

MOLLERS LANE, LEOPOLD

INFRASTRUCTURE & SERVICING ASSESSMENT

October 2016

Rev01

TGM GROUP PTY. LTD.

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Geelong, Victoria 3220

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1. EXECUTIVE SUMMARY

The proposed Mollers Lane subdivision will result in a lot yield of approximately 480 lots based on the proposed Outline Development Plan. TGM has been engaged to undertake an Infrastructure and Servicing Assessment for the proposed subdivision. This document is to accompany information to support the rezoning of the five properties that form 2-120 Mollers Lane, Leopold, from Farming Zone (FZ1) to General Residential Zone (GRZ1) via a Planning Scheme Amendment.

The purpose of the assessment is to review existing infrastructure and services to identify the necessary future infrastructure required to service the proposed subdivision. Services that have been investigated include water, sewer, electricity, gas, telecommunications, stormwater and road infrastructure. Development and design responses have been formulated for each respective service to ensure the subdivision can be serviced in an economical, efficient and sustainable manner.

Preliminary investigations with service authorities has confirmed there is sufficient capacity within the existing supply networks to provide all essential services to facilitate the proposed subdivision without the need for major augmentation.

The engineering assessment also identified that road and drainage design of the proposed subdivision can be completed in accordance with City of Greater Geelong design standards.

This report outlines the necessary infrastructure to provide all essential services to the proposed residential subdivision Mollers Lane, Leopold.

2. BACKGROUND

TGM has been requested by Mollers Lane Developments Pty. Ltd., Mollers Lane Holdings Pty. Ltd. and PAMAS Property Pty Ltd. for the properties at 2-120 Mollers Lane and 10 Willows Place, Leopold, to undertake an Infrastructure & Servicing Assessment. The report will review existing infrastructure and assess the feasibility and availability of services to the subject land. The development group intend to subdivide the site for residential land use consistent with the Geelong Planning Scheme. Services include:

- Potable Water
- Sewerage
- Recycled Water
- Electricity
- Gas
- Telecommunications
- Stormwater
- Roads

Contact was made to all Responsible Authorities to determine the provision of the essential services, their responses have been reviewed and the impacts and constraints discussed within this report. Copies of the responses are provided in the Appendices at the end of this document.

3. EXISTING SITE CONDITIONS

The total subdivision is approximately 43.49 ha in area located on the south-eastern boundary of Leopold (see Figure 1). The total proposed site is the combination 6 existing titles – comprising 2-22, 22-30, 32-40, 42-90, 92-120 Mollers Lane and 10 Willows Place, Leopold. All existing allotments along Mollers Lane are currently zoned Farming Use Zone within the site boundary with a 1.2 km frontage along Mollers Lane. A servicing easement in favour of Barwon Water runs in an east-west direction through the centre of the overall development area. The existing easement is a 10 m wide easement in which the Barwon Water Bellarine Transfer Mains (BTM) for water supply are contained.

Existing terrain within the site falls in a south easterly direction where two ephemeral water courses form natural drainage lines that run east-west. Stormwater runoff generated onsite is directed south to Lake Connewarre via the existing water courses.

4. ADDITIONAL LAND – EXTENDED DEVELOPMENT BOUNDARY

The proposed urban growth area at Mollers Lane is identified in the Leopold Structure Plan. The Structure Plan Map confirms the extent of the Leopold settlement boundary to include 2-22, 22-30, 32-40 and 42-90 Mollers Lane. Only a portion of the property at 92-120 Mollers Lane is included in the Structure Plan.

Further to the information presented in the Structure Plan, approval in principal has been obtained from Council to extend the subject land to include the entire land parcel at 92-120 Mollers Lane. Figure 1 below outlines the site location and extended development boundary.



Figure 1: Site location – Mollers Lane, Leopold

A number of servicing benefits can be obtained with extension of the development boundary which include the removal of one sewerage pump station and the opportunity to rehabilitate the watercourses to original form. This servicing assessment is intended to accompany the submission of a Planning Scheme Amendment for the proposed urban growth area west of Mollers Lane with the inclusion of the entire land parcel at 92-120 Mollers Lane.

5. PROPOSED DEVELOPMENT LAYOUT

The subject land is approximately 43.49 hectares. The net developable area of the site will be approximately 40 hectares after land is set aside for Public Open Space. If a nominal figure of 12 lots per hectare is used, the development can be expect to yield approximately 480 lots. Changes to this figure is likely to occur as layouts are determined to cater proposed road networks and drainage reserves and Public Open Space areas. The proposed subdivision layout is shown in Figure 2. A copy is also contained in Appendix A



Figure 2: Proposed Subdivision Layout

6. POTABLE WATER

Barwon Water provides reticulated potable water supply to residential and industrial customers within its designated region and is responsible for water supply in Leopold.

Leopold is currently serviced with water by gravity from the Geelong system. There are existing water main assets running through Leopold. The 600mm diameter Bellarine Transfer Main (BTM) runs through Leopold and connections exist at Melaluka Road, Ash Road and Mollers Lane.

Barwon Water has advised there is adequate capacity in the BTM to supply the Mollers Lane Growth Area.

Two large diameter water mains run through the proposed development area in an east-west direction from Ash Road to Mollers Lane and are contained in a 10m wide easement. As mentioned, the 600mm main supplies Leopold directly. The other BTM is a 960mm diameter pipe which transfers water from the Geelong system to the townships on the Bellarine Peninsula including Ocean Grove, Drysdale, Clifton Springs, Portarlington, St Leonards and Point Lonsdale.

Barwon Water has advised that the transfer mains are of critical importance. As such, the planning for this area will need to note the presence of the easement and ensure appropriate design suitability around it. It must be ensured that Barwon Water has satisfactory access to its entire length. Crossings of the existing pipelines may involve lowering at the developer's expense. Barwon Water will consider the need to convert the easement into a freehold pipe track reserve, or common open space area as development proceeds.

Barwon Water has also advised that a 300mm water main has recently been constructed in Mollers Lane. This can be used to supply potable water to the proposed development. Internal reticulation will be constructed to suit the development layout and will be fed by the existing 300mm main. Fire hydrant spacing, sizing and pressures in road reserves are to comply with Barwon Water and CFA standards.

Further comment has been provided on the future development of the land to the west of Mollers Lane for areas fronting Ash Road. To provide supply to this future area, new 225mm and 300mm water mains need to be constructed. This network is completely separate from the infrastructure required for the Mollers Lane development area and does not need to be constructed as a part of the works for 2-120 Mollers Lane. The proposed water supply servicing strategy is shown in Figure 3 below.

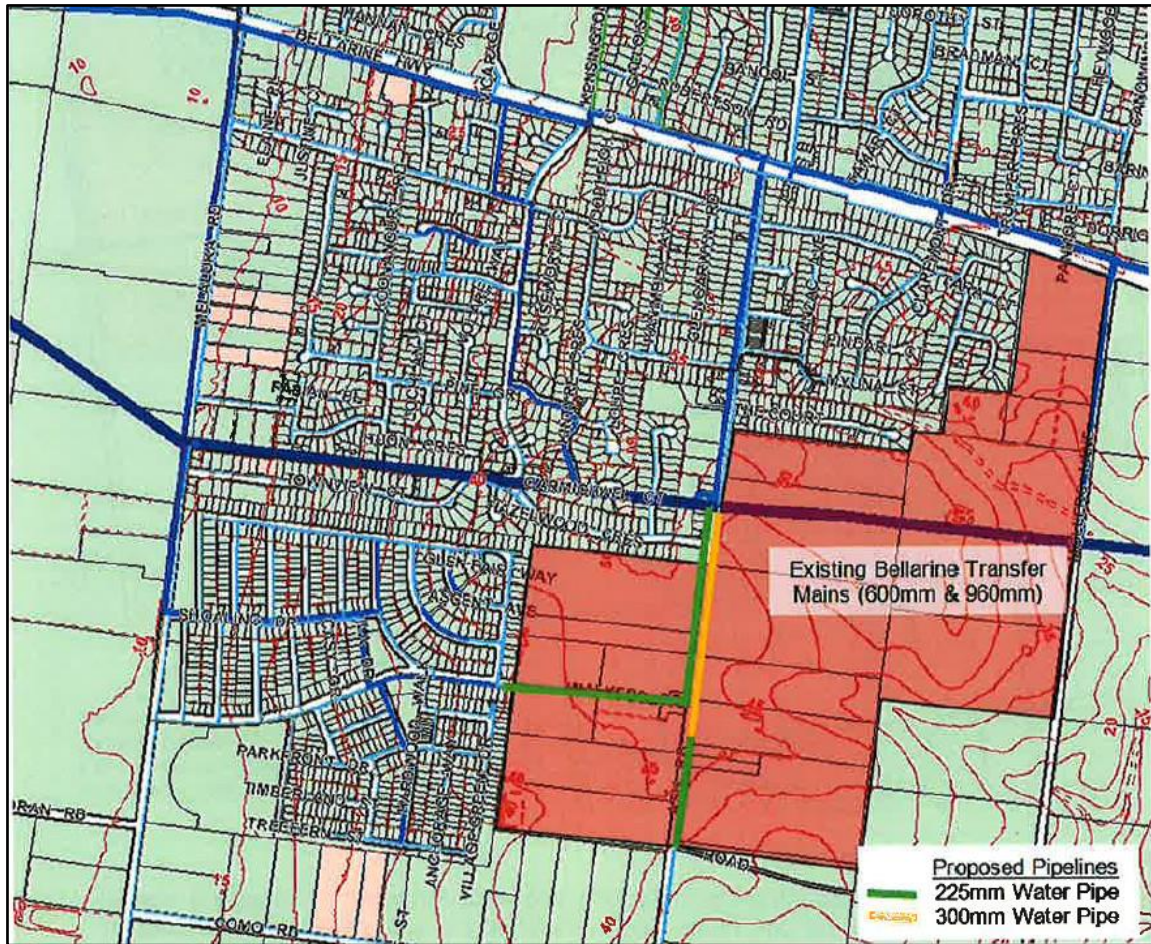


Figure 3: Barwon Water – Water Supply Servicing¹

Refer Appendix B for Barwon Water’s formal response on potable water supply.

¹J. Hamling - Barwon Water, letter dated 11 March 2016, *Leopold South East (Mollers Lane) – Servicing Investigation*

Infrastructure Sequencing Plan

As part of the legislation that governs the New Customer Contributions (NCC) framework document, Barwon Water has prepared Infrastructure Sequencing Plans (ISP's) for the construction of sewer and water assets to service future development areas. The ISP's were used as the basis for Barwon Water's capital expenditure plan and the basis for determining the standard customer contributions applicable for new connections in the Geelong region, including Leopold.

Infrastructure sequencing plans were developed by Barwon Water for all growth precincts based on a sequential and cost efficient extension of infrastructure into the applicable areas. The ISP for Leopold South is shown below in Figure 4.

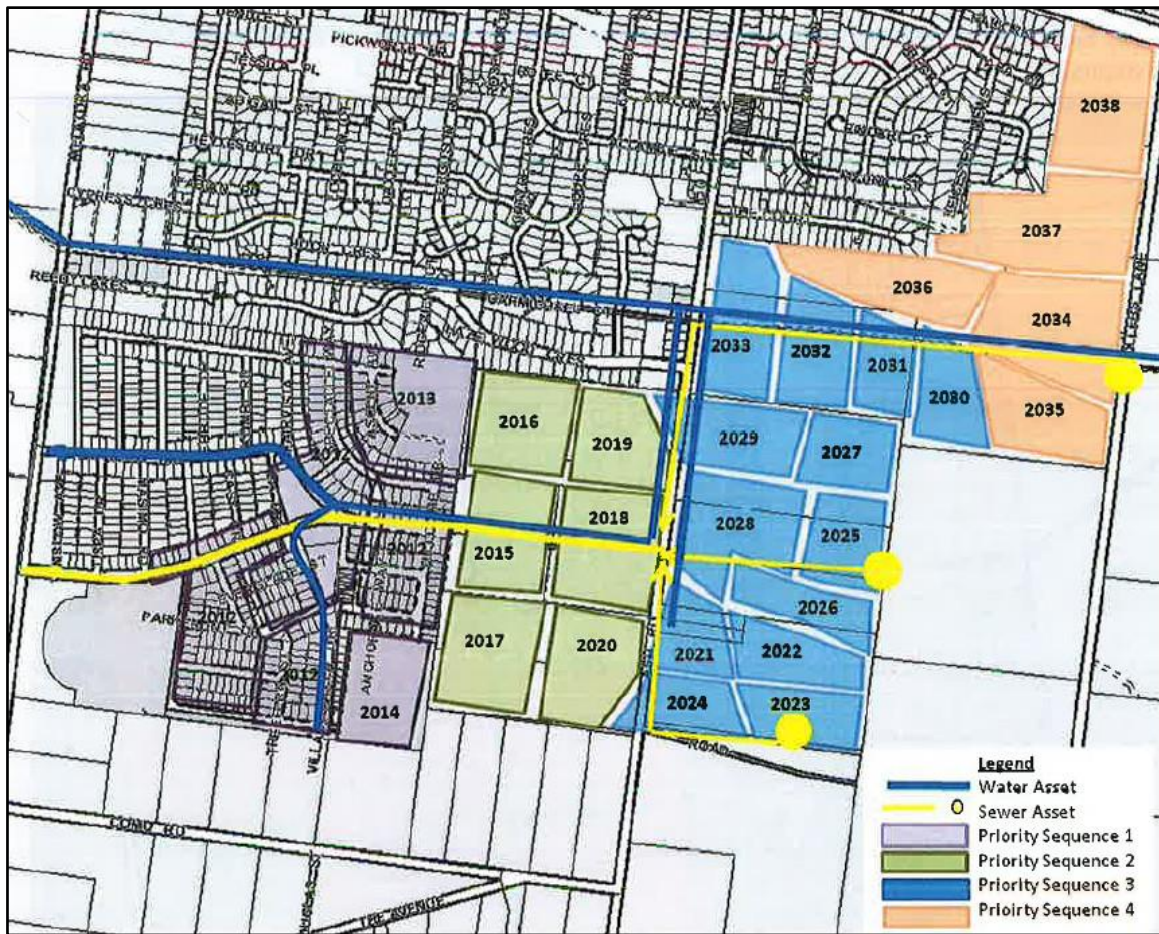


Figure 4: Barwon Water – Infrastructure Sequencing Plan²

With reference to the plan above, the current sequencing plan reflects growth in Leopold in the priority order:

- Ash Road west side: Years 2015-2020
- Ash Road east side: Years 2021-2033
- Mollers Lane: Years 2034-2038

If development is to proceed in a location and sequence which differs from that indicated in Barwon Water's ISP, bring forward charges may be applied to those assets. Bring forward charges cover the incremental financing costs incurred by Barwon Water in providing assets earlier than assumed.

²J. Hamling - Barwon Water, letter dated 11 March 2016, *Leopold South East (Mollers Lane) – Servicing Investigation*

Given that the Mollers Lane side will be rezoned independently and prior to the land on the east side of Ash Road, further information was sought from Barwon Water to determine if the ISP could be amended to include the Mollers Lane infrastructure first. Barwon Water³ provided further response acknowledging that the ISP is not reflective of the likely sequence of development in the Leopold South Area. The ISP is proposed to be updated at the completion of this water period (2013-2018) and will take into consideration the outcome of any rezoning request.

Based on the current ISP bring forward charges may be applied to the proposed Mollers Lane development. Determination of shared assets and bring forward costs will be confirmed at any time an 'Offer of Conditions' is issued on any of the land.

7. SEWERAGE

Barwon Water is the responsible authority for the collection, pumping, treatment and disposal of sewage to all customers within their designated region and is responsible for all sewerage collection within Geelong.

Barwon Water has advised that they have made plans to service the development area with sewerage. A service assessment has been provided based on the overall South East Leopold development area.

Initial advice sought from Barwon Water indicated that the overall development area is to be serviced via four (4) separate gravity catchments. The existing Estuary Estate which is situated to the west of Ash Road drains via gravity to Melaluka Road. The majority of new development to the west of Ash Road will be able to connect to this existing network via gravity. The remainder of the land east of Ash Road is to be serviced via three gravity catchments.

All three new catchments will require new sewer pump stations to transfer flow back up to the proposed Walkers Road/Estuary Boulevard 225mm gravity main.

Barwon Water has indicated the final sizing of the sewer pump stations required for the Leopold South area is yet to be determined and will only be done so when more information on the number of lots and development layout is provided. Based on current information, it is likely the sewer pump stations shown would be considered 'Reticulation Assets' and be funded by the developer. This is based on the incoming sewer size likely being $\leq 225\text{mm}$.

The Leopold South sewerage catchments are shown below in Figure 4.

³ S. Wallner – Barwon Water, letter dated 15 August 2016, *Leopold South Rezoning (Mollers Lane) – Development Advice*

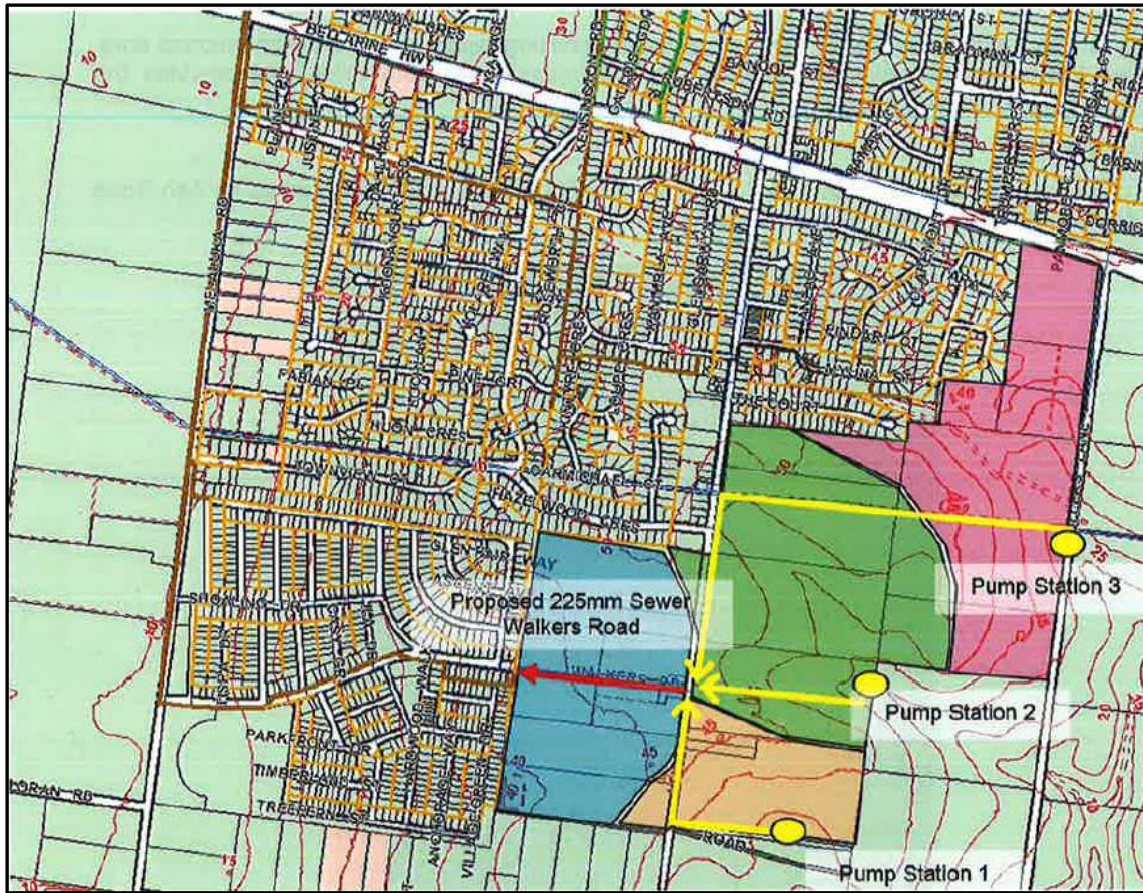


Figure 4: Leopold South sewerage catchments⁴

Extended Development Boundary

It is noted that the final boundary of the Mollers Lane growth area will have an impact of the number of pump stations. As mentioned earlier, the rezoning submission for this development will include the southern portion of the property at 92-120 Mollers Lane.

Further servicing advice was sought from Barwon Water to include this segment of land (92-120 Mollers Lane) within the development footprint.

Barwon Water advised that only a portion of the 92-120 Mollers Lane allotment was included the initial sewerage catchment assessment. This resulted in a low point of approximately 29 m AHD. Should the entire property be included in the future urban growth boundary it would result in a new low point of 18 m AHD. This would mean that Pump Station 2 and Pump Station 3 (refer Figure 4) catchments could be combined and a single pump station installed at the low point on Mollers Lane.

A change in the number of sewer pump stations from three (3) to two (2) may mean that the main sewer pump station in Mollers Lane becomes a **shared asset**. Barwon Water note this is dependent on the final number of lots and development layout.

Infrastructure Sequencing Plan

Based on the current Infrastructure Sequencing Plan bring forward charges may be applied to the proposed Mollers Lane development. Refer *Section 6 – Infrastructure Sequencing Plan* for further detail.

⁴ J. Hamling - Barwon Water, email dated 28 May 2015, 42 Leather St Breakwater Servicing Advice

Sewer Staging Plan – Stages 1, 2 & 3

After assessment of the staging and delivery of necessary sewerage infrastructure a request was submitted to Barwon Water seeking approval to connect the first three (3) stages located at the northern end of the development adjacent Bellarine Highway (84 lots: No. 2-20 & 22-30 Mollers Lane) to existing gravity sewer to the west of proposed stages.

Barwon Water provided advice to confirm the proposed connection point discharges downstream into the existing Leopold No. 2 sewer pump station. The catchment of the existing pump station has capacity accommodate the proposed development stages.

Refer Appendix B for Barwon Water's formal responses on sewerage supply.



Figure 5: Sewer Connection for Stages 1, 2 & 3⁵

⁵ S.Wallner - Barwon Water, letter dated 15 August 2016, *Sewer Connection For Stages 1,2 & 3*

8. RECYCLED WATER

The Leopold area is remote from any sources of recycled water. Barwon Water does not have any proposal to supply or develop systems to provide recycled water in the area.

9. ELECTRICITY

Powercor is the supply service authority for power supply in the region and is responsible for building, operating and maintaining the electricity network within the Geelong & Bellarine region.

Powercor advise that they have no concerns with supply to the subject land if rezoned to residential land.

An Initial Overall Development Plan has been provided by Powercor which outlines the works required to provide electricity to the proposed development. The required works are summarised as follows:

Works External to the Development

- Retire existing high voltage fuses on existing pole 1 within Mollers Lane.
- Between pole 146 on Bellarine Highway and pole 11 on Mollers Lane augment 1,068 m of existing overhead high voltage conductor with new 3 – 19/3.25 AAC @ 65°C design temperature. Note overhead conductor between pole 2 and 3 to be retired.
- At pole 11 on Mollers Lane erect 3No. high voltage fuses to sectionalise high voltage steel conductor south of pole 11 Mollers Lane.

Works Within the Development

Powercor has advised that as a future requirement it will be necessary to connect GLE24 high voltage feeder in Ash Road with DDL14 high voltage feeder in Mollers Lane to create a new high voltage feeder tie and also a new zone substation parallel between Geelong East and Drysdale. To achieve this installation of new 185 mm² 3/c 22.a.x.hc.h. underground high voltage cable will be required within the new development area.

Five new kiosk substations will also be required within the new development based on 480 medium density residential allotments.

Under Powercor supply conditions the Developer will design, construct and fund the necessary infrastructure.

Refer Appendix C for Powercor's formal responses on electricity supply.

The proposed Powercor electrical layout is shown in Figure 5 below:



Figure 6: Proposed Powercor Electrical Layout⁶

⁶ L. Angelique - Powercor, email dated 18 August 2016, RE: Servicing Report for Mollers Lane, Leopold

10. GAS SUPPLY

AusNet Services are the main local gas distributor for reticulated gas supply in the Geelong region. AusNet has advised that the proposed residential development is surrounded by a high pressure network that consists of mainly DN63 and DN50 mains.

AusNet has advised that the first 13 stages of the proposed development can be supplied adequately from adjacent existing gas mains.

The existing reticulation is of small diameter and will likely require some form of augmentation to suit the proposed development in future stages. Specific information on available capacity can be provided pending application to supply gas to the site. Refer Appendix D for AusNet's formal response on gas supply to the proposed development.

Under AusNet Services supply conditions AusNet will design, construct and fund the necessary infrastructure required for the proposed development.

11. TELECOMMUNICATIONS

NBN Co. has been contacted regarding the provision of telecommunication and data infrastructure services to the proposed development. A request for servicing assessment of the development was submitted. NBN Co conducted a feasibility study and has advised that the subject land is within their long term fibre footprint and meets the necessary criteria to receive fibre to the premises telecommunication infrastructure. Based on the feasibility study NBN Co provided the following estimate:

- Backhaul Contribution: **\$0** (the development is only 0.5 km from the closest NBN connection point)
- Deployment Contribution: **\$600 per lot**

When the development is rezoned it will need to be registered with NBN Co and stage applications completed online.

Under their supply conditions the Developer will design, construct and fund the necessary infrastructure, pits and conduits within the development boundary to enable NBN Co to supply and install the optic fibre.

12. STORMWATER

The subject land is currently zoned Farming Zone and is predominantly used for agricultural purposes. The proposed rezoning and residential development of the site will change the land use from farming to residential allotments with a resulting change in the runoff characteristics of the site. With the addition of roofs, concrete and road pavements, the fraction impervious of the site will increase, and by the adoption of underground piped systems in accordance with standard practice, the time that it takes for water to travel from the extreme edges of the site to the lowest point are reduced.

Existing Waterways

The subject site has two designated waterways traversing the property.

Stormwater runoff generated within the subject site is predominantly in the form of sheet flow that concentrates within the waterway alignments. Stormwater runoff generated in catchments upstream of the subject site is collected and conveyed (along with site runoff) through the site within the waterways, ultimately discharging to Lake Connewarre.

The waterways will form the legal point of discharge (LPOD) for stormwater runoff from the developed site. Mitigation of stormwater flows from the developed site will be undertaken prior to discharge to the waterways.

Stormwater Management and WSUD

In line with conventional stormwater design and Council requirements, the development of the land to residential will require the use of water sensitive urban design (WSUD) elements to enhance the water quality of runoff generated on site.

A stormwater mitigation option has been formulated to achieve stormwater quality and quantity objectives. The proposed mitigation option will consist of wetlands to manage stormwater quality and detention basin systems to manage stormwater discharge volumes generated within the development site.

Stormwater runoff from the developed site will be captured in wetland detention facilities for all events up to and including the 1% AEP and treated prior to discharge to the waterway and receiving environment.

Stormwater conveyance will be achieved via a combination of the underground drainage networks (minor flows) and overland flow paths along kerb and channel (major flows) where grades allow and via underground drainage with a 1% AEP capacity, where required.

Further detail, concept sizing, hydraulic and hydrologic calculations are provided in the Site Stormwater Management Plan and Flood Impact Assessment⁷, prepared by TGM. The stormwater management concept layout is shown in Figure 7.

⁷ Colegate, M (2016), *Stormwater Management Plan and Flood Impact Assessment*

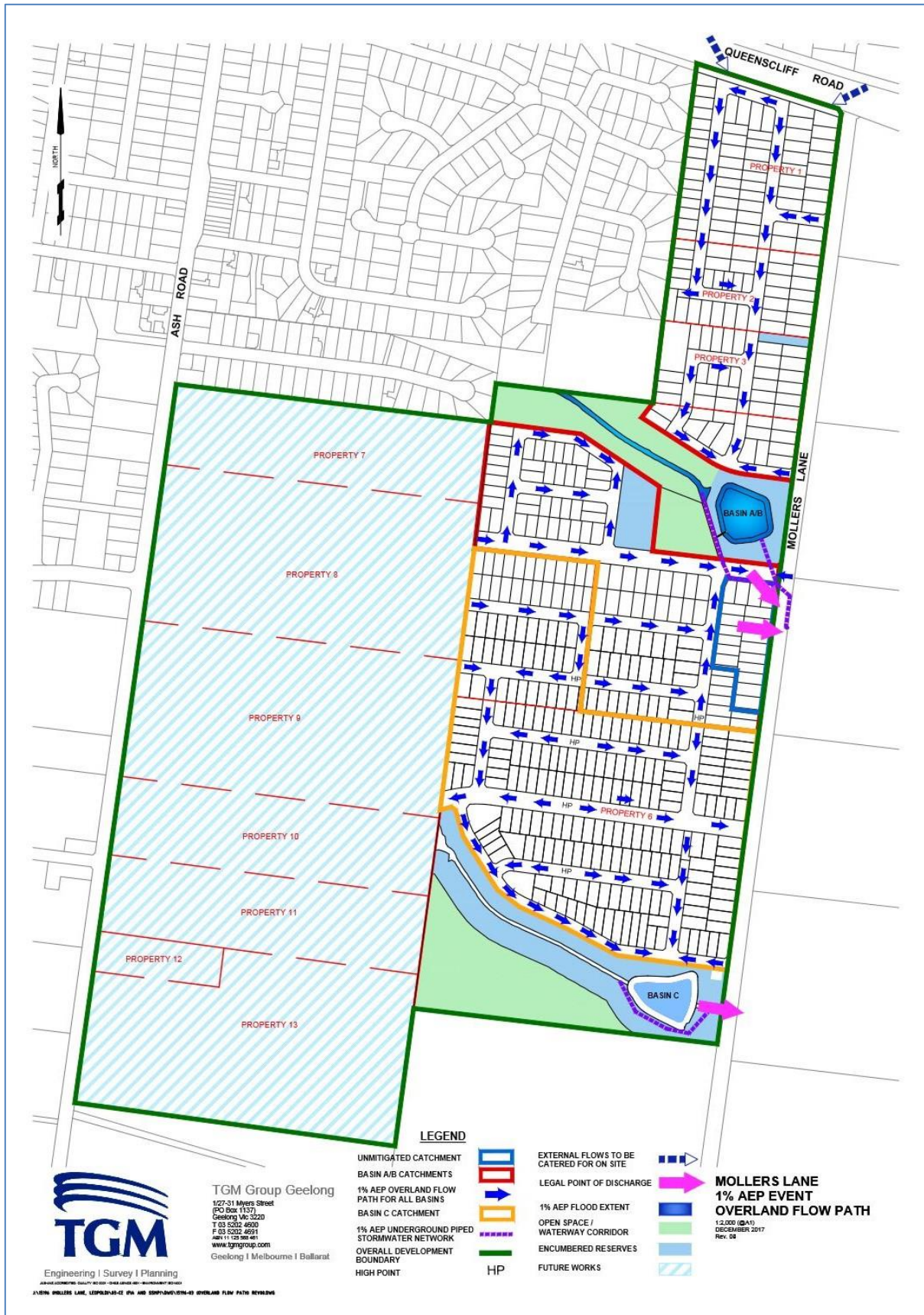


Figure 7: Concept Plan – Drainage Reserve Detention Basin and Wetland

13. ROADS

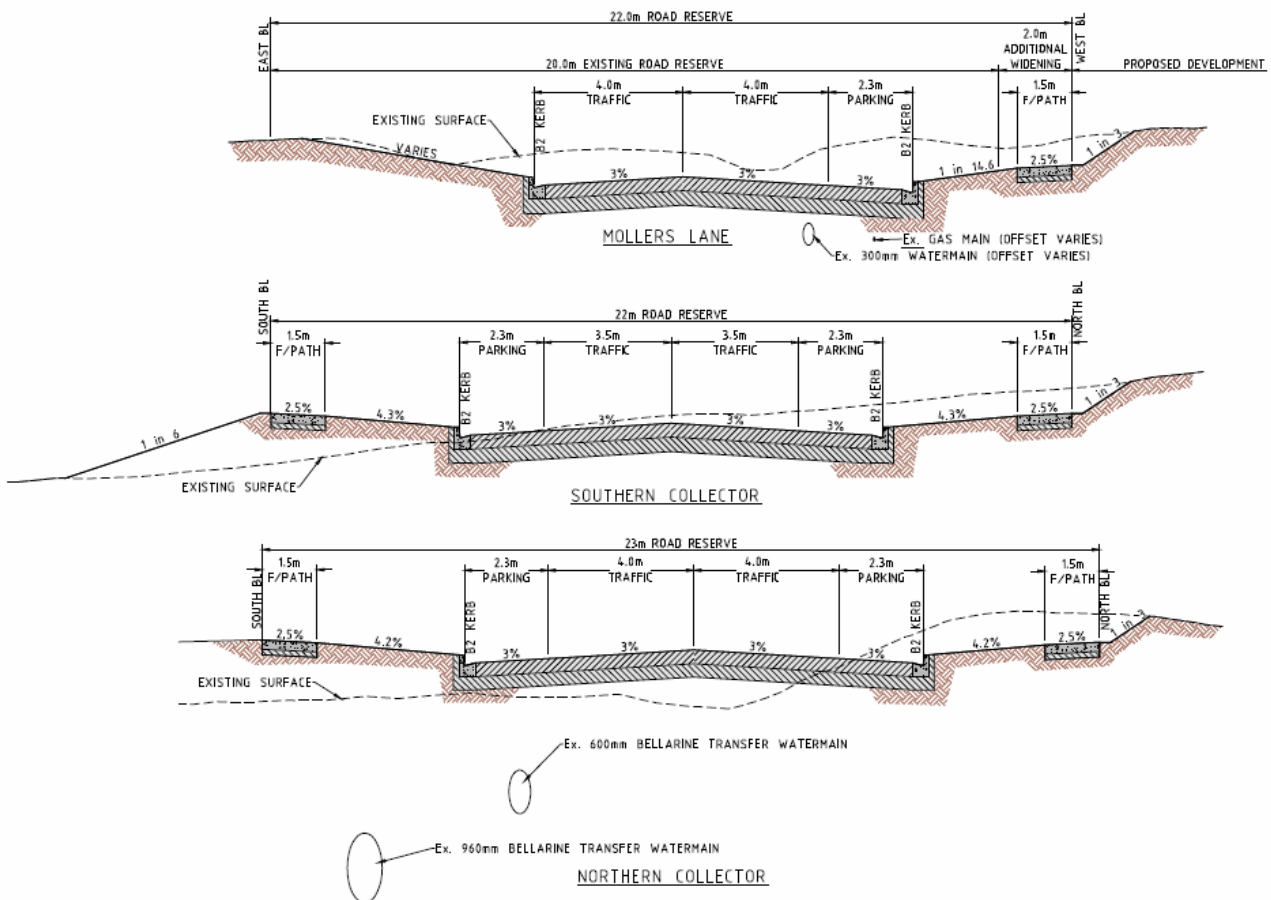
The subject land currently has frontage to both the Bellarine Highway and Mollers Lane. When developed the land will have only Mollers Road as access to the developed site.

Upgrade works of Mollers Lane will be required as a part of the overall development. Inclusive augmentation works will also be required of the Mollers Lane / Bellarine Highway intersection to cater for increased traffic loading generated by the future development.

ESR Transport Planning has been engaged to undertake a traffic, transport and parking assessment for the proposed development. Please refer the Traffic and Transport Assessment prepared by ESR Transport and Planning for further information on the proposed road and transport works.

In conjunction with by ESR Transport and Planning TGM has developed a number of road cross-sections in accordance with Council standards to detail the various road categories within the proposed development.

The location and width of the road reserve have been selected to facilitate the predicted traffic volumes and to accommodate the Barwon Water existing assets.



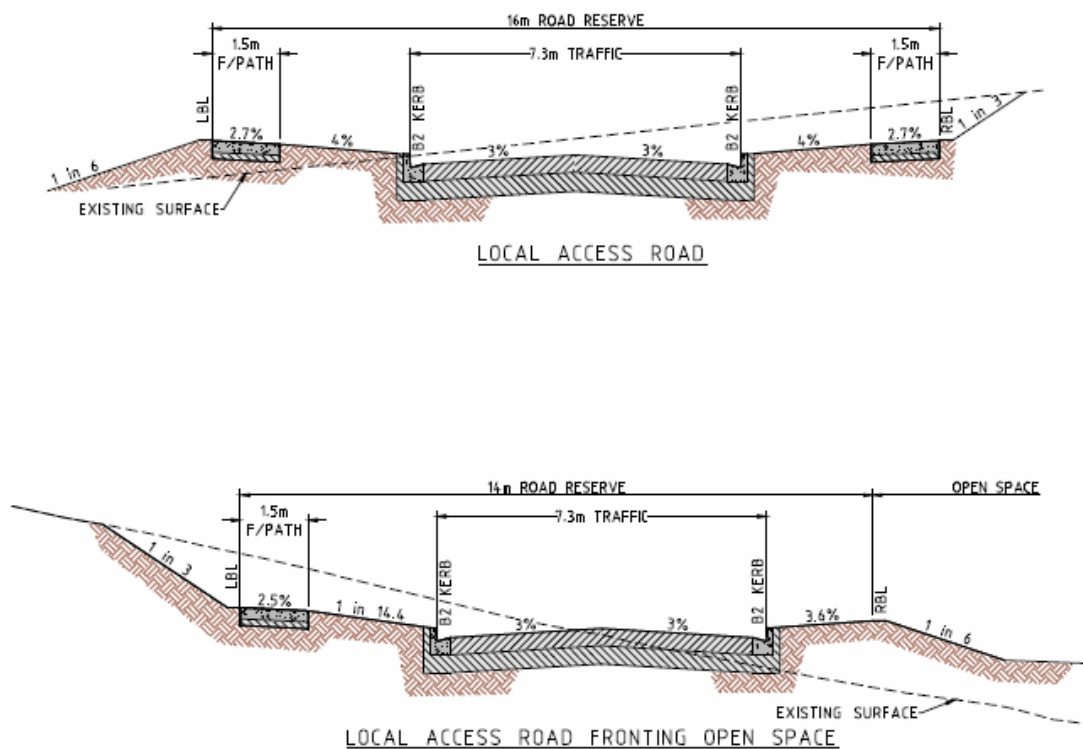


Figure 8: Proposed Road Cross-sections

14. CONCLUSION

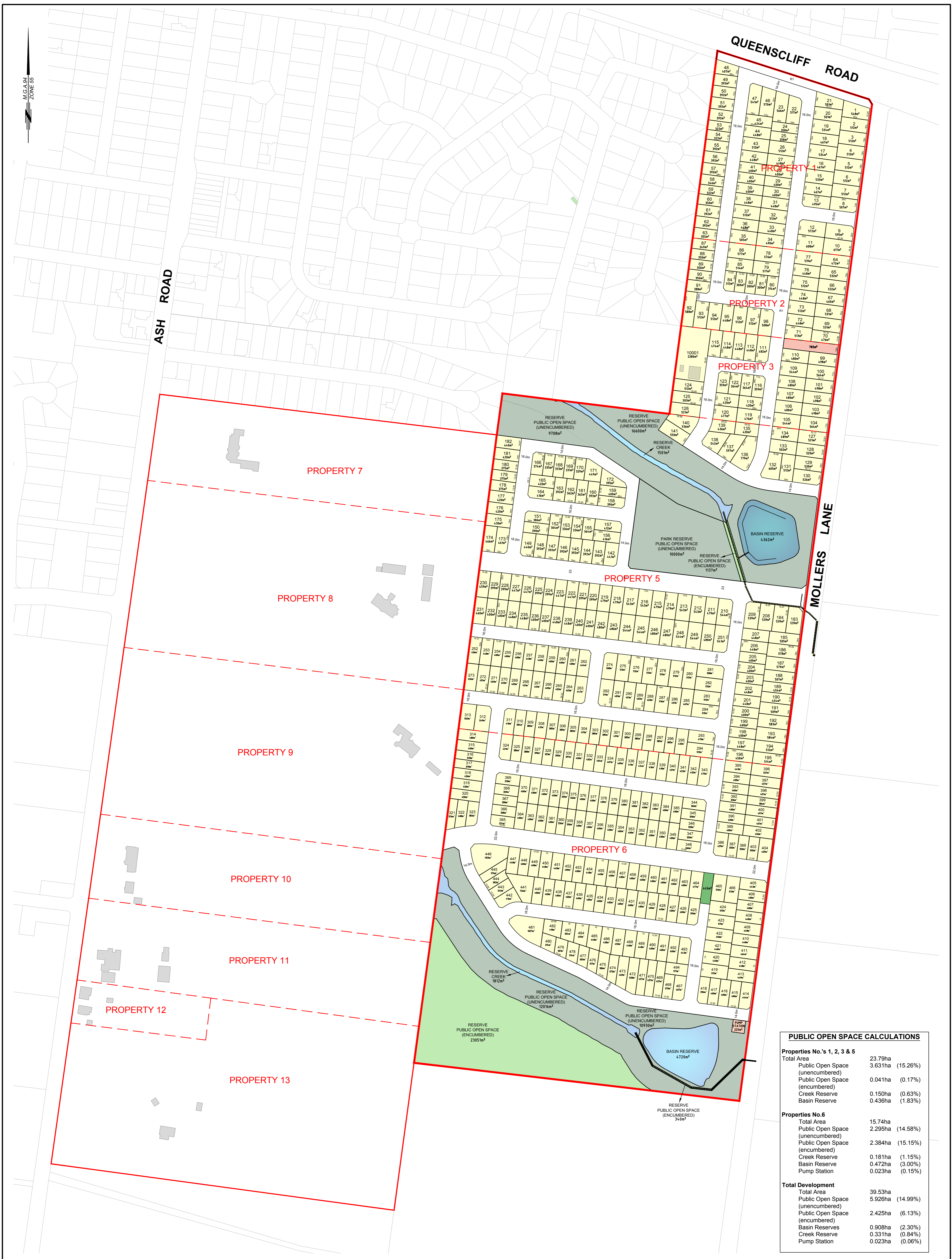
The Infrastructure and Servicing Assessment undertaken for this report has identified that the proposed residential subdivision at Mollers Lane, Leopold, can be readily serviced and infrastructure provided for water supply, sewer, electricity, gas and telecommunications. The relevant service authorities have confirmed supply capacity available from current assets or additional infrastructure requirements to service the overall development.

This report outlines the necessary infrastructure to provide all essential services to the proposed residential subdivision Mollers Lane, Leopold.

TGM note that additional fees and charges will apply for the provision of infrastructure and essential services from the relevant authorities at the time of development. The Developer will be responsible for these costs. Fees will vary depending on the relevant authority and will be confirmed pending formal supply applications.

APPENDIX A

Development Plan



PUBLIC OPEN SPACE CALCULATIONS	
Properties No.s 1, 2, 3 & 5	
Total Area	23.79ha
Public Open Space (unencumbered)	3.631ha (15.26%)
Public Open Space (encumbered)	0.041ha (0.17%)
Creek Reserve	0.150ha (0.63%)
Basin Reserve	0.436ha (1.83%)
Properties No.6	
Total Area	15.74ha
Public Open Space (unencumbered)	2.295ha (14.58%)
Public Open Space (encumbered)	2.384ha (15.15%)
Creek Reserve	0.181ha (1.15%)
Basin Reserve	0.472ha (3.00%)
Pump Station	0.023ha (0.15%)
Total Development	
Total Area	39.53ha
Public Open Space (unencumbered)	5.926ha (14.99%)
Public Open Space (encumbered)	2.425ha (6.13%)
Basin Reserves	0.908ha (2.30%)
Creek Reserve	0.331ha (0.84%)
Pump Station	0.023ha (0.06%)

Rev.	Revision	Date
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DEVELOPMENT ANALYSIS		TOTAL LOTS	494
TOTAL SITE AREA	39.53 ha	LOTS PER DEVELOPABLE HA	14
ENCUMBERED RESERVES	1.262 ha		
ENCUMBERED OPEN SPACE	2.425 ha		
ROAD RESERVE	0.414 ha		
TELSRA RESERVE	0.078 ha		
PUMP STATION	0.023 ha		
TOTAL	4.202 ha		
TOTAL DEVELOPABLE AREA	35.33 ha		
PUBLIC OPEN SPACE	5.926 ha (16.77%)		

OVERALL DEVELOPMENT PLAN

MOLLERS LANE, LEOPOLD

MOLLERS LANE DEVELOPMENTS PTY. LTD.

Job Number:	15196-100	Date of Issue:	14/12/2017
Sheet:	1 of 3		
Date of Survey:			
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APPENDIX B

Barwon Water

Our Ref: L009993 / L010363
Enquiries to: Ben Rout - Ph: 1300 656 007

11 March 2016

RECEIVED
16 MAR 2016

Nicole Dixon
TGM Group Pty Ltd
PO Box 1137
GEELONG VIC 3220

BY: _____

Dear Madam,

RE: LEOPOLD SOUTH EAST (MOLLERS LANE) – SERVICING INVESTIGATION

I refer to your email dated 24/02/2016 requesting a servicing report for the abovementioned area. Barwon Water has investigated the servicing requirements for these sites and provides the following advice.

Background

The potential study area is in the South East of Leopold and is generally bounded by Ash Road and Mollers Lane as shown in figure-1 below.



Figure 1 Leopold South East Study Area

Barwon Region Water Corporation
ABN 86 348 316 514

P.O. Box 659, Geelong, Victoria, 3220 TEL: 1300 656 007 FAX: +61 3 5221 8236

www.barwonwater.vic.gov.au

For the purposes of the servicing investigation, Barwon Water has made some broad assumptions around the actual developable land. The total land size of approximately 70Ha could yield 1050 lots at 15 Lots/Hectare. Substantial changes to this figure would change our advice, which should be considered preliminary only.

Sewerage

Barwon Water has made plans to service these areas with sewerage. The Leopold South development is to be serviced via four separate gravity catchments. The existing Estuary Estate drains via gravity towards Melaluka Road. The proposed Ash Road (C280) development will be predominantly serviced via this catchment. The land east of Ash Road is serviced via three gravity catchments shown on figure 2 below.

All three new catchments will require new sewer pump stations to transfer flow back up to the Walkers Road/Estuary Boulevard 225mm gravity main. The final sizing of these pump stations is to be determined when more information about the number of lots in each development is provided.

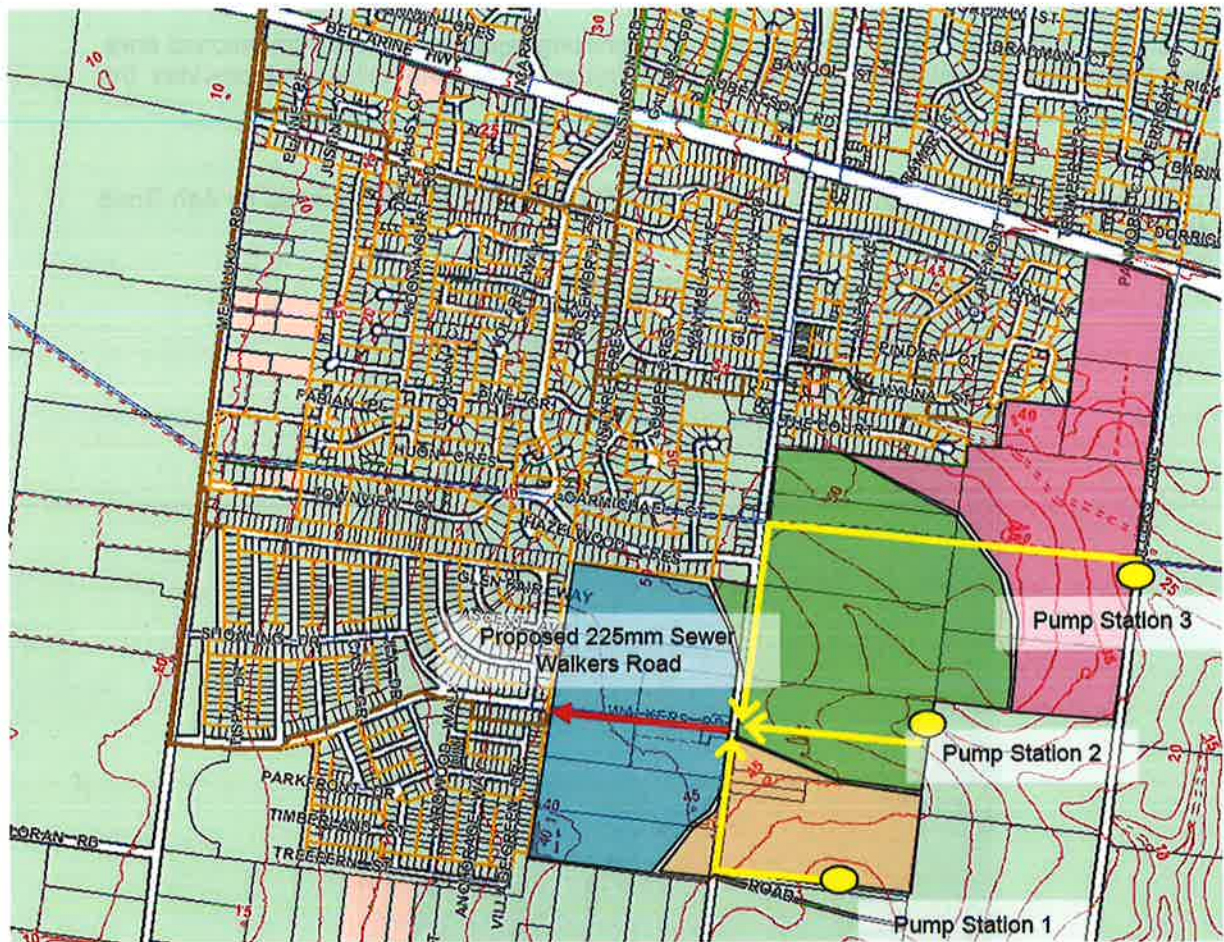


Figure 2 - Leopold South sewerage catchments

The final boundary of this growth area will also have an impact on the number of pump stations. The current boundary shown in your correspondence has a low point of approximately 29m AHD. Barwon Water notes this splits a property at 92-120 Mollers Lane. Should this entire lot be included in the future urban growth boundary it would result in a new low point of 18m AHD. This could mean that pump station 2 and pump station 3 catchments could be combined and a single pump station installed at the low point on Mollers Lane. This needs to be considered as part of this process.

Water

Barwon Water has made plans to service these areas with water. Leopold is currently serviced with water by gravity from the Geelong system. There are existing water mains running through Leopold. The 600mm diameter Bellarine Transfer Main (BTM) runs through Leopold and connections exist at Melaluka Road, Ash Road and Mollers Lane. There is adequate capacity in the BTM to supply the Growth Area.

Two large diameter water main runs through development (east west) in a 10m wide easement from Ash Road to Mollers Lane. As mentioned above, the 600mm main supplies Leopold directly.

The other BTM which is a 960mm diameter pipe transfers water from the Geelong system to the townships on the Bellarine Peninsula including Ocean Grove, Drysdale, Clifton Springs, Portarlington, St Leonards, Queenscliff and Point Lonsdale.

These mains are of critical importance to Barwon Water. As such the planning for this area will need to note the presence of this easement and ensure Barwon Water has satisfactory access to its entire length. Crossings of the pipelines may involve lowering at the developer's expense. Barwon Water will consider the need to convert the easement into a freehold pipe track reserve, or common open space area as development proceeds.

Barwon Water has recently constructed a 300mm water main in Mollers Lane which can be used to supply this area. To provide supply to the areas fronting Ash Road, new 225mm and 300mm water mains need to be constructed along Ash Road as shown on Figure 3.

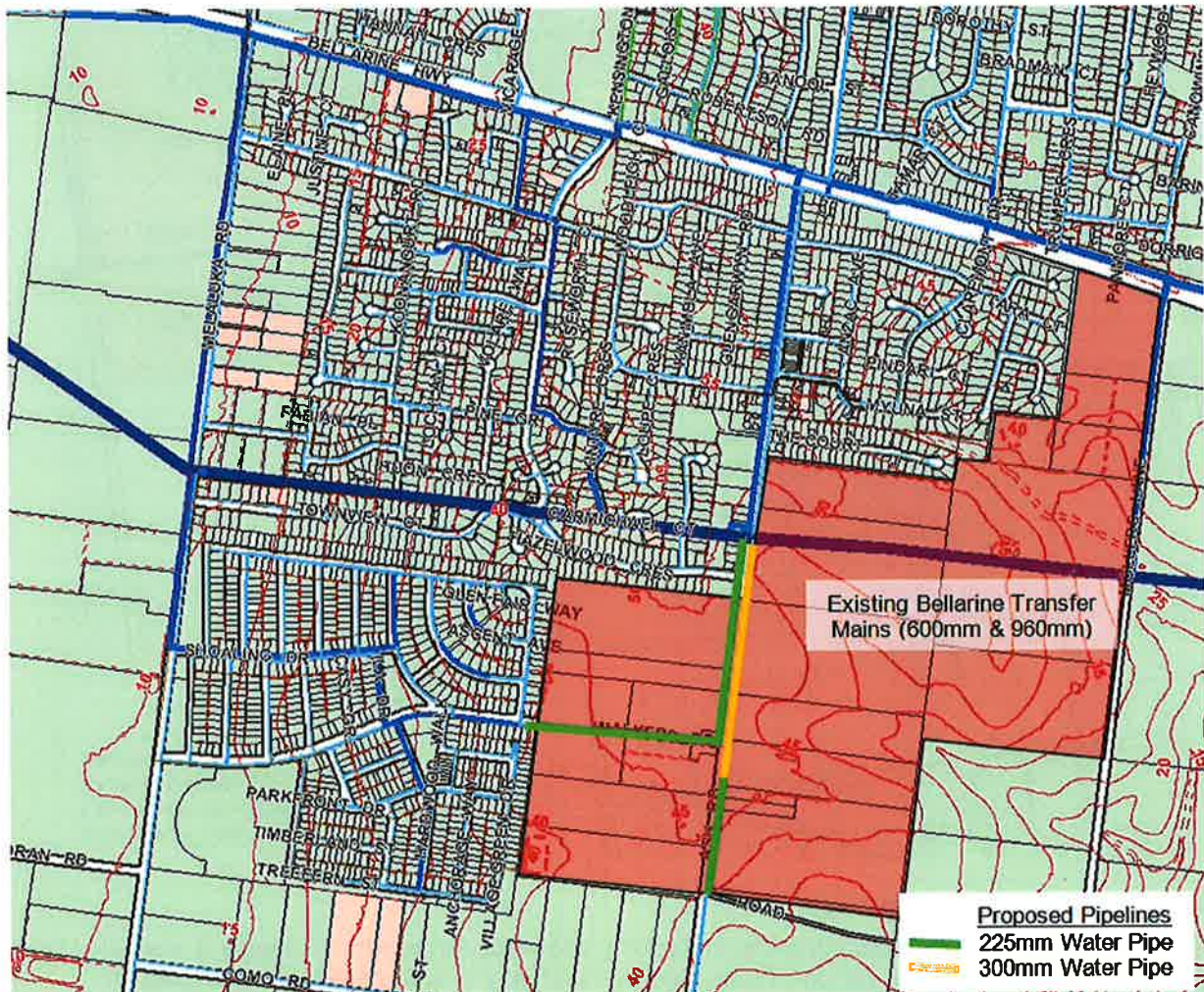


Figure 3 – Proposed Water Supply Servicing

Recycled Water

The Leopold area is remote from any sources of recycled water and as such it is not available for this area. Further considerations of Integrated Water Cycle Management (IWCM) approaches should be undertaken closer to the timing of the Structure Plan or Overall Development Plan stages.

Infrastructure Sequencing Plan

Barwon Water has prepared a New Customer Contributions (NCC) framework document in accordance with the Essential Services Commissions (ESC) determinations for the 2013 Water Plan, including Infrastructure Sequencing Plans (ISPs). The ISP's were used as the basis for Barwon Water's capital expenditure plan and the basis for determining the standard NCC applicable for new connections in the Geelong region, including Leopold.

Infrastructure Sequencing Plans (ISPs) were developed for all growth precincts based on a sequential and cost efficient extension of infrastructure into the precincts. This approach minimises the magnitude of the standard NCC charge per lot. The ISP's were subject to consultation with developers and their consultants as well as the ESC in late 2012 and early 2013. The ISP for Leopold South is shown below.

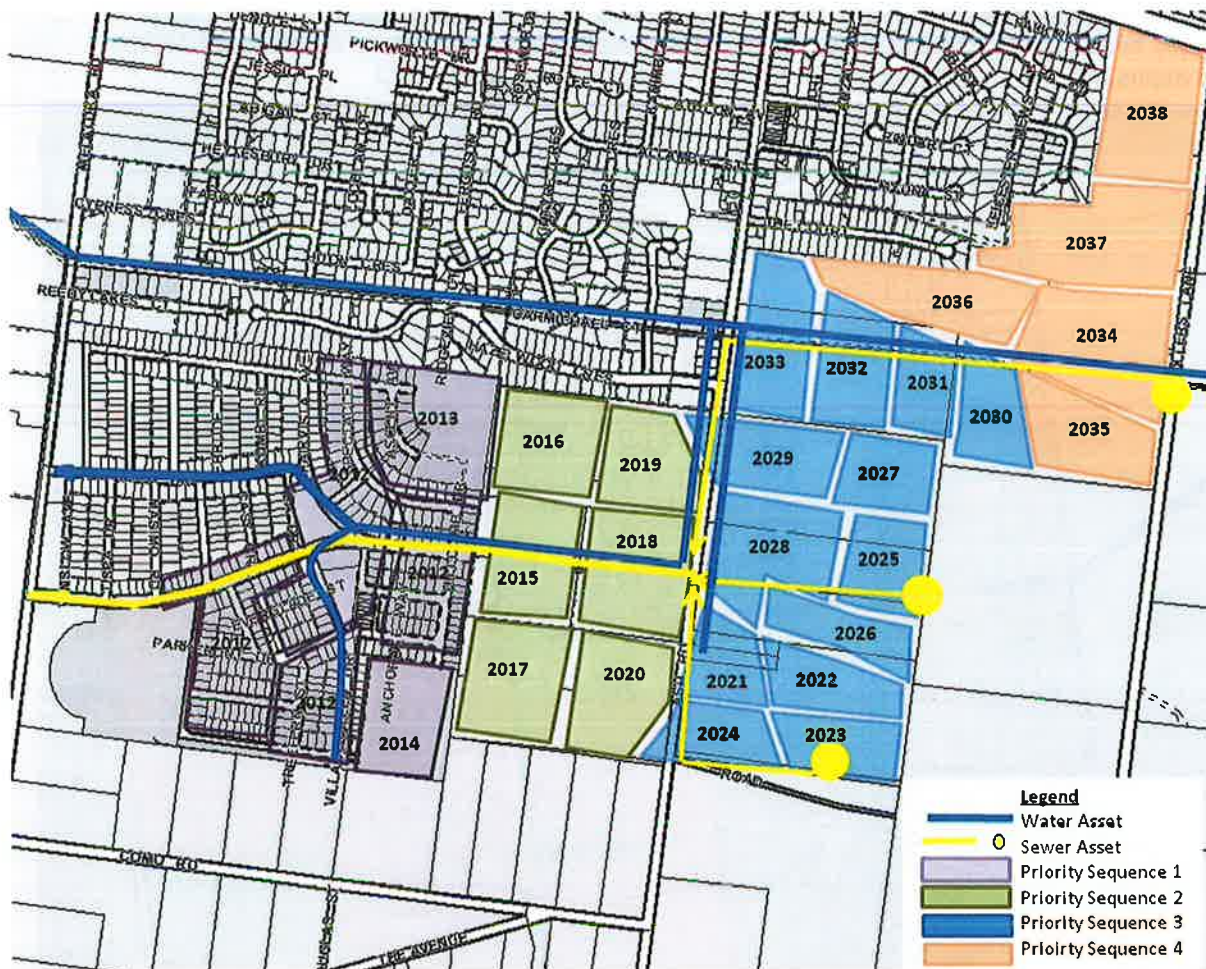


Figure 4 – Infrastructure sequencing Leopold South

Based on the plan above, Barwon Water's next priority sequence for growth in Leopold is west of Ash Road (C280). It would be Barwon Water's preference that this area develop first followed by land to the east of Ash Road, however should development proceed in a location and sequence

which differs from that indicated in Barwon Waters ISP's, bring forward charges could be applied to those assets.

Bring forward charges cover the incremental financing costs incurred by Barwon Water in providing assets earlier than assumed in the standard NCC charge calculation which is based on the ISP's. The sequence should not be seen as a major impediment to growth in an alternate sequence as this has been managed in other areas such as Armstrong Creek without major issue.

Determination of shared assets and bring forward costs will be confirmed at any time an "Offer of Conditions" is issued on any of the land.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "S. Wallner".

Steven Wallner
Land Development Coordinator
Development Services

Isaac Clarey

From: Peter Preece
Sent: Wednesday, 3 August 2016 10:46 AM
To: Justin Hamling (Justin.Hamling@barwonwater.vic.gov.au); 'Rhys Bennett'
Cc: Development Services (development@barwonwater.vic.gov.au); Isaac Clarey; Nicole Dixon; Chris Marshall
Subject: Mollers Lane - Updated Servicing Advice
Attachments: 4021_001.pdf; Barwon Water Updated Servicing Advice Request 2016.8.03.pdf

Hi Justin,

Further to my discussions with Rhys earlier in the year when we received Barwon Water's initial advice (11 March 2016), we have obtained approval in principle to extend the development to the southern watercourse or to the southern boundary of the property known as 92-120 Mollers Lane, Leopold.

Given this, we seek Barwon Water's updated Servicing Advice for Sewer and Water for the above development to be included in the Infrastructure Servicing Assessment to be lodged with the rezoning application. I have attached your original servicing advice dated 11 March 2016 for your information.

Discussions with Rhys also indicated that the pump station in Mollers Lane would be a Shared Asset and funded by Barwon Water.

1. Could you please confirm this.
2. Also, given that Mollers Lane side will be rezoned independently and prior to the land on the east side of Ash Road, could the Infrastructure Sequencing Plan be amend to include the Mollers Lane Pump Station first? The ISP currently reflects;
 - a. Ash Road East Side – Years 2025-2029
 - b. Mollers Lane – Years 2034-2038
 - c. Given that we will be submitting the application to rezone the land with Council support in August 2016 the sequencing plan clearly needs to be amended??

The Planning Scheme Amendment application for the rezoning is scheduled to be submitted to Council on the 20 August 2016 hence your prompt attention to this new servicing advice would be greatly appreciated.

I wait for your advice, should you have any queries please do not hesitate to contact me.

Kind Regards

Peter

Peter Preece | Director/General Manager - Geelong
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691 m: 0407 367621
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: peterp@tgmgroup.com w: www.tgmgroup.com

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Our Ref: L009993
Enquiries to: Ben Rout - Ph: 1300 656 007

15 August 2016

Peter Preece
TGM Group Pty Ltd

By email: peterp@tgmgroup.com

Dear Peter,

RE: LEOPOLD SOUTH REZONING (MOLLERS LANE) – DEVELOPMENT ADVICE

I refer to your email dated 03/08/2016 requesting clarification on shared sewerage assets within the proposed Leopold South development area, and specific to the Mollers Lane side of the area, and also requesting amendment to the Infrastructure Sequencing Plan with respect to the current rezoning application. Barwon Water has reviewed your requests and provides the following advice.

Extent of Shared Sewerage Asset Works

Barwon Water's previous advice to the City of Greater Geelong commented that the final sizing of the sewer pump stations required for the Leopold South area is yet to be determined and will only be done so when more information on the number of lots and development layout is provided. Based on information provided at the time, and under the current ESC guidelines, it is likely the sewer pump stations shown in the current Infrastructure Sequencing Plan (ISP) would be considered "Reticulation Assets" and be funded by the developer. This is based on the incoming sewer size likely being \leq 225mm.

In light of previous discussions earlier this year between you and Barwon Water's Planners, and with respect to Barwon Water's current servicing advice (dated 15/08/2016) for future stages 1, 2 and 3 (Barwon Water ref. L010363), a change in the number of sewer pump stations from 3 to 2 could mean that the main sewer pump station (in Mollers Lane and the subject of your query) becomes a shared asset. This again will be dependent depend on the number of lots and development layout.

Infrastructure Sequencing Plan

Barwon Water acknowledges that the ISP is not reflective of the likely sequence of development in the Leopold South area. Barwon Water is proposing to update the ISP at the completion of this Water Plan period (2013-2018) and taking into consideration the outcome of any rezoning request.

Should you wish to discuss this letter further please contact Ben Rout on 1300 656007.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "S Wallner".

Steven Wallner
Land Development Coordinator
Development Services

Barwon Region Water Corporation
ABN 86 348 316 514

P.O. Box 659, Geelong, Victoria, 3220 TEL: 1300 656 007 FAX: +61 3 5221 8236

www.barwonwater.vic.gov.au

Isaac Clarey

From: Peter Preece
Sent: Monday, 15 August 2016 9:33 AM
To: Justin Hamling (Justin.Hamling@barwonwater.vic.gov.au)
Cc: Development Services (development@barwonwater.vic.gov.au); Isaac Clarey
Subject: RE: Mollers Lane, Leopold - Rezoning - Sewer Connection Stages 1, 2 and 3
Attachments: 2986_001.pdf

Hi Justin,

Could you please advise on the status of this request.

Kind Regards

Peter

Peter Preece | Director/General Manager - Geelong
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691 m: 0407 367621
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: peterp@tgmgroup.com w: www.tgmgroup.com

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From: Peter Preece
Sent: Tuesday, 26 July 2016 10:08 AM
To: Justin Hamling (Justin.Hamling@barwonwater.vic.gov.au)
Cc: Development Services (development@barwonwater.vic.gov.au)
Subject: Mollers Lane, Leopold - Rezoning - Sewer Connection Stages 1, 2 and 3
Importance: High

Hi Justin,

Further to our meeting last week, we preparing the Infrastructure Servicing Assessment (ISA) for Mollers Lane rezoning. Part of this requires us to assess the staging and delivery of the necessary infrastructure.

Given this we seek Barwon Water's approval to connect the first 3 stages (84 Lots) to the existing sewer within Property No. 2 (Lot 28) of the attached plan.

Could you please advise if this can be achieved at your earliest opportunity.

Kind Regards

Peter

Peter Preece | Director/General Manager - Geelong
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691 m: 0407 367621
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
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From: irc5045@tgmgroup.com.au [<mailto:irc5045@tgmgroup.com.au>]

Sent: Tuesday, 26 July 2016 8:59 AM

To: Peter Preece <peterp@tgmgroup.com>

Subject: Attached Image

Our Ref: L010363
Enquiries to: Ben Rout - Ph: 1300 656 007

15 August 2016

Peter Preece
TGM Group Pty Ltd
By email: peterp@tgmgroup.com

Dear Peter,

**RE: LEOPOLD SOUTH (MOLLERS LANE REZONING)
SEWER CONNECTION FOR STAGES 1, 2 & 3 (No. 2-20 & 22-30 MOLLERS LANE)**

I refer to your email dated 26/07/2016 requesting approval for the first three (3) stages of the future Leopold South/ Mollers Lane development area (84 lots) to connect to the existing gravity sewer system in the west of land at the above address. Barwon Water has investigated the proposal for the site and provides the following advice.

The proposed three stages of development are outlined yellow in Plan 1 below. The proposed connection point, shown as manhole GID625041, discharges downstream into the Leopold No. 2 sewer pump station. Plan 1 shows the current boundary of the sewer catchment for this pump station, outlined with the dotted green line. I confirm the catchment has capacity to accommodate the proposed development stages.



Should you wish to discuss this letter further please contact Ben Rout on 1300 656007.

Yours faithfully,



Steven Wallner
Land Development Coordinator
Barwon Region Water Corporation
ABN 86 348 316 514

P.O. Box 659, Geelong, Victoria, 3220 TEL: 1300 656 007 FAX: +61 3 5221 8236

www.barwonwater.vic.gov.au

APPENDIX C

Powercor

Isaac Clarey

From: Peter Preece
Sent: Thursday, 18 August 2016 4:53 PM
To: Isaac Clarey
Cc: Chris Marshall; jeffnewton@wellam.com.au
Subject: FW: Servicing Report for Mollers Lane, Leopold
Attachments: mollers lane development.pdf; ATT00001.txt

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Isaac,

Please find attached/below Powercor system scope for development to incorporate into ISA.

Regards
Peter

Peter Preece | Director/General Manager - Geelong
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691 m: 0407 367621
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: peterp@tgmgroup.com w: www.tgmgroup.com

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From: Nicole Dixon
Sent: Thursday, 18 August 2016 4:24 PM
To: Peter Preece
Subject: FW: Servicing Report for Mollers Lane, Leopold

Hi Peter

Please see email below from Powercor.

Thanks,

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: nicoled@tgmgroup.com w: www.tgmgroup.com

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From: Linahan, Angelique [<mailto:ALinahan@powercor.com.au>]
Sent: Thursday, 18 August 2016 4:04 PM
To: Nicole Dixon <nicoled@tgmgroup.com>
Subject: RE: Servicing Report for Mollers Lane, Leopold

Nicole,

The Initial Overall Development Plan has been completed and a copy of the plan is attached. External works to the subdivision are detailed below and have been shown in pink on the attached plan.

Works External to the Development:

Mollers Lane (DDL14):

- At pole 1 Mollers Lane (LIS 599) retire existing high voltage fuses.
- Between pole 146 Bellarine Highway (LIS 122) and pole 11 Mollers Lane (LIS 624) augment ~ 1,068m of existing high voltage conductor with new 3 – 19/3.25 AAC @ 65°C design temperature. Note overhead conductor between pole 2 and 3 to be retired.
- At pole 11 Mollers Lane (LIS 624) erect 3 x new high voltage fuses to sectionalise high voltage steel conductor south of pole 11 Mollers Lane (LIS 624).

Works within the Development:

Future requirement - It will be necessary to connect GLE24 high voltage feeder in Ash Road with DDL14 high voltage feeder in Mollers Lane thus creating a new high voltage feeder tie and also a new zone substation parallel between Geelong East and Drysdale. To achieve this it will be necessary to install new 185mm² 3/c 22.a.x.h.c.h. underground high voltage cable within the new development area.

5 new kiosk substations will be required within the new development based on 480 medium density residential lots.

Regards

Angelique Linahan

Senior Customer Projects Advisor - Geelong

Customer Projects

PNS Asset Services

CitiPower Pty & Powercor Australia Ltd

P 03 5240 7718 | F 03 9683 5151

E alinahan@powercor.com.au

To recognise our Powerful Customer Service please [Click here](#)

From: Nicole Dixon [<mailto:nicoled@tgmgroup.com>]
Sent: Tuesday, 2 August 2016 15:38
To: Linahan, Angelique
Subject: RE: Servicing Report for Mollers Lane, Leopold
Importance: High

Hi Angelique,

Further to our telephone discussions, please find attached Option Section Form, Request for Audit (Initial Overall Development Plan), and proposed staging plan in relation to Mollers Lane, Leopold.

In regards to estimated timeframes, the development will be at least 12 months from commencing.

If you have any questions please do not hesitate to contact Peter or myself.

Regards,

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: nicoled@tgmgroup.com w: www.tgmgroup.com

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From: Linahan, Angelique [<mailto:ALinahan@powercor.com.au>]
Sent: Friday, 4 March 2016 2:18 PM
To: Nicole Dixon <nicoled@tgmgroup.com>
Cc: Leigh Prossor <leigh@tgmgroup.com>; Peter Preece <peterp@tgmgroup.com>
Subject: RE: Servicing Report for Mollers Lane, Leopold

Hi Nicole

There has been some changes to our policy since the original application was made by Peter Preece. We now have a new \$528 minimum fee for feasibility studies which will be applied to this request.

As per the extract below from the Urban Residential Development Extension Works application
<https://www.powercor.com.au/media/2064/urd-subdivision-application.pdf> :

Any requests for Feasibility Studies associated with your current or proposed development will be charged at a minimum rate of \$528.00 (GST Inclusive) per enquiry unless advised otherwise by Powercor. In such instances, a separate agreement detailing the scope of works and charges applicable will be issued to you upon receipt of your application. Preliminary design costs are non-refundable and are separate from the Firm Offer. The invoice will be forwarded to the applicant listed in Section 1 of this application, and payment is required prior to the issuing of the Budget Estimate.

If the customer wants Powercor to undertake a feasibility study to determine the scope of the upgrade works the customer should complete page 1 & 3 of the linked application form. Please don't tick any of the options on the form. When returning the form please state that you require a feasibility study. On receipt of the application I will raise an invoice. The customer will need to pay the fee mentioned above so that the Project may be referred to the Network Planning Engineer for assessment. The invoice will be sent to the customer name of the application form.

Regards

Angelique Linahan

Senior Customer Projects Advisor - Geelong
Customer Projects
PNS Asset Services
CitiPower Pty & Powercor Australia Ltd

P 03 5240 7718 | F 03 9683 5151
E alinahan@powercor.com.au

From: Nicole Dixon [<mailto:nicoled@tgmgroup.com>]
Sent: Wednesday, 24 February 2016 11:26
To: Linahan, Angelique
Cc: Leigh Prossor; Peter Preece
Subject: Servicing Report for Mollers Lane, Leopold

Hi Angelique,

Please find attached our letter to you requesting an updated servicing report, associated fees and acceptance forms in relation to Mollers Lane, Leopold.

If you have any questions please do not hesitate to contact me.

Thanks,

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



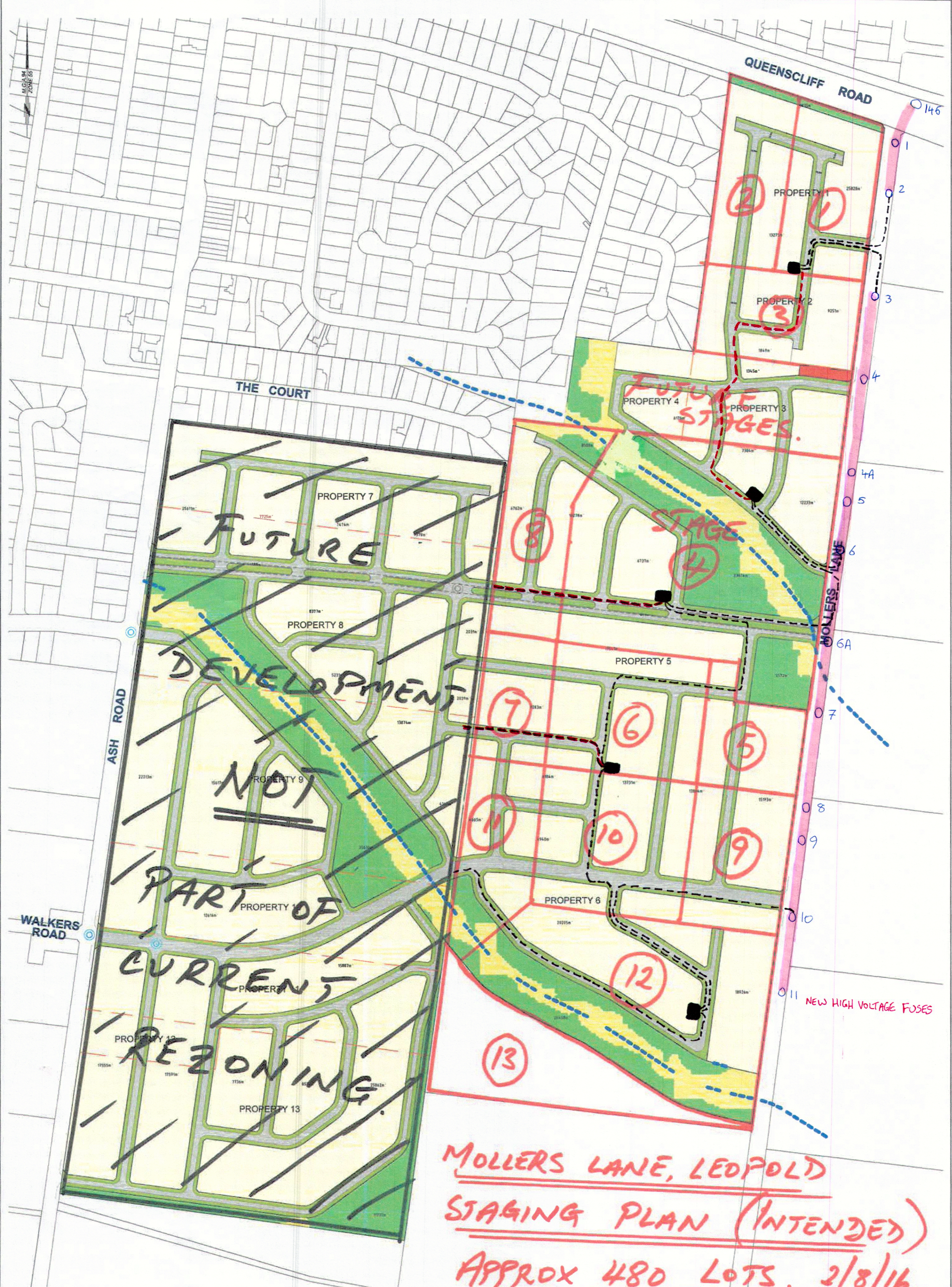
t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: nicoled@tgmgroup.com w: www.tgmgroup.com

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MWL 15/08/2016

OVERALL DEVELOPMENT PLAN
MOLLERS LANE, LEOPOLD
MOLLERS LANE DEVELOPMENTS PTY. LTD.

Job Number: 15196-107	Date of Issue: 22/07/2016
Sheet: 1 of 1	
Date of Survey: -	
LENGTHS ARE IN METRES	
20 0 20 40 60 80 100	
1:2000	
Survey: -	At Size A1
Drawn: BG	Checked: RD
DWG: RJD Rev.3 (20-07-16)	REV: 1

APPENDIX D

AusNet Services

Isaac Clarey

From: Nicole Dixon
Sent: Thursday, 6 October 2016 3:32 PM
To: Isaac Clarey
Subject: FW: Servicing Advice for Gas Supply for Mollers Lane (Proposed Re-zoning)
Attachments: 3163_001.pdf

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
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From: Gil Hermogenes [mailto:gil.hermogenes@ausnetservices.com.au]
Sent: Monday, 15 August 2016 9:29 AM
To: Nicole Dixon
Subject: RE: Servicing Advice for Gas Supply for Mollers Lane (Proposed Re-zoning)

Hi Nicole,

The first 13 stages shown in the attached plan can be supplied adequately from adjacent existing gas mains.

Gil Hermogenes
Project Manager/ Estimator



AusNet Services
380 Hyde Street
Yarraville Victoria 3013 Australia
Tel +61 3 9688 1425 Fax +61 3 9396 7631
Mobile +61 (0) 419 751 101
gil.hermogenes@ausnetservices.com.au

From: Nicole Dixon [<mailto:nicoled@tgmgroup.com>]
Sent: Thursday, 11 August 2016 11:44 AM
To: Gil Hermogenes
Cc: Gas New Estates
Subject: RE: Servicing Advice for Gas Supply for Mollers Lane (Proposed Re-zoning)

Hi Gil,

Further to emails below, please find attached updated proposed staging plan in relation to Mollers Lane, Leopold.

Can you please provide an updated servicing report based on the updated section of land attached.

If you have any questions please do not hesitate to contact me on 5202 4600.

Regards,

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: nicoled@tgmgroup.com w: www.tgmgroup.com

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From: Gil Hermogenes [<mailto:gil.hermogenes@ausnetservices.com.au>]
Sent: Monday, 7 March 2016 1:44 PM
To: Nicole Dixon <nicoled@tgmgroup.com>
Cc: Gas New Estates <gas.newestates@ausnetservices.com.au>
Subject: FW: Servicing Advice for Gas Supply for Mollers Lane (Proposed Re-zoning)

Hi Nicole,

The proposed residential development is surrounded by a high pressure network, however existing reticulation is of small diameter and may require some form of augmentation at some stage.

Please refer to the diagram detailed below.



Gil Hermogenes
Project Manager/ Estimator



AusNet Services

380 Hyde Street
Yarraville Victoria 3013 Australia
Tel +61 3 9688 1425 Fax +61 3 9396 7631
Mobile +61 (0) 419 751 101
gil.hermogenes@ausnetservices.com.au
www.ausnetservices.com.au

From: Nicole Dixon [<mailto:nicoled@tgmgroup.com>]
Sent: Wednesday, 24 February 2016 11:21 AM
To: Gas New Estates
Cc: Leigh Prossor; Peter Preece
Subject: Servicing Advice for Gas Supply for Mollers Lane (Proposed Re-zoning)

Hi Lydia,

Please find attached our letter to you requesting servicing advice in relation to the gas supply for Mollers Lane (proposed re-zoning).

If you have any questions please do not hesitate to contact me.

Thanks,

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
e: nicoled@tgmgroup.com w: www.tgmgroup.com

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APPENDIX E

NBN Co.

Isaac Clarey

From: Nicole Dixon
Sent: Thursday, 6 October 2016 3:32 PM
To: Isaac Clarey
Subject: FW: Feasibility Details- 2-22 Mollers Lane, Leopold [nbn-Confidential:Commercial]

Nicole Dixon | Land Development Officer
TGM Group Pty Ltd



t: (03) 5202 4600 f: (03) 5202 4691
a: Level 1, 27-31 Myers Street (PO Box 1137), Geelong, Vic, 3220
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From: Geri Graham [mailto:gerigraham@nbnc.com.au]
Sent: Tuesday, 23 August 2016 2:53 PM
To: Nicole Dixon
Subject: Feasibility Details- 2-22 Mollers Lane, Leopold [nbn-Confidential:Commercial]

nbn-Confidential: Commercial

Hi Nicole,

Please find below the details from the Feasibility study for 2-22 Mollers Lane, Leopold.

Backhaul Contribution: **\$0** (the Development is only 05.km from the closest **nbn** connection point)

Deployment Contribution: **\$600 Per Lot**

If the Developer is happy to proceed the next step will be to register the Development and stage application via the **nbn** co website.

If there are any queries, please let me know.

Kind Regards

Geri Graham

Senior Developer Account Manager | New Developments | NDS&E
Network Engineering and Deployment

P +61 3 9601 5482 | **M** +61 407 564 569 | **E** gerigraham@nbnco.com.au

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