

Before an Independent Hearings Panel
appointed by Christchurch City Council

under: the Resource Management Act 1991

in the matter of: the hearing of submissions on Plan Change 14 (Housing
and Business Choice) to the Christchurch District Plan

and: **Cashmere Land Developments Limited**
Submitter 257

Legal submissions on behalf of the Cashmere Land Developments
Limited

Dated: 11 April 2024

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LEGAL SUBMISSIONS ON BEHALF OF CASHMERE LAND DEVELOPMENTS LIMITED

INTRODUCTION

- 1 These legal submissions are presented on behalf of Cashmere Land Developments Limited (*CLDL*). *CLDL* is a submitter on Plan Change 14 (Housing and Business Choice) to the Christchurch District Plan (*PC14*) (submitter 257).
- 2 *CLDL*'s submission relates to land identified in the operative Christchurch District Plan (*District Plan*) as the Cashmere and Worsleys Outline Development Plan (*ODP*), known as 'Cashmere Estate' (*site*).
- 3 *CLDL* filed planning evidence from **Ms Pia Jackson** on 19 September 2023. Ms Jackson's evidence noted general agreement with the Christchurch City Council (*CCC*) Reporting Officers, subject to further amendments to better reflect the intent of *CLDL*'s submission. However, following the provision of rebuttal evidence it was made apparent that the application of qualifying matters (*QM*) to the site was misunderstood and is not agreed.
- 4 These legal submissions are intended to outline *CLDL*'s updated position with respect to the applicability of the Low Public Transport Access Area *QM* (*LPTAA QM*) and the Port Hills Stormwater *QM*. It is observed at the outset that neither of these *QMs* were proposed in the notified version of *PC14*. Rather, they are sought through submissions made by *CCC* and Canterbury Regional Counsel (*ECan*).
- 5 We include at Appendix A to these legal submissions a statement from **Mr Michal Glatz**, a civil engineer at Inovo Projects Limited. Following the provision of evidence, rebuttal evidence and planning expert conferencing on the qualifying matter for stormwater management proposed by *ECan*, it became clearer to *CLDL* that expert engineering advice in relation to the site specifically would assist with its presentation to the Hearings Panel. Until December 2023 (after the expert conferencing) *CLDL* was confused by the evidence and *CCC*'s position.

BACKGROUND

- 6 As outlined in *CLDL*'s submission, the planning context for the site originally involved a plan change to enable residential development of 380 residential lots.
- 7 *PC14* as notified proposed to rezone the residential areas of the site to Medium Density Residential Zone (*MDRZ*) and Future Urban Zone (*FUZ*), as well as retention of the Residential Large Lot Zone (*RLLZ*).

The majority of the residential land was proposed to be rezoned to FUZ.

- 8 CLDL's submission explains that the continued inclusion of the 380 lot limit is inappropriate and does not give effect to the intent of the National Policy Statement on Urban Development 2020 (*NPS UD*).
- 9 The limit on the number of lots able to be created under the District Plan (i.e. 380 lots) is at odds with the MDRS and limits the ability for CLDL to create a cohesive subdivision that meets the density anticipated by the FUZ. Accordingly, the 380 lot limit ought to be removed through PC14.
- 10 The minimum lot sizes enabled under PC14 is at odds with the limit on the number of lots able to be created under the District Plan, and limits the ability for CLDL to create a cohesive subdivision that meets the density anticipated by the FUZ.
- 11 At the time of making its submission, CLDL was aware of four QMs that apply to the site.¹ CLDL does not oppose any of those QMs.
- 12 Ms Jackson provided planning evidence on behalf of CLDC on 19 September 2023.
 - 12.1 Ms Jackson agreed with CCC Reporting Officer's recommendation that the site be rezoned to MDRZ and that the MDRZ Residential Hills Precinct 650m² minimum site standard apply. Ms Jackson also agreed with the Reporting Officer that references to the 380 lots and the ODP be removed from the District Plan. Ms Jackson suggested amendments to the relevant rules to better reflect the Reporting Officer recommendations.
 - 12.2 The Reporting Officer Section 42A Report for QMs was not understood to materially impact the site nor CLDL's submission.

QMS SOUGHT IN SUBMISSIONS

Low Public Transport Accessibility Area QM

- 13 CCC's submission sought to introduce the LPTAA QM. The rebuttal evidence of Mr Kleynbos clarifies CCC's intent in relation to the applicability of the proposed LPTAA QM to the site.
- 14 The LPTAA QM is proposed to apply in areas beyond 800m walking distance from core bus routes. The walking distance from the

¹ QMs for Electricity Transmission Corridors and Infrastructure, High Floodplain Hazard Management Area, Site Hazard, Flood Ponding Management Area.

nearest core bus route stop to the site is between 1km and 2.5km. Accordingly, the LPTAA QM would apply and the site would be subject to the proposed Suburban Hill Density Precinct.

Planning conferencing

15 On 4 December 2023, planning witness conferencing was undertaken in relation to the site. In summary:

15.1 The experts agree on removal of the 380 lot limit and ODP. CLDL does not oppose the 650m² minimum lot size proposed for the site.

15.2 Mr Kleynbos recommends a narrowed scope of the proposed LPTAA QM in some areas, but still supports limiting MDRS outside of accessible areas through the use of QMs. Ms Jackson considers that walking distance alone does not determine accessibility. The LPTAA QM also ignores the benefits of providing increased housing density close to public open space.

15.3 The experts agree that the LPTAA QM (based on the Reporting Officer's approach) only applies to 235 and 245 Worsley's Road and that MDRZ applies on the balance of the residential areas.

15.4 Mr Kleynbos considers that this agreement could still be superseded by the Port Hills Stormwater QM proposed by ECan.

Updated position

16 As recorded in the Joint Witness Statement, the applicability of the LPTAA QM to the site is agreed. However, CLDL's position is that the "Residential Hills Precinct" as proposed by Mr Kleynbos to reflect the Port Hills Stormwater QM is not suitable for the site. This is addressed below.

Port Hills Stormwater QM

17 ECan is concerned with the impact of intensification on stormwater quantity and quality in the Port Hills and considers that a new QM is required to address stormwater constraints specific to the Port Hills. A range of planning responses have been suggested through evidence and rebuttal evidence.

18 Planning conferencing was undertaken in relation to the Port Hills Stormwater QM and a Joint Witness Statement was completed on 11 December 2023. In summary it was agreed that:

18.1 Further investigation should be undertaken regarding a certification approach for earthworks undertaken on the hills

to ensure that appropriate Erosion and Sediment Control measures were being implemented.

- 18.2 Further investigation should be undertaken regarding the application of a maximum 50% combined site coverage and impervious surfaces.
- 18.3 The rebuttal position proposed by Mr Kleynbos for the Port Hills Stormwater QM was not supported (i.e. retaining the operative Residential Hills Zoning and amending rule framework) and all submitters supported the position that any QM response should not be more restrictive than operative controls.
- 19 The appropriate means to respond to the issue regarding loess soils and associated sedimentation/erosion remains outstanding. Ms Jackson notes that greenfield development of the site already has subdivision/earthworks and discharge consent conditions for the management of earthworks and stormwater discharge.

Factual inaccuracies with ECan's position

- 20 There are a number of factual inaccuracies with ECan's position.
- 21 The reason that CCC did not propose a stormwater QM is outlined in Mr Norton's evidence:²

There are two primary reasons why a stormwater network constraint Qualifying Matter was not proposed as part of PC14, in addition to the Qualifying Matters discussed above:

(a) The existing tools and powers (see below) that Council has in place are sufficient to manage some of the impacts; and

(b) The extent of hydraulic modelling that would be required to support the evidential threshold for a Qualifying Matter across the whole network could not be prepared in time for the plan change (see below).

- 22 Ms Newlands for ECan disagreed and considers that there is sufficient information to show that intensification on the Port Hills is inappropriate.³

The City Council floodplain management projects are largely targeted at the upper catchment of the Ōpāwaho/Heathcote River. These large attenuation facilities (for example the Sutherlands Hoon Hay Eastman Wetlands storage basins, the Cashmere Worsleys flood storage basin and

² *Statement of primary evidence of Robert Brian Norton on behalf of Christchurch City Council – Stormwater and Low Public Transport Accessibility Area, dated 11 August 2023 at paragraph 55.*

³ *Statement of evidence of Jessica Newlands on behalf of the Canterbury Regional Council – Stormwater (Port Hills), dated 20 September 2023 at paragraph 47.*

the Cashmere Dam) will not capture the additional stormwater generated in areas of intensification (Cashmere and Huntsbury) which are downstream of these facilities

23 This is not factually accurate in relation to the site, which is upstream of the Cashmere Worsleys flood storage basin. Furthermore, there is no evidence to suggest that existing tools are not appropriate to manage the environmental effects in relation to the site.

24 On the matter of stormwater quality, Ms Newlands states:

On small steep redevelopment sites, such as those will be affected by PC14, it is not practical to construct impoundment devices, and therefore water treatment chemicals are not used.

25 This is also not relevant to the site, which is being developed as a cohesive subdivision. CLDL has existing regional council consents in place and the conditions of those consents are explained further by Mr Glatz.

Updated position

26 Following expert conferencing on the Port Hill Stormwater QM, it became clear to CLDL that the technicalities of stormwater matters as they apply to the site are important for the Panel to understand.

27 Mr Glatz concludes that intensification on the site will only have a minor impact on stormwater quantity. On this basis, it is submitted that the threshold for establishing the Port Hills Stormwater QM in sections 77I and L of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 (*Amendment Act*) is not met in relation to the site.

28 Legal submissions filed on behalf of Carter Group for the Central City and Commercial Zones hearing⁴ outline the correct approach to implementing the medium density residential standards (*MDRS*) and assessing QMs under the Amendment Act. In summary:

28.1 Intensification is the starting point;

28.2 Proper evaluation, based on evidence, of qualifying matters should then follow; and

28.3 The planning response to qualifying matters should be only what is necessary to accommodate them.

⁴ Legal submissions on behalf of Cater Group Limited in relation to the Central City and Commercial Zones hearing dated 24 October 2023 from paragraph 27.

- 29 Mr Glatz's statement demonstrates that CCC (and ECan) do not have sufficient evidence to justify pulling back from the starting point in relation to the site.
- 30 It is important to note that CLDL's proposal is a new subdivision (greenfield development) which requires consents from ECan. Monitoring is therefore required and enforcement actions are available.
- 31 CLDL does not oppose the Stormwater QM per se, but there is no evidence to support its application to the site.

CONCLUSION

- 32 CLDL considers that the site ought to be rezoned to MDRZ, with the exception of 235 and 245 Worsley's Road, with a 650m² minimum lot size. There is no evidential basis for the Panel to apply the Port Hills Stormwater QM to the site.

Dated 11 April 2024



J Appleyard / A Lee
Counsel for Cashmere Land Developments Limited

APPENDIX A: STATEMENT OF MICHAL GLATZ

INTRODUCTION

- 33 My full name is Michal Glatz. I am a Senior Civil Engineer at Inovo Projects Limited.
- 34 My qualifications include a Master's Degree in Civil Engineering (MCEng) from the VSB Technical University in Ostrava, Czech Republic (Washington Accord equivalent), and I am a Member of Engineering New Zealand (MEngNZ).
- 35 I have 11 years' experience as a civil engineer working on a range of infrastructure and land development projects.
- 36 This statement relates to the relief sought by Cashmere Land Developments Ltd (CLD) on proposed Plan Change 14 to the Christchurch District Plan (PC14) and the Port Hills Stormwater Qualifying Matter (Stormwater QM) proposed by Canterbury Regional Council (ECan).
- 37 I have been asked to comment on the technical basis for provisions relating to stormwater management sought through PC14, specifically in relation to the Cashmere Estate site.

CODE OF CONDUCT

- 38 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the Code of Conduct for Expert Witnesses contained in Part 9 of the Environment Court Practice Note 2023. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

CASHMERE ESTATE – STORMWATER

- 39 On the matter of stormwater characteristics, Mr Norton stated in para. 23 of his evidence that:
- "The below ground assets of sumps, pipes, manholes and pump stations has a limited, fixed capacity that can only cope with the more frequent rainfall events. The below ground network is typically sized to convey a 20% Annual Exceedance Probability (AEP), or "5-year" rainfall event. A 20% AEP event 20% chance of occurring each year.*
- 40 It is important to highlight that Cashmere Estate subdivision consent (RMA/2015/3550/F) condition 8.7 specifies that the primary

stormwater reticulation network within hillside catchments shall be designed to convey at minimum the critical 5% Annual Exceedance Probability (AEP), or "20-year" rainfall event.

- 41 To provide some context, a primary network designed for a 5-year rainfall event can convey approximately 50% of the flow generated by a 50-year rainfall event and a primary network designed for a 20-year rainfall event can convey approximately 80% of flow generated by a 50-year event. This reduction in overland flows will generally reduce the amount of scour, which will result in a decrease in the mobilisation of fine grained highly dispersive sediment. This in turn will have a beneficial effect on stormwater infrastructure and receiving waterbodies.
- 42 Ms Newlands also stipulated in para. 31 of her evidence that the primary network/system on the Port Hills is designed to cater for the more frequent rainfall events up to and including the 20% AEP rainfall events. However in line with paragraph 9 above, this is not factually accurate concerning the Cashmere Estate development.
- 43 I agree with the statement of Ms Newlands in para. 22 of her evidence that:

"An increase in the number of houses and building coverage will result in an increase in impervious area, and a reduction in vegetation. This reduces the amount of rain that can infiltrate into the ground and will therefore result in an increase in the quantity of stormwater discharged from the intensified sites.

However, it is also important to clarify that loess material is not very permeable in the first place.

- 44 Laboratory testing was undertaken in December 2019 on a loess sample sourced from Cashmere Estate. The results of this testing confirmed that the hydraulic conductivity of site won loess was 3.0×10^{-9} m/s (or 0.01 mm/hr), which fits into the clay category and confirms very low permeability.
- 45 This testing correlates with Mr Norton's opinion related to stormwater quantity, that the scale of impervious surfaces on hill sites is less of a concern when managed comprehensively across a site and discharged into the built network (also see rebuttal evidence of Mr Kleynbos at para. 40).
- 46 Ms Newlands stated in para. 76 of her evidence:

"Whilst all hill sites are required to provide stormwater storage, the design developed for the Onsite Stormwater Mitigation Guide is based on short intense storms (up to 6 hours duration). The designs are not likely to effectively attenuate discharges for storms with

longer durations, and lesser intensities. In addition, there are physical limitations to the positioning of these systems on hills sites. In some situations, it is too difficult to capture all impervious areas, and to direct it to a stormwater storage device (e.g. a rain tank).

In relation to the Port Hills loess areas, I believe that it is important to recognise that, in longer-duration storms (6+ hours), the topsoil layer becomes saturated. Given the low permeability of loess, the peak runoff from the undeveloped land is only marginally lower than runoff from land developed to both residential hills zone (RHZ) level and residential medium density (RMDZ) level.

- 47 To further quantify stormwater quantity implications, in longer duration storms (6h and 12h) between undeveloped land and both residential hillside zone catchment and residential medium-density zone catchment, I conducted a high-level dynamic 12d Model analysis (ILSAX 2 method) where I tested both 5% and 2% AEP storm events over 5ha hillside loess catchments (Undeveloped, RHZ and RMDZ).
- 48 As part of this analysis I concluded that, in the 6 hours and 2% AEP scenario, the peak stormwater runoff increased by 3.5% between the undeveloped scenario and RHZ scenario, and by a further 2% between RHZ scenario and RMDZ scenario.
- 49 As part of this analysis I also concluded that, in the 12 hours and 2% AEP scenario, the peak stormwater runoff increased by 3% between the undeveloped scenario and RHZ scenario and by a further 2% between RHZ scenario and RMDZ scenario.
- 50 Based on the above I believe that intensification will only have a minor impact on stormwater quantity. Results of my high-level analysis for longer duration storms (6h and 12h) can be provided if that would assist.
- 51 I partially agree with the statements of Ms Newlands in paragraphs 74 and 75 of her evidence:

It is not possible for me to quantify the effects on sedimentation that the intensification will result in as; the actual development scale and rate is unknown, and there are many variables associated with the mobilisation and discharge of sediment.

Whilst the impact cannot be accurately quantified, any intensification and associated disturbance of hillside properties will result in an increase in the mobilisation of fine grained highly dispersive sediment, which will in turn have an adverse effect on stormwater infrastructure and receiving waterbodies.

- 52 However, I consider that this statement is only relevant to construction phase discharge from infill developments.
- 53 Stabilisation of loess hillside catchments with impervious surfaces will generally have a beneficial effect on the quality of operational phase discharge stormwater entering the receiving water body (post development). This is achieved by stabilising the surface above the loess material and by reducing overland flows by conveyance of up to 20-year storm events via piped network.
- 54 Additionally secondary flows (conveyance network designed for 50-year storm events however also managing bigger events) are also conveyed into receiving water bodies via road kerbs, channels, swales and through stormwater treatment facilities (e.g., first flush swales, ponds, basins, wetlands) which further manage and enhance water quality.
- 55 It is worth noting that, as part of greenfield developments, designers need to consider the need for scour protection for proposed overland flow channels. Appropriately designed scour protection will also have a beneficial effect on water quality.
- 56 It is also important to reinforce that sites larger than 5,000m² (i.e. Cashmere Estate development) require specific engineering design of their stormwater mitigation systems and typically are required to achieve either hydraulic neutrality or full flood attenuation depending on the receiving environment.
- 57 Construction phase stormwater discharge is being controlled through the CCC stormwater approval process. As part of this process, it is necessary to gain an approved Erosion and Sediment Control Plan which must be implemented on the construction site before commencement of construction activities.
- 58 Cashmere Estates is a new subdivision (greenfield development) for which Regional Consents are also required given the large site area and the fact that the site is located within High Erosion Risk Soils. This means that ECan monitoring is required, and enforcement actions are available.
- 59 The discharge of stormwater during site construction utilises the best practicable erosion and sediment control measures to minimise erosion of land and the discharge of sediment-laden stormwater into the Council stormwater drainage network and the receiving environment.
- 60 Important aspects of erosion and sediment management in greenfield developments (such as Cashmere Estate) are sediment retention basins with automatic or manual (where appropriate) chemical dosing (flocculants).

61 As outlined above, I believe that Cashmere Estate development within Port Hills loess areas will have a beneficial effect on operational phase discharge and on the quality of stormwater discharged into the receiving water body.

62 Ms Newlands stated in para. 92 of her evidence that:

"... The Residential Hills Zones to be affected by PC14 are in general downstream of Council owned stormwater facilities..."

Given that Cashmere Estate development is directly upstream of the Cashmere Worsleys flood storage basin I believe that this development is well placed for proposed MDRZ.

CONCLUSION

63 In my opinion, a Stormwater QM is not warranted for Cashmere Estate as:

63.0 Based on the above and with relevant experience related to land development works in Port Hills, I believe that Council legislative tools like resource consents, engineering acceptance, stormwater approvals, stormwater bylaws and the Building Act are appropriate to manage most of the environmental effects.

63.1 I do believe that upskilling of building inspectors would be beneficial to ensure that any issues with erosion and sediment control compliance on small sites can be better identified and remediation actions requested.

63.2 Cashmere Estate development works trigger the need for ECan consent which is required for works within a High Soil Erosion risk area. This means that ECan monitoring is required, and enforcement actions are available.

63.3 Based on the evidence above I don't believe that impervious surfaces are detrimental to loess areas. All hill sites are required to provide stormwater storage by following the Onsite Stormwater Mitigation Guide. Onsite stormwater storage is usually effective for short storms but less effective for longer and lower intensity storms. In the case of hillside loess areas even "permeable" areas become impermeable during longer duration storms after the topsoil layer becomes saturated. As a result of this, the increase in peak runoffs between the RHZ and the RMDZ would be very minor.

63.4 Cashmere Estates is a new subdivision (greenfield development) upstream from the Cashmere Worsleys flood storage basin. This facility was designed and constructed to

meet modern stormwater demands. Based on this I believe that Cashmere Estate development is well placed for the proposed intensification.

Dated: 11 April 2024

Michal Glatz