

TO: City Planning – Resource Consents

FROM: Policy Analyst, Three Waters

DATE: 19 October 2018

SUBJECT: **SUB-2018-84** **3-LOT SUBDIVISION**
LUC-2018-419 **35 & 35A MUSSELBURGH RISE, DUNEDIN**
COMBINED DRAINAGE & THREE WATERS GROUP

1. The proposed activity

Subdivision consent is sought from Council to undertake a three-lot subdivision at 35 & 35A Musselburgh Rise, Dunedin. The proposed activity is located within the Residential 1 zone in the current District Plan and the General Residential 1 zone in the proposed Second Generation District Plan (2GP).

Subdivision description

The proposal is to subdivide 35 and 35A Musselburgh Rise into three lots, two of which are undersized.

The applicant seeks to create three fee-simple sites. Proposed Lot 1 will more or less coincide with Flat A and Court A, and will have an area of 332m². Proposed Lot 2 will be a smaller version of Flat B and Court B, with an area of 278m². Proposed Lot 3 will be a vacant site of 300m². Right of way access is to be created over 33 Musselburgh Rise to ensure full access rights for all the lots.

Each of the three units contain 1 kitchen, 1 bathroom and 1 toilet.

Density assessment

Residential 1 rules in the Dunedin District Plan set a minimum site size of 500m², but allows one undersized site provided the overall density is compliant, however all three lots are undersized so this exception does not apply. The overall site is 1110m² which is 390m² undersized for three lots.

Existing services

The DCC's GIS records a 100mm diameter water supply pipe and a 150mm diameter wastewater pipe Musselburgh Rise.

1. Assessment of effects on 3 waters infrastructure

The DCC has hydraulic models for many of the City's water, wastewater and stormwater networks. The effect of new development on those networks can be evaluated against current performance, and against foreseeable future demand. District Plan zoning indicates where development is anticipated, and the density of development.

Development beyond that anticipated by the District Plan may:

- Be accommodated by existing infrastructure, both now and in the foreseeable future;
- Be accommodated by existing infrastructure only because anticipated permitted development in other areas has not yet occurred; or
- Not be able to be accommodated without upgrade or expansion of existing infrastructure.

Where there are capacity issues in the water network, water may not be able to be physically supplied, and the proposed development could cause pressure losses to existing customers. Where there are capacity issues in the drainage network, downstream wastewater and/or

stormwater surcharge and flooding will be exacerbated. The 3 Waters Graduate Hydraulic Modeller has assessed this application as described below:

Water

No issues have been identified with supplying water to this development.

This property connects to the 100mm diameter water main along Musselburgh Rise. The model does not indicate any headloss issues in the pipe; the current water pressure at this property is between 130m and 160m, which is higher the DCC Code of Subdivision and Development requirements (30m to 90m).

Fire Hydrant WFH04428 model predicted fire flow: 8.8l/s. Fire Hydrant WFH04421 model predicted fire flow: 41.86l/s

Wastewater

No issues have been identified with accommodating wastewater drainage from this development.

The wastewater from this site drains to a 150mm diameter concrete wastewater pipe (FSL13094 – FSJ12662) on Musselburgh Rise and then connects to a 1650mm trunk main to Musselburgh pumping station.

This area is included in the wastewater model but without a fully detailed calibration. Currently, the model indicates no manhole surcharging and/or overflow issues within the pipe (FSL13094 – FSJ12662) and downstream networks under the 1 in 10-year design rainfall event.

Stormwater

Due to the sites being undersized, a Stormwater Management Plan must be provided to ensure that the post-development flows are no greater than pre-development

Conclusion

Although 3 Waters do not generally support over-dense developments, the proposal does not appear to cause any adverse effects which are more than minor on the downstream network, and the properties can be sufficiently serviced for water. Therefore 3 Waters do not oppose this development provided the following conditions are satisfied.

2. Infrastructure requirements

Standard of installation

All aspects of this development shall be in accordance with the requirements of the Dunedin Code of Subdivision and Development 2010.

Water services

The Dunedin City Council Water Bylaw 2008 (revised 2011) sets out the requirements for connections to the water supply network.

Each lot must be serviced from an individual Point of Supply. There is an existing single water connection to this property which is servicing both units. This connection may be retained for proposed lot 1, lot 2 must be disconnected from this supply. New water connections are required for proposed lots 2 and 3.

For a new water connection or any change to an existing water connection, an "Application for Water Supply" is required.

Firefighting requirements

All aspects relating to the availability of water for firefighting should be in accordance with SNZ PAS 4509:2008, being the Fire Service Code of Practice for Fire Fighting Water Supplies.

There is a Fire Hydrant (WFH04428) 10 metres from the development entrance. Based on SNZ PAS 4509:2008 a W3 (25l/s) zone requires a Fire Hydrant within 135 m and a second within 270 m. These Fire Hydrants requirements are compliant for the development.

Stormwater services

The proposal is non-compliant to the current District Plan rules of minimum site size/density for the Residential 1 zone, therefore a Stormwater Management Plan (SWMP) is required.

The SWMP is to include:

- Stormwater calculations which state the difference between the pre-development flows and post-development flows and how to manage any difference in flow;
- Discharges from all hard surfaces shall be detailed clearly in the plan; and
- Detail stormwater management systems proposed for the development to accommodate for any excess runoff from extra impervious surfaces.

The SWMP must be approved by the 3 Waters Development Engineer prior to any construction commencing.

Wastewater services

To reduce water consumption and therefore the volume of wastewater generated, the consent holder must install water saving devices, including but not limited to, low-flow shower heads, 6/3 dual flush toilets and aerated sink mixers.

Private drainage services

New lot 1 has an existing dwelling which has both wastewater and stormwater drainage to DCC services in Musselburgh Rise. Service easements will be required for the existing wastewater and stormwater drainage through new lots 2 & 3.

New lot 2 has an existing dwelling which has both wastewater and stormwater drainage via shared services with the property on proposed lot 1. This lot will require disconnection from its current services and separate wastewater and stormwater drainage installed to council services in Musselburgh Road.

New lot 3's wastewater shall be to the wastewater pipe in Musselburgh Rise. Stormwater to kerb and channel in street. Both of these services must be separate to the other lots.

Note: These services may require pumping.

Easements

Service easement/s are required where any private water supply pipes or wastewater/stormwater laterals cross property boundaries in favour of the property they service. Service easements will be required for the private servicing infrastructure located within the right-of-way.

3. Consent conditions

The following conditions should be imposed on any resource consent granted:

Water services

1. The two existing units currently share one water supply. The existing water supply must be disconnected from lot 2 to service lot 1 only.
2. An "Application for Water Supply" shall be submitted to the Water and Waste Group for approval to establish new water connections for proposed lots 2 and 3. Details of how each lot is to be serviced for water shall accompany the "Application for Water Supply".

Stormwater services

3. A Stormwater Management Plan for the subdivision shall be provided to 3 Waters for approval prior to construction commencing. The Stormwater Management Plan must outline how stormwater from each lot of the subdivision will be managed to ensure post-development flows do not exceed pre-development flows, and identify and address any downstream effects of the stormwater generated by the development, including any mitigation required.

4. New lot 2 must be disconnected from the shared stormwater lateral and have a new separate stormwater lateral to the kerb and channel in Musselburgh Rise installed.
5. New lot 3 must install a new separate stormwater lateral to DCC services in Musselburgh Rise.

Wastewater services

6. The consent holder must implement water saving devices, including but not limited to, low-flow shower heads, 6/3 dual flush toilets and aerated sink mixers.
7. New lot 2 must be disconnected from the shared wastewater lateral and have a new separate wastewater lateral to DCC services in Musselburgh Rise installed.

Easements

8. Service easement/s are required where any private water supply pipes or wastewater/stormwater laterals cross property boundaries in favour of the property they service. Service easements will be required for the private servicing infrastructure located within the right-of-way.

4. Advice notes

The following advice notes may be helpful for any resource consent granted:

Code of Subdivision & Development

- All aspects of this development shall be compliant with Parts 4, 5 and 6 of the Dunedin Code of Subdivision and Development 2010.

Water services

- Detail of the water supply application process can be found at <http://www.dunedin.govt.nz/services/water-supply/new-water-connections>.
- All aspects relating to the availability of water for fire-fighting should be in accordance with SNZ PAS 4509:2008, being the Fire Service Code of Practice for Fire Fighting Water Supplies, unless otherwise approved by the New Zealand Fire Service.

Erosion and sediment control

- The following documents are recommended as best practice guidelines for managing erosion and sediment-laden run-off:
 - Environment Canterbury, 2007 "Erosion and Sediment Control Guideline 2007" Report No. R06/23.
 - Dunedin City Council "Silt and Sediment Control for Smaller Sites" (information brochure).

Private drainage matters

- Certain requirements for building on this site may be stipulated via the building consent process and are likely to include the following points:
 - Stormwater from driveways, sealed areas and drain coils is not to create a nuisance on any adjoining properties.
 - Surface water is not to create a nuisance on any adjoining properties.
 - For secondary flow paths, the finished floor level shall be set at the height of the secondary flow plus an allowance for free board.
 - As required by the New Zealand Building Code E1.3.2, surface water resulting from an event having a 2% probability of occurring annually, shall not enter dwellings. The finished floor level shall be set accordingly.

CC: Development Engineer
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