edge will also need to meet the requirements of Melbourne Water’s “Shared Pathways Guidelines”.

**3.1 MINOR STORMWATER DRAINAGE**

A review of the existing contours plans for the Alphington area together with an assessment of the City of Darebin drainage infrastructure plans shows there is a large catchment of approximately 19.40Ha external to the site north of Heidelberg Road. The catchment itself is much larger but the railway line on the south side of Wingrove Street acts as a barrier with the Council drainage infrastructure plans indicating that the larger catchment is diverted off to the east along Wingrove Street via a 900mm diameter piped drain to the Yarra River east of Yarralea Street.

However, there is a 450mm diameter high level culvert under the railway line which appears to cater to relieve flood levels at the trapped low point in Wingrove Street near the intersection of Toolangi Road. This will be discussed further in section 3.2 below.
There is an existing 1050mm diameter drain running through the site from Heidelberg Road to the Yarra River which drains the external catchment and also collects rainwater from the site. In addition to this drain, there is also a smaller drainage system which collects a small catchment the intersection of Heidelberg Road and Chandler Highway.

The alignment and exact location of this existing drain through the site is unknown and will require further investigation. Both of these existing Council drains will need to be realigned to suit the proposed development plan.

**Annexure 5: Council existing drainage plans**

The City of Yarra’s current design standards for underground drainage requires all pipes in developed areas to be designed for a 10 year recurrence interval with a 0.9 coefficient of runoff. Based on the external catchment area of 19.40Ha and allowing a time of concentration of 12 minutes, the 10 year ARI flow will 3.8m/s. This flow indicates a new 1200mm diameter pipeline, increasing to 1350mm diameter pipeline at the downstream end, will be required through the development to cater for the stormwater flows external to the site and the additional flows generated by the site itself.

Other minor drainage lines will be provided within the Council road reserves to cater for the proposed subdivision of the site. These drains will all be designed and constructed in accordance with Council standards.

It is noted the Development Plan as shown in annexure 1 shows the potential retention of one of the existing large storage tanks within the proposed development. The use of this tank will be investigated as part of the Integrated Water Conservation Management strategy.

### 3.2 MAJOR STORMWATER DRAINAGE

Overland flow paths will need to be provided within the development plan to cater for higher intensity stormwater events where the capacity of the underground drainage system is exceeded. The plan shown in annexure 6 shows the intended major overland flow paths for the development.

As there is a trapped low point in Heidelberg Road where the large external catchment converges on the site, it is proposed to upsize the realigned main drainage pipeline to cater for the 100 year ARI flows at least along Heidelberg Road and down Latrobe Avenue until the underground pipe system in conjunction with the road system has sufficient capacity to cater for the flow.
The 100 year average recurrence interval flow external to the site has been calculated using a 0.9 coefficient of runoff. Based on the external catchment area of 19.40Ha with a time of concentration of 12 minutes, the 100 year flow is 6.1m3/s. However, as stated above there is a high level culvert under the railway line which results in additional flow being generated at the trapped low point on Heidelberg Road.

Using an estimation of the flood level at the trapped low point in Wingrove Street and adopting the surface level at the downstream end of the 450mm diameter culvert, we estimate the additional overland flow entering the system will be 0.7m3/s. Therefore, the total 100 year flow adopted external to the site is 6.8m3/s.

Computations have been completed on the overland flow path for the critical section for Latrobe Avenue based cross section C-C shown in Appendix 3.

Based on adopting a 1350mm diameter pipe along Latrobe Avenue at a grade of 1 in 100, the pipe itself will have a capacity of approximately 5.3m3/s and the road section will have a capacity of approximately 2.0m3/s resulting in a total capacity of 7.3m3/s which will cater for the estimated 100 year flow.

3.3 RETARDATION

An aspiration for the redevelopment of the site is to reduce stormwater runoff to pre-development volumes. This will require stormwater runoff from roofs to be collected in tanks, treated and reused for toilet flushing, laundry and irrigation purposes.

It is expected the individual housing lots and the town housing lots will have rainwater tanks. The larger buildings and proposed body corporate lots will have stormwater runoff from roofs directed to communal tanks where the water will be treated and recirculated back into the buildings for use via the third pipe system.

Existing tanks are also being considered for detention and reuse of stormwater.

3.4 WATER QUALITY

In accordance with the requirements of the Yarra Planning Scheme “Schedule 11 to the Development Plan Overlay” for the site, water sensitive urban design will be required to ensure stormwater runoff from the site minimises any impact on the bay and downstream catchment.

Therefore, the stormwater discharge from the site will need to meet the requirements of the current best practice performance objectives for...
stormwater quality by adopting Water Sensitive Urban Design (WSUD) principles and objectives.

The aim of WSUD is to minimise the impact of urbanisation on the receiving waters and natural water cycle.

The purpose of WSUD is to fulfil the objectives outlined above in an integrated development approach directed at:

- Managing the volume, rate and quality of catchment run-off;
- Protecting the aquatic habitats of accepting waterways;
- Providing the safe conveyance of stormwater flows for typical and flood events;
- Providing and promoting stormwater elements as an integral part of the urban form.

The detailed design of the proposed WSUD elements for the development will be based on the 3 month average recurrence interval flows from the development and will utilise MUSIC modelling to ensure that the treatment train can achieve the following specified minimum reduction targets required under current Best Practice Guidelines.

<table>
<thead>
<tr>
<th>Target Reduction Water Quality</th>
<th>% Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Suspended Solids (kg/yr)</td>
<td>80%</td>
</tr>
<tr>
<td>Total Phosphorus (kg/yr)</td>
<td>45%</td>
</tr>
<tr>
<td>Total Nitrogen (kg/yr)</td>
<td>45%</td>
</tr>
<tr>
<td>Gross Pollutants (kg/yr)</td>
<td>70%</td>
</tr>
</tbody>
</table>

The MUSIC model estimates the actual water quality reductions achieved for the development based on the range of water quality treatments proposed for the site.

The proposed treatment strategy for the development will require further investigation during the design development and planning permit applications phases. However, the development is committed to meet 5 out of 6 elements of the UDIA Enviro Development assessment tool which includes best practice stormwater harvesting and treatment for the site. This strategy and assessment will evolve through the planning process in conjunction with the approval of the development plan and ESD strategy for the site.

Generally, it is expected the proposed water quality treatment train for the site will include a number of different elements such as green roofs, tree pits, bio retention swales/filters and rain gardens which together will comprise the storm water treatment train.
3.5 WATER TREATMENT TRAIN

The following elements are to be considered for inclusion in the treatment train;

**Large Rain Water Tanks.**
The majority of roof water within the development will drain to rain water tanks connected to the downpipes. The water from these tanks will be utilised to irrigate the landscape areas and/or toilet flushing within the development.

Overflow from the tanks will discharge into either the rainwater gardens/tree pits/underground treatment tanks or directly to the underground storm water drainage system.

The existing large tank will potentially also be retained and used for stormwater retention.

**Rain Water Gardens/Tree Pits/Underground treatment pits.**
The majority of the runoff from the external paved areas and the tanks overflow will be directed to rain water gardens/tree pits/underground treatment tanks. The rain water gardens/tree pits/underground treatment pits are bio retention systems that include a depressed surface, layers of filter medium, drains and appropriate plants. In addition, an overflow pit provides a drainage outlet for larger storm events.

**Gross Pollutant Traps.**
Gross Pollutant Traps are not proposed due to the high maintenance costs. Council standards for road water collection pits include grates to stop gross pollutants entering the drainage system.

**Green roofs.**
Appropriate for the larger apartment and commercial buildings proposed for the site the roofs can be partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. Green roofs may also include additional layers such as a root barrier and drainage and irrigation systems.

**Vegetated Swales.**
Vegetated swales are constructed open-channel drainage lines used to convey stormwater. Vegetated swales are often used as an alternative to, or an enhancement of, traditional storm sewer pipes. They do not pond water for a long period of time and induce infiltration. Vegetated swales generally have a trapezoidal or parabolic shape with relatively flat side slopes. Individual vegetated swales generally treat small drainage areas.
Results.
An analysis of the proposed treatment train through the MUSIC model will be required to confirm that the proposed water quality treatment for the development is successful in achieving the best practice requirements as stated above. The impact of the development on Water Quality is better than the stated best practice guidelines.

The MUSIC analysis for the whole site can be summarised into the following areas with treatments as shown:

Commercial buildings - Rain garden and Vegetated Swale

Apartment buildings – Green Roof and Rain gardens and proprietary Sediment control Tank

Townhouses – Water Tanks (toilet reuse)

Houses – Water Tanks (toilet reuse)

Parks – Buffer (overland flow through grasses)

Roads – Tree Pits or Bio Pits - 2 different MUSIC models.

Part combined catchment control via additional proprietary Sediment control Tank

Annexure 6: Stormwater MUSIC model output
4.0 WATER RETICULATION

Yarra Valley Water is the authority responsible for the provision of water supply facilities for the subject land.

Yarra Valley Water advises the subject land can be serviced from the existing 300mm diameter main located in Chandler Highway and by extending a new 225mm diameter main through the site to connect to the existing 225mm diameter main located in Latrobe Avenue near the intersection with Heidelberg Road.

The provision of water supply within development will require the construction of appropriately sized mains along the proposed Council road network as determined by Yarra Valley Water.

Water reticulation internal to the site will be designed and constructed in accordance with the authority requirements.

The water supply new customer contribution current for the 2015/2016 financial year is $668.15 per lot.

5.0 SEWERAGE RETICULATION

Yarra Valley Water is the authority responsible for the provision of sewerage facilities for the subject land.

Yarra Valley Water advises the existing 225mmm diameter sewer mains located in Latrobe Avenue, Lugton Street and the rear laneway between Latrobe Street and Parkview Road are adequate to cater for the proposed development.

Sewerage reticulation internal to the site will be sized, designed and constructed in accordance with the authority requirements.

The sewerage new customer contribution current for the 2015/2016 financial year is $668.15 per lot.

There is also an existing Melbourne Water branch sewer crossing the site. This sewer is a brick lined 1050mm diameter oval sewer constructed 100 years ago and is now nearing the end of its design life.

Melbourne Water is currently constructing a new branch sewer under the site with an anticipated completion date of mid 2016. Land has been set aside for the construction compound on the north side of Lugton Street between Latrobe Avenue and Parkview Road. A boring shaft has been constructed on the east side Parkview Road north of Lugton Street.
Construction activities for the branch sewer will need to be considered in conjunction with the development of the site.

On completion of the new Melbourne Water branch sewer, the existing sewer and associated structures will be abandoned, the assets will be filled with concrete and the existing easement will be expunged.

**Annexure 7: Yarra Valley Water Servicing advice**

### 6.0 ELECTRICITY

Jemena is the authority responsible for the supply of electricity to the Alphington area and the proposed development.

The existing overhead and underground assets located along Heidelberg Road and Chandler Highway will form the basis of supply to the proposed development.

Substation(s) located internally to the subject land and potentially located within some of the apartment buildings and retail premises will be required to service the development.

External augmentation of existing electrical facilities will be required to meet the electrical requirements of the proposed development. The power demand has been the subject of a detailed load assessment based on the estimated number of residences and retail uses proposed for the site. The expected power demand will be met by the duplication of feeder lines along Heidelberg Road and Grange Road.

The existing overhead lines in Latrobe Avenue, Lugton Street and Parkview Road will also be placed underground as part of the upgrade of these roads.

The installation of electricity conduits, service pits, trenching and backfill works will be carried out by the developer's civil contractor.

The cabling and jointing is to be completed by an approved electrical contractor under the auditing requirements of the electrical company at the developer's expense.

### 7.0 TELECOMMUNICATIONS

NBN will be responsible for the supply of telecommunication facilities to the proposed development and will utilise the existing Telstra infrastructure in Heidelberg Road, Chandler Highway, Latrobe Avenue, Parkview Road and Lugton Street to form the basis of supply to the proposed development.
Extension and augmentation of existing Telstra assets will be required as part of the telecommunication works.

Internal reticulation will be provided along the proposed Council road network to service each lot within the proposed development.

Standard provisioning requirements apply requiring the developer to provide the civil works (trenching, conduits, pits, backfill and cleanup) and the NBN to install the cabling and jointing works at the developer's expense.

**Annexure 8: Telstra DBYD**

### 8.0 GAS SUPPLY

APA GasNet is the gas company responsible for gas supply to the Alphington area and the proposed development and has numerous gas mains of various diameters located within the existing streets surrounding the site. In addition to the normal gas pipelines located within the existing road reserves, there is also an existing 250mm diameter transmission pressure gas pipeline which enters the site off Chandler Highway near the intersection of Rex Avenue.

The existing assets will form the basis of supply to the proposed development. An extension of the existing gas mains along the new internal Council roads will be required to service the proposed development.

In accordance with current practice, the developer is responsible for the cost of providing the trenching for gas reticulation to the proposed development.

**Annexure 9: APA GasNet DBYD**

### 9.0 FILLING/EARTHWORKS

There is a possibility that some filling may be required to the new lots created on the subject land to maintain minimum 300mm freeboard to proposed overland flow paths. Filling may also be required to provide 600mm freeboard to the Yarra River flood level including the low lying land around the existing pump house.

Further cutting and filling of the land will also be required to remodel the site as part of the demolition of the existing buildings on the site including filling where existing basements have been removed. The remodelling of the site will also create buildings pads suitable to construct the dwellings/apartment buildings/retail spaces.
All filling work should be controlled under the supervision of a geotechnical consultant to ensure that the required compaction levels are achieved and reported accordingly. The relevant Australian Standards (AS3798 and AS1289) requires a 95% Standard Compaction Test Density to be attained on the filling for the residential lots and a 98% Standard Compaction Test Density to be attained on the filling for the commercial/retail lots.

10.0 SUMMARY & CONCLUSION

The site being located in an established area is well serviced by the existing infrastructure. The previous paper mill operation was a high user of all the essential services and consequently all these services are available and have adequate capacity.

There are some servicing issues that require further work in planning and detailed design but which can be resolved in a reasonable timeframe in conjunction with the development of the site.

In particular, we advise the following servicing issues will need to be addressed:

• The relocation of the existing Council drainage lines between Heidelberg Road and the river.

From our servicing investigations and review of information provided by the relevant Authorities, we are able to conclude that the subject site can be adequately serviced in the short term and in an economic manner which supports the intent to allow the Development Plan to be endorsed.

Servicing authorities’ advice and other information are contained in the Annexures forming part of this report.

Prepared by:
REEDS CONSULTING PTY LTD

G. Sheath

GREG SHEATH
Senior Civil Engineer

Disclaimer

The information contained within this report has been obtained from various servicing Authorities either verbally or in writing however, until such time as formal applications made, conditions and the appropriate approvals obtained, it should only be used as a guide. Any party wishing to use the material contained within this report should make their own inquiries to satisfy themselves to the accuracy of the information.
ANNEXURE 1

Indicative Site Master Plan
ANNEXURE 2

Existing contour plan
ANNEXURE 3

Typical road cross sections
ANNEXURE 3 (cont)

Typical road cross sections
ANNEXURE 3 (cont)

Typical road cross sections
ANNEXURE 4

Proposed Council roads
ANNEXURE 5

Council existing drainage plans
**ANNEXURE 6**

MUSIC analysis and output

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**MUSIC ANALYSIS PLAN - WHOLE SITE (SYSTEM WITH TREE PITS)**

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**MUSIC ANALYSIS - RESULTS - SYSTEM WITH ROAD TREE PITS**

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<td>318</td>
<td>91</td>
<td>70</td>
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</tbody>
</table>
ANNEXURE 7

Yarra Valley Water Servicing Advice
1 May 2014

REEDS CONSULTING

Attn: Greg Sheath

Application ID: 125066

Property Address: 626 Heidelberg Road, Alphington

Preliminary Servicing Advice

The following information is preliminary servicing advice and does not constitute an offer. This advice lapses within 3 months of the date of this letter.

This preliminary servicing advice is based on the information provided in your enquiry. This advice may no longer be valid if there are any changes to the information provided.

This advice succeeds any prior written or verbal advice provided by Yarra Valley Water.

If you have any enquiries please email us at easyaccess@yvw.com.au or visit our website yvw.com.au/easyACCESS for further information. Alternatively you can contact us on 1300 651 511.

Yours sincerely,

John Maudsley
Divisional Manager, Development Services
**Water Advice:**

**GENERAL**
This Preliminary Servicing Advice hereafter referred to as 'advice' is based on information provided within the developer's application. This advice may no longer be valid if information provided by the developer changes.

The following information is preliminary servicing advice and does not constitute an offer. This advice expires within 3 months of date of letter/advice to customer.

This advice succeeds any prior written or verbal advice provided by YVW. The designer should clarify any discrepancies between this and previous advice with YVW.

Any proposed changes to this advice must be approved in writing by the Manager Water Growth Planning.

Unless otherwise instructed below all works are to be constructed in accordance with the Water Standards Association of Australia - Water Supply Code of Australia WSA 03-2011-3.1 Melbourne Retailer's Edition Version 2.

The designer should note that Clause 1.2.3 of WSA 03-2011-3.1 Melbourne Retail Water Agencies Edition - Version 2 requires the designer to comply with YVW's Water Supply Servicing plans prior to any works.

A Concept Plan in accordance with Clause 1.2.3 of Water Supply Code WSAA 03-2011 3.1 has been provided.

In accordance with clause 8.2.4 of the Melbourne Retailer's edition of the Water Supply Code WSAA 03-2011 3.1 code the designer shall ensure that pipework layout and sufficient divide valves are specified such that Shut Off Block sizes are limited to no greater than 25 dwellings. In the event that this requirement cannot be met with the installation of divide valves an alternate pipework layout will be required. This shall apply to both new and existing properties.

The minimum size reticulation main for industrial and commercial estates is DN150. This is established to ensure adequate flow rates and residual pressures, including a contribution to basic firefighting capability and is in accordance with clause 3.1.2 of the Melbourne Retailer's edition of the Water Supply Code WSAA 03-2011 3.1

The design of all mains DN225 and greater, or as specifically noted in this offer, are to be submitted to the Land Development Engineer, Asset Creation, for the approval of the Manager Water Growth Planning and the Manager Water Operations.

The design of all mains smaller than DN50 are to be submitted to the Land Development Engineer, Asset Creation, for their approval.

All mains DN375 and greater are strictly non tapping mains (even if parallel duplicate mains are not shown on the plans provided), and shall be isolated from tapping mains via valving as per clause 6.2.5.2. All valves on mains larger than DN375 shall be metal wedge, including offtake valves.

The Manager Water Operations shall be notified 7 days prior to any work on or adjacent to existing mains DN300 or greater.

This advice is given for servicing of superlots only. If the superlots are further subdivided then additional conditions may apply. Any further assets to be constructed will be at the expense of the developer.
All existing trunk services fronting the new mains are to be abandoned and reconnected to the new main at an appropriate location. Trunk service which are connected to an existing main, but now have a closer connection point on a YVW main, must also be reconnected at the closest location. All abandoned trunk services must be plugged at the connection to the YVW main. This will be confirmed in the Complete Servicing Advice.

In order to service this development a break pressure tank and booster pump may need to be installed in order to provide supply to areas requiring higher than supplied pressure, such as for upper floors of apartments or for fire requirements. Booster pumping direct from the main is not preferred and a separate detailed application must be made to YVW for approval. If booster pumping is required, the development must not be supplied by a dead end main.

**POTABLE WATER ADVICE**

The TWL for the Water Supply Zone is 80 (m) AHD. Under normal operating conditions the maximum applicable HGRL for the proposed development is 80 (m) AHD and the minimum Dry Summer Day HGRL is 68.78 (m) AHD. For the purpose of water hammer, an additional 20m pressure is to be allowed for in the design of all water assets, including fixtures and thrust blocks.

The maximum allowable flow for the design of fire services is 75 L/s.

Please refer to the attached charts for additional hydraulic information. The hydraulic information provided is for the point marked ‘A’ on the attached Water Supply Concept Plan.

All properties in this area require a domestic Pressure Reducing Valve (PRV) to be installed to ensure compliance with the plumbing code. A licensed plumber must install the PRV in an accessible location on all water outlets (other than a fire service outlet). The static pressure to this stage of the development is currently or will ultimately be greater than 50m in line with our servicing strategy for the supply zone. Should the developer not install a PRV as part of development works, the contract of sale document for allotments is to include a requirement for the new owner to install a PRV as part of their internal potable water plumbing to ensure compliance with the plumbing code.

The proposed AMCOR redevelopment shall connect to the following mains:
- DN225/300 Chandler Highway main
- DN225 Heidelberg Road main,
- DN125/225 La Trobe Avenue main,
- DN125 mains in Lugton Street and Parkview Road

The developer is required to design and construct the assets indicated on the attached plan –
- Upgrade section of the DN225 main in Chandler Highway to DN300 (A-B)
- Upgrade of a section of DN125 main in LaTrobe Avenue to DN225 (C-D)
- Construction of a DN225 link main from La Trobe Avenue through to DN300 main in Chandler Highway (B-C)
- Construction of various reticulation mains extended from the aforementioned assets will be required to provide water supply to service all allotments

Note that the upgrades specified are preliminary at this stage and subject to confirmation when finalised development details are provided to YVW. See attached Water Concept Plan.

All wet tappings on existing water mains must be undertaken by YVW's own tapping contractor.

On acceptance of this offer YVW will provide a Functional Design Statement (FDS). These works must be constructed in accordance with this FDS. Works must not commence until this FDS is received by the developer.

Based on the information provided in your application no Melbourne Water assets are impacted by this proposal.
WATER SUPPLY CONCEPT PLAN
PSA 125066- AMCOR REDEVELOPMENT SITE, ALPHINGTON

UPSIZE EXISTING DN125 to DN225 C-D

Note - other internal mains as required through site to supply proposed development layout

UPSIZE EXISTING DN225 to DN300 A-B

Internal DN225 link across site from Latrobe Av to Chandler Hwy B-C

AMCOR redevelopment site

Major upsized or new mains required to service site
**Fees Advice:**
Application Fees / New Customer Contribution Fees will be applicable to this development, to view the current fees and charges please visit the ‘easyACCESS Knowledge Hub’ by following the link:


**Build Over Easement / within close proximity to YVW Assets:**
Please ensure all necessary clearances are maintained from YVW assets, please follow the link below which will outline all conditions, these should be taken into consideration in the design stage of the development.

A copy of our customer guide for proposed works over assets is available at:

SEWER GROWTH PLANNING PRELIMINARY SERVICING ADVICE

Case No: Amcor Site Redevelopment

**General**

- This **preliminary servicing advice** (“advice”) is based on the information provided within the developer’s Application and will no longer be valid if the information provided by the developer changes subsequent to this Application.

- This **advice** does not constitute an offer and lapses within 3 months of the date of this letter.

- This advice succeeds any prior written or verbal advice provided by Yarra Valley Water.

**Design Standards**

- Unless otherwise instructed all works shall be designed in accordance with WSA 02-2002-2.3 Sewerage Code of Australia, Melbourne Retail Water Agencies Edition - Version 1.

- The designer should note that Water Standards Association of Australia WSA 02-2002-2.3 Melbourne Retail Water Agencies Edition 1.3.3 Part (a) requires the designer to undertake the necessary design and produce Design Drawings to comply with Yarra Valley Water’s concept and/or strategy plan and design parameters.

**Generic Technical Requirements**

- The minimum size sewer for industrial and commercial developments is DN225.

- Average dry weather flows from commercial/industrial development expected to be in excess of 0.25 litres per second per hectare are not permitted without additional approval.

- Construction of works through other properties requires permission from the relevant land owners.

- Unless noted otherwise, internal sewers must be extended to the development’s upstream boundary and be designed and constructed to control upstream catchments.

- All branches not used must be cut and sealed.

- All sewer constructed within private property will require the creation of an easement in Yarra Valley Water’s favour. Easements shall be designed in accordance with WSA02-2002-2.3 Melbourne Retail Water Agencies Edition 1.3.3 – Section 4.2.5 (Easements). Surveyed verification of planned easement offset from sewer shall be submitted to YVW for approval.

- Upon accepting an Offer the Developer is required to inspect the connecting manhole and make an assessment of suitability for connection with regards to access and structural integrity. Any structural defects which the Developer believes will preclude connection must be immediately reported to Yarra Valley Water for rectification. If connection to the manhole is not possible because of other physical constraints, including but not limited to the arrangement of ladders and/or other existing connections, the Developer will have to fully fund construction of a new and/or additional manhole as the case may be.

**Minor Works - Connection Point**

- Preliminary analysis shows the existing YVW reticulation sewer system within the development site has capacity for the proposed development.
• The development can connect upstream of NYM78-1 as shown in the attached plan. Plans of proposed development density and connection points need to be submitted to YVW for review.

• Note that new connection(s) for this development must be into a manhole as stated in WSA 02-2002-2.3 Sewerage Code of Australia, Melbourne Retail Water Agencies Edition - Version 1 - Clause 5.5.2 & Clause 6.6.3. If the connection cannot be made to an existing manhole then a new manhole will need to be constructed on the existing sewer.

• Historically, the AMCOR site was serviced by a privately owned pump station. The station was owned and maintained by AMCOR and pumped sewage via a pressurized rising main to Clifton Hill. YVW no longer permits servicing of by privately-owned pump station. The asset owner is responsible for decommissioning an unused asset.

<table>
<thead>
<tr>
<th>Private Rising Main &amp; Pump Station</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Date</td>
<td>1967/07/01 to 1971/05/01</td>
</tr>
<tr>
<td>RM Length (km)</td>
<td>4.638556</td>
</tr>
</tbody>
</table>

• The North Yarra Main Sewer, owned and operated by Melbourne Water, runs through the south of this site. This sewer currently has limited hydraulic capacity. Melbourne Water intends to upgrade this section of sewer and development should allow for these proposed upgrade works. The developer should continue to contact Melbourne Water directly to obtain details of the proposed works.

**Privately-owned Pump Stations**

Yarra Valley Water only allows the use of privately-owned pump stations to service fixtures below the finished surface level of the allotment (e.g. basements and basement car parks). The pump station must discharge to the internal gravity plumbing prior to the 27A connection point (i.e. the interface point where the private gravity plumbing connects to the Yarra Valley Water property branch).

**Odour Control**

This development requires a gas-check manhole to be constructed as the first manhole off the existing sewer for each sewer extension.

**Partial Lot Control**

The sewers servicing each lot within this development must accommodate full gravity drainage of the serviced area of the lot as defined in Clause 4.6.4 of the WSA 02-2002-2.3 Sewerage Code of Australia, MRWA Edition.

Partial lot control will only be allowed where Yarra Valley Water agrees that it is not feasible to provide full gravity control. The judgement as to whether full gravity control is feasible is at Yarra Valley Water’s sole discretion.
Trade Waste Agreement

A discharge of trade waste from any part of this development will require a Trade Waste Agreement. Trade Waste is broadly defined as any liquid waste discharged to the sewerage system from a trading premise with the exception of toilet/restroom type waste.

ANNEXURE 8

Telstra DBYD
ANNEXURE 9

APA GasNet DBYD