

THREE WATERS ASSESSMENT
TOMASI SUBDIVISION
ARTHURS POINT ROAD
ARTHURS POINT

Reference Number:
4598L-1-Three Waters Report.doc

October 2017

Prepared for:
Bullendale Developments Limited
Queenstown Lakes District Council

Documents prepared by:
Aurum Survey Consultants Limited

Distribution:
Aurum Survey Consultants Limited (File)
QLDC (Email)
Bullendale Development Limited (Email)

Document Control



Document ID: S:\Jobs\4500\Q_4598__Riverton Queenstown\Documents\4598L-1-Three Waters Report.doc

Rev No	Date	Revision Details	Typist	Author	Verifier	Approver
1	October 2017	Approval 4598	CRW		BAM	

A person using Aurum Survey Consultants documents or data accepts the risk of:

- a) Using the documents or data in electronic form without requesting and checking them for accuracy against the original hard copy version; and
- b) Using the documents or data for any purpose not agreed to in writing by Aurum Survey Consultants.

TABLE OF CONTENTS

INTRODUCTION	2
WATER SUPPLY	3
WASTEWATER.....	3
STORMWATER.....	3
CONCLUSION	4

INTRODUCTION

Aurum Survey Consultants Limited has been engaged by Bullendale Developments Limited to provide assessment of the Three Waters infrastructure for a proposed Special Housing Area (SHA) application.

The site is legally described as Lot 2 DP 12913 held in OT18D/1223 and is 4.1227ha.

The SHA application proposed subdivision of the site, would be of similar design to the neighbouring development, being the SHA approved development, namely Bullendale. Bullendale consist of a mixture of medium density dwellings and unit developments catering up to 88 residential units. This assessment is based on 100 residential units.

SCOPE OF ASSESSMENT

1. Review potable water capacity and network constraints
2. Review wastewater capacity and network constraints
3. Review stormwater infrastructure capacity and network constraints

WATER SUPPLY

Connection to the Council water reticulation is available at the neighbouring development being Bullendale. Bullendale has connected to the existing 200mm watermain in Arthurs Point Road with a 150mm uPVC watermain. This is designed to be capped within the vested Council road at the boundary between Bullendale and Tomasi.

Under the QLDC Land Development and Subdivision Code of Practice 2015 a single ended 150mm watermain is capable of servicing 160 residential dwellings given that water pressure is above the recommended 350kpa. With the elevation gain throughout this development a booster pump may be required to service the upper dwellings of the proposal.

A request regarding the water pressure of the existing 200mm watermain in Arthurs Point Road has been lodged to the Council. This will allow confirmation of the need of a booster pump/water pressure within the proposed site.

Subject to the QLDC assessment no upgrades to the Council water network would be required.

WASTEWATER

Connection to the Council wastewater network is available via the existing 150mm foul sewer main in Arthurs Point Road. Alternatively, connections may be possible through the neighbouring development, being Bullendale. The site will be able to be gravity fed to either one of these options.

As part of the Bullendale SHA application Rationale assessed the downstream capacity of the wastewater flow from that development. Their report stated there was sufficient capacity in both the existing pipework and the Arthurs Point pump station to handle the increase in flows. There was a number of network elements downstream which showed capacity issues, however these are all known issues.

As part of this report QLDC have been contacted to further assess the network. We are currently awaiting their findings.

Subject to the QLDC assessment no upgrades to the Council wastewater network would be required.

STORMWATER

The proposed site is located on undeveloped, sloping ground. There is no existing stormwater infrastructure within the site. Connection to the Council infrastructure can be made through connecting to the neighbouring development, being Bullendale SHA.

As part of the stormwater infrastructure design at Bullendale a new 600mm diameter culvert was installed under Arthurs Point Road. This culvert along with the existing 450mm diameter culvert are designed to adequately service Bullendale's stormwater catchment. This catchment contains approximately 2.5 hectares of the Tomasi SHA block, which leaves around 1.65 hectares of the parcel of which is proposed to be developed.

Based on this the current catchments calculated the 100-year flows are circa 600l/second through the 600mm pipe, with the calculated capacity of this pipe being circa 1300l/second. With the 1.65 hectares of developed land added to the catchment, calculations suggest an increase to the flows by circa 190l/second, therefore taking the overall catchment flows up to 800l/second.

The 450mm and 600mm culvert outlet flows into a bedrock creek over the Department of Conservation (DOC) reserve. The Bullendale SHA gained the necessary approvals from the DOC, with upgrades to the outlet and downstream culverts a condition of this agreement.

Subject to DOC approvals for an increase in flows through the existing approved outlet, we see no issues with connecting to the QLDC network within the Bullendale SHA development.

In addition to the above, a connection to the Council stormwater network can be made through constructing a connection to the existing flume in Atley Road being the outlet of the Harry Close catchment. Currently QLDC GIS shows the flume caters for 1 450mm diameter pipe. This option would require a new connection from the proposed site across Arthurs Point Road and down Atley Road to the existing manhole located within Atley Road. The construction costs involved in this would be at the expense of the Bullendale Developments Limited.

Subject to the QLDC assessment no upgrades to the Council stormwater network would be required.

CONCLUSION

Based on the existing services within close proximity to the proposal it is understood capacity is available to adequately cater for this development.

It is anticipated detailed design would be carried out post consent approval to comply with Queenstown Lakes District Council Land Development and Subdivision Code of Practice 2015 for engineering acceptance.

This report has been prepared for the sole use of the intended original recipient and no part of this document may be distributed to other parties without approval.

Should you have any queries, please contact the undersigned in the first instance.

Yours faithfully

Aurum Survey Consultants



Craig woodcock
Licensed Cadastral Surveyor
Mobile 021 982 563
<mailto:cwoodcock@ascl.co.nz>