

Before the Independent Hearing Commissioner
Appointed by the Christchurch City Council

Under the Resource Management Act 1991

In the matter of Plan Change 18 (Hendersons Residential Rezoning) to the
Christchurch District Plan

Cashmere Fields

Applicant

Evidence of Jenny Bull

14 August 2026

Applicant's solicitors:

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**anderson
lloyd.**

Introduction

- 1 My name is Jenny Bull.
- 2 I hold a Bachelor of Engineering (Hons). I am a Chartered Professional Engineer (CPEng) and have held this qualification since August 2019.
- 3 I am employed by Eliot Sinclair & Partners Limited as a Three Waters Engineer.
- 4 I have over 14 years of experience as a professional civil engineer. My relevant professional experience includes civil engineering design of three waters for land development projects.
- 5 An Infrastructure Servicing Report dated 25 March 2025 was prepared by Eliot Sinclair on behalf of Cashmere Fields in support of a private plan change request (PPC18). PPC18 seeks to rezone the below sites (the **Site**) from Residential New Neighbourhood (**RNN**) and Rural Urban Fringe (**RUUF**) zones to RNN, excluding the stormwater management areas which will remain RUUF (**the Proposal**):
 - (a) 126 Sparks Road (Lot 1 DP 412488)
 - (b) 17 Northaw Street (Lot 2 DP 412488)
 - (c) 36 Leistrella Road (Lot 3 DP 412488)
 - (d) 240 Cashmere Road (Lot 23 DP 3217)
 - (e) 236 Cashmere Road (RS 41613)
 - (f) 200 Cashmere Road (Lot 1 DP 547021)
 - (g) 60 Leistrella Road, Part of Lot 406 DP 561520 (Balance Lot 349 as per RMA20213829)
- 6 In preparing this evidence I have considered the following documents:
 - (a) PPC18 Private Plan Change Request — Cashmere Fields Ltd (Final Request, 20 November 2025), including Appendix G - Infrastructure Servicing Report prepared by Eliot Sinclair & Partners Limited;
 - (b) Submissions received on PPC18 as notified by Christchurch City Council;
 - (c) Appendix 7 of Section 42A Officer's Report.

Code of Conduct for Expert Witnesses

- 7 While this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of evidence

- 8 I have prepared evidence in relation to infrastructure servicing. This evidence addresses:
- (a) Flood Management;
 - (b) Earthworks;
 - (c) Roading;
 - (d) Wastewater;
 - (e) Stormwater;
 - (f) Water Supply; and
 - (g) Utility Services.
- 9 The Proposal is described at paragraphs [21]-[42] of the evidence of Jade McFarlane. I rely on that description and only provide further detail where this is necessary for the purposes of my evidence.

Executive summary

- 10 The proposed Private Plan Change area can be adequately serviced for wastewater, stormwater, potable water supply, power and fibre, subject to detailed design and the obtaining of appropriate consents.
- 11 The proposed Private Plan Change area is located within the Christchurch City Council (**CCC**) 200-year Flood Management Area. DHI modelled the proposed development in early 2023 using the most up-to-date CCC model of the Heathcote catchment at that time, and confirmed that the development has essentially no negative impact on surrounding existing flood levels.¹ The evidence of Gregory

¹ PC18 Appendix D – Cashmere Park Extension Modelling

Whyte details additional modelling subsequently undertaken by DHI, which further confirms this assessment.

- 12 All future dwelling finished floor levels will be set a minimum of 400 mm above the 0.5% (200-year) Annual Exceedance Probability (**AEP**) storm event flood depth. Earthworks will be carried out in accordance with NZS 4431 and the CCC Infrastructure Design Standards (**IDS**).
- 13 New internal roads will connect the proposed Private Plan Change area to Cashmere Road, Leistrella Road and Northaw Street, as well as providing for future connections to the adjoining land to the west. Roading will be designed and constructed in accordance with the CCC IDS, Construction Standard Specifications (**CSS**) and appropriate New Zealand Standards.
- 14 Future development will be serviced by a Local Pressure Sewer (**LPS**) network discharging to the existing DN300 gravity sewer main within Cashmere Road. Hydraulic modelling indicates that the existing LPS network has capacity to service the proposed development, subject to sufficient capacity being retained for the balance of Areas 4A and 4B as required by Council. Any necessary network augmentation will be addressed through detailed design.
- 15 Four Stormwater Management Areas (**SMA**s) are proposed within the Private Plan Change area to provide treatment and full attenuation of stormwater runoff in accordance with current CCC standards. DHI flood modelling confirms the proposed stormwater management approach will not result in adverse effects on surrounding land.
- 16 The proposed Private Plan Change area is located within the Central Water Supply Zone. CCC commissioned WSP to undertake a water supply modelling assessment for the development, and the WSP report² supersedes the earlier Eliot Sinclair water supply report³ included with the PPC18 request. The WSP modelling confirms that the development meets minimum pressure criteria and FW2 fire flow requirements. The internal pipe network will be upsized to DN200, with the extent to be determined through detailed design once the final layout and demand are confirmed. Upgrades to existing CCC pipes near the connection points will also be required based on the WSP report, with the extent to be confirmed through detailed design once updated demands are provided to CCC for modelling. Additional well

² Appendix U, Water Supply RFI 12, dated November 2023

³ Appendix M, Water Supply Report, dated 28 April 2023

capacity within the Central Zone is a matter for CCC to address as part of its response to growth.

- 17 Orion and Enable have both confirmed their networks have sufficient capacity to service the proposed development. Utility services will be installed underground within road berms.
- 18 On the basis of the Infrastructure Servicing Report and WSP Water Supply Report, and having considered matters raised in submissions and the s42A Officers' report, it is my opinion that the proposed rezoning can be supported from an infrastructure and servicing perspective.

Flood Management

- 19 The proposed Private Plan Change area is located within the CCC 200-year Flood Management Area. The site straddles the Cashmere Stream catchment to the south and the Hendersons Basin catchment to the north.
- 20 To assess the effects of the proposed development on the wider catchment, DHI undertook flood modelling using the Heathcote City Wide Model Version 2.6, also known as the Phase 3 Model, which was the most up-to-date CCC model of the Heathcote catchment available at the time of modelling. The model was simulated for the 1 in 200-year event with 24- and 48-hour durations, which were identified as the most critical scenarios. Eliot Sinclair provided DHI with a proposed finished surface incorporating the proposed stormwater management areas and design features.
- 21 The modelling results confirm that the proposed development does not result in material adverse effects on surrounding existing flood levels. This conclusion is further supported by the additional DHI modelling undertaken in August 2026 using future climate scenarios, which confirms that the proposed development has a minimal impact on surrounding flood levels. Refer to the evidence of Mr Whyte, which further addresses flood modelling.

Earthworks

- 22 The finished surface of each allotment will be filled to the level of the road boundary and graded at a minimum of 1 in 500 towards the carriageway, ensuring stormwater drains to kerb and channel and the associated reticulation network.
- 23 All future dwelling finished floor levels will be set a minimum of 400 mm above the 0.5% (200-year) AEP storm event flood depth, as modelled for both the Cashmere Stream and Hendersons Basin catchments. Ground levels will be raised where required to achieve a minimum 225 mm clearance between the finished floor level

and surrounding ground surface in compliance with Clause E2 of the New Zealand Building Code.

- 24 The SMAs will be required to provide compensatory storage to offset the effect of filling the lots within the proposed Private Plan Change area. Adequate land has been set aside within each SMA, shown as indicative stormwater management basins in the Hendersons East Outline Development Plan (**ODP**), to accommodate this requirement at detailed design.

Roading

- 25 New internal roads will connect the proposed Private Plan Change area to Cashmere Road, Leistrella Road and Northaw Street, shown as the proposed road network on the ODP. Road connections to the neighbouring development to the west (Lots 24 and 25 DP 3217) are also anticipated, with connection points to be co-ordinated with the engineers engaged for that development.
- 26 Proposed carriageways will be 6.4 m wide, accommodating two-way traffic with additional on-street parking. All roads will incorporate footpaths and landscaped berms. Kerb and channel will contain carriageway formations and convey stormwater runoff to sump inlets.
- 27 Roothing will be designed and constructed in accordance with the Christchurch City Council Infrastructure Design Standards (**IDS**), Christchurch City Council Construction Standard Specifications (**CSS**) and appropriate New Zealand Standards.
- 28 A Traffic Impact Assessment has been prepared by Stantec. Refer to the evidence of Andrew Leckie which addresses the traffic effects of the proposed development.

Wastewater

- 29 Stage 1 of the Cashmere Fields residential subdivision, located at 200 Cashmere Road, is constructed and is serviced by an existing Local Pressure Sewer (LPS) network that was sized to service 233 residential lots. The existing LPS network discharges to the DN300 gravity sewer main within Cashmere Road via an existing odour control unit. Future development within the proposed Private Plan Change area is proposed to connect to this existing LPS network.
- 30 Each residential dwelling will gravity drain to a Council-authorized pump unit located within the property boundary. Each pump unit will provide a minimum of 24 hours storage capacity and will be controlled by an Iota OneBox panel enabling automation and remote monitoring of discharges to the low-pressure sewer network. The pump unit will discharge to a pressure sewer main within the street

berm. A boundary kit with valves and isolation points will be installed at each property boundary at the time of subdivision.

- 31 It is proposed that the PPC18 zone change will enable a potential yield of approximately 246 to 328 residential lots across the total developable area of the Site zoned RNN, based on a density of 15 to 20 dwellings per hectare. While the original Cashmere Fields design assumed a servicing requirement of 233 lots, hydraulic modelling undertaken by Iota indicates that the existing LPS network has capacity to service up to 459 lots in total and accordingly that the existing LPS network has sufficient capacity to service this scenario. The available capacity will be confirmed through further hydraulic modelling once the final lot layout and associated wastewater demand are known at detailed design stage.
- 32 In the event that additional capacity is required, wastewater network augmentation will be addressed through further assessment and design at the subdivision consent stage, with integration into the existing LPS network and existing discharge point where practicable. As part of the subdivision consent process, Council may, at its discretion, impose conditions and infrastructure requirements to ensure that the proposed wastewater servicing solution and any required network upgrades are acceptable to Council. The existing sewer infrastructure does not preclude servicing of the proposed Private Plan Change area.

Stormwater

- 33 Future development within the proposed Private Plan Change area will be required to convey stormwater runoff to Stormwater Management Areas (**SMAs**) for treatment and attenuation prior to discharge to a local surface water. Design requirements in accordance with current CCC standards are treatment of the first 25 mm rainfall depth and full flood attenuation for the 2% AEP 36-hour storm event.
- 34 As the proposed Private Plan Change area is located within the 200-year Flood Management Area, the SMAs will also be required to provide compensatory storage to offset the volume of land fill proposed across the development. The concept design provides 72,820 m³ of post-development flood storage against a pre-development condition of 58,490 m³, an overall increase of approximately 24%. This confirms that sufficient land area has been identified within the SMAs to accommodate the compensatory storage requirement, with adequate headroom for refinement through detailed design.
- 35 Given the high seasonal groundwater table across the site, the SMAs are proposed to comprise grassed dry basins and wetlands. Four SMAs are proposed within the Rural Urban Fringe (RuUF) area. The SMA areas will be planted with wetland species and include deep and shallow pool zones, providing ecological and amenity benefits.

- 36 SMA 4 is located adjacent to the existing Stage 1 Cashmere Fields stormwater facility, which has been sized to cater for the small upstream catchment area draining to it. The detailed design will confirm whether the existing facility has sufficient capacity or whether SMA 4 will need to function as a separate facility.
- 37 SMAs 1 and 2 are positioned such that they may be combined into one larger facility as development progresses, and SMAs 1, 2 and 3 are also positioned to potentially integrate with the stormwater management facilities serving the neighbouring western land if required.
- 38 Stormwater from residential lots, reserves and roads will be conveyed by kerb and channel, sump inlets and pipe reticulation to the SMAs. The pipe network will be designed to convey the 20% AEP (5-year) critical duration rainfall runoff in accordance with CCC IDS Part 5: Stormwater Land Drainage. Flows exceeding pipe capacity will be conveyed within the road reserve to the appropriate SMA.
- 39 It is proposed that the section of Stillwells Drain running through the proposed Private Plan Change area be widened and naturalised to increase flow carrying capacity and enhance ecology. Detailed design will be carried out in conjunction with ecologist recommendations.
- 40 The Timber Lined Box Drain along the northeast boundary of the Private Plan Change area is a CCC stormwater drainage asset. As indicated in DHI's flood modelling report, it is proposed that flows from Northaw Street be intercepted and directed into the new SMA to the west. Whether the existing drain is retained for secondary flow purposes or removed will be confirmed at detailed design.

Water Supply

- 41 The proposed Private Plan Change area is located within the Central Water Supply Zone. During the development of Stage 1 of the Cashmere Fields subdivision, the zone boundary valve was relocated to the west along Cashmere Road to ensure the entire Cashmere Fields development falls within the Central Zone.
- 42 CCC engaged WSP to carry out a water supply assessment for the Cashmere Park residential development. In the RFI response dated 5 August 2025, Eliot Sinclair confirmed that the proposed development adopts the recommendations outlined in the WSP report "Cashmere Park Residential Development Water Supply Assessment" dated 11 November 2023 (PC18 Appendix U), commissioned by Christchurch City Council. That report supersedes the earlier Eliot Sinclair "Cashmere/Hendersons Plan Change Water Supply Design Report" dated 28 April 2023 (PC18 Appendix M). The WSP report therefore forms the current basis for the water supply servicing assessment for the proposed development.

- 43 The WSP modelling assessed the development against Level of Service pressure and head loss criteria and FW2 fire flow requirements. The assessment found that the minimum pressure within the proposed development can be maintained between 60 and 70 m, satisfying the minimum pressure criteria. WSP also modelled fire-fighting flows at a range of hydrant locations within the proposed development to confirm that the network can meet FW2 requirements. At each modelled location, the required flow of 25 L/s was achieved while maintaining a residual pressure greater than 10 m.
- 44 The WSP modelling identified that sections of the internal pipe network within the development experience head losses exceeding the performance criteria when modelled at DN150. The internal pipe network will be upsized to DN200, with the exact extent to be determined through the detailed design process once the final layout and demand are confirmed.
- 45 The WSP report also identified that a number of existing CCC supply pipes on Leistrella Road, Cashmere Road, Sparks Road, Northaw Street and at the Spreydon Station well outlet will require upgrading, along with additional well capacity within the Central Zone to support future growth and security of supply. As recorded in the correspondence between Eliot Sinclair and Council attached as **Appendix A** to my evidence, Council advised that the exact scope of these upgrades would be refined at detailed design depending on the final layout and demand, and that should the plan change be successful, the requirement to upgrade these pipes would be included as a consent condition. Council also confirmed that the provision of additional well capacity within the Central Zone to support future growth and security of supply was a matter for Council to address as a growth response.
- 46 The future reticulated potable network through the proposed Private Plan Change area will be designed in accordance with the CCC IDS and SNZ PAS 4509:2008 New Zealand Fire Service Fire Fighting Water Supplies Code of Practice. The firefighting water supply classification will be FW2, with fire hydrants placed at no more than 135 m intervals. Where water mains to vest in CCC pass through private property, easements will be provided in favour of CCC for access, operations and maintenance.

Utility Services

- 47 Orion have confirmed their network has sufficient capacity to service the proposed development.
- 48 Power reticulation will be installed underground within road berms. High voltage cables will extend to distribution kiosks, from which low voltage connections will be provided to each residential dwelling frontage and to street lights. The high voltage

network will be installed by an approved installer appointed by the developer and will vest in Orion upon completion.

- 49 Enable have confirmed their fibre network has sufficient capacity to service the Cashmere Fields development.
- 50 Detailed design of the fibre network will be completed as part of Engineering Acceptance.
- 51 All street lighting within new roads will vest in CCC and will be designed in compliance with CCC IDS Part 11: Lighting and AS/NZS 1158.

Response to matters raised in submission 57 by Desmond and Gaye Skene

- 52 In Section 3.1, the submitters seek confirmation that the PPC18 flood modelling does not rely on any assumption that 150 Sparks Road will remain undeveloped or will provide flood storage for the PPC18 development.
- 53 I confirm that the compensatory storage calculations for PPC18 are designed to be self-contained within the PPC18 land. I refer to Mr Whyte's evidence for the flood modelling assumptions in relation to 150 Sparks Road.
- 54 In Section 3.3, the submitters seek confirmation that no stormwater from the PPC18 development will be discharged onto or directed toward 150 Sparks Road.
- 55 The stormwater management strategy for PPC18 has been designed to contain and manage runoff within the site, with stormwater discharged at controlled rates via the SMA to the widened and naturalised Stillwells Drain, located south of the 126 Sparks Road property. No stormwater generated by the PPC18 development is proposed to discharge onto, or be directed toward, 150 Sparks Road, either directly or indirectly through overland flow paths.
- 56 In Section 3.9, the submitters raise a concern that fill volumes within Henderson's Basin have not been quantified and that compensatory storage has not been demonstrated through modelling to offset the displacement of flood storage.
- 57 The submitters' concern in this regard does not reflect the work that has been undertaken. The flood storage volumes have been assessed based on a high-level conceptual SMA design prepared to inform PC18, and are subject to refinement during the detailed design stage. The results of that assessment are set out in Table 1 below.

Table 1. Pre- and Post-Development Flood Storage Capacity by Catchment

Catchment	Food Storage (m3)		
	Pre-development	Post-development	Net Compensatory
Henderson Basin	42,820	55,800	12,980
Cashmere Stream	15,670	17,020	1,350
Total	58,490	72,820	14,330

- 58 The assessment demonstrates that post-development flood storage within the SMAs exceeds pre-development storage across both catchments. The total net compensatory storage of 14,330 m³ confirms that the proposed SMAs not only replace the flood storage displaced by development filling but provide an overall increase in flood storage capacity across the Henderson Basin and Cashmere Stream catchments.
- 59 The submitters also seek a compensatory storage ratio greater than 1:1 as an ODP requirement. I do not consider a fixed ratio to be the appropriate performance standard at the ODP level. Flood neutrality is properly demonstrated through hydraulic modelling, not volume ratios, and that demonstration will be required at the subdivision consent stage. I note that the concept design already provides post-development storage approximately 24% above the pre-development condition, indicating the approach is conservative and provides adequate headroom for refinement during detailed design.

Response to matters raised in submission 86 by Canterbury Regional Council

- 60 In Section 3.20, the submitter raises concerns regarding the management of shallow groundwater during construction and in the long term, including temporary and permanent dewatering, subsurface drainage, artesian flows, groundwater inflows to stormwater reticulation, and groundwater flooding. These are acknowledged as relevant considerations given the shallow depth to groundwater identified across the site. However, these matters are appropriately addressed at the subdivision consent stage, which is the standard process for managing groundwater-related design and construction issues for residential subdivisions of this nature. A suitably qualified hydrogeologist will be engaged as part of the detailed design process to assess groundwater conditions, inform the design of subsurface drainage and dewatering measures, and provide recommendations to manage the identified risks during construction and in the long term. Any necessary Canterbury Regional Council (ECan) consents associated with groundwater management and dewatering will also be obtained at that stage, providing a further

opportunity for the detailed design and effects of those activities to be assessed. I consider that no further information is required at the plan change stage to demonstrate that these matters can be appropriately managed.

Response to matters raised in the s42A report

- 61 I have reviewed the evidence of Ms Michele McDonald on behalf of Christchurch City Council, insofar as it relates to water supply servicing and the amendments she recommends to the Hendersons Basin Outline Development Plan (ODP).
- 62 I agree with Ms McDonald that the WSP water supply assessment identified potential upgrades required to service development enabled by PPC18. I acknowledge the internal and external network upgrades identified in paragraphs 43.2 and 43.3 of her evidence.
- 63 My disagreement with Ms McDonald relates not to the need to appropriately address water supply capacity, but to the level of prescription she proposes be incorporated into the ODP provisions. At paragraph 72 of her evidence, Ms McDonald recommends that the ODP specify, at a minimum, particular lengths, diameters, materials and locations of existing water mains that are to be upgraded, together with any additional works identified through detailed design.
- 64 In my opinion, prescribing that level of infrastructure detail within the ODP is not appropriate at this stage of the planning process. The WSP modelling is a concept-level assessment undertaken on the basis of the development layout and demands adopted at the time of that assessment. It identifies network constraints and potential upgrades based on those assumptions, but does not represent detailed design or, in my opinion, definitively establish the final scope of physical works that will ultimately be required.
- 65 The WSP assessment incorporated a conceptual development layout of 396 allotments, whereas the PPC18 zone change will enable a potential yield of approximately 246 to 328 residential lots across the total developable area of the Site zoned RNN, based on a density of 15 to 20 dwellings per hectare. This is a material difference in the development yield upon which the water supply demand will ultimately depend. I therefore consider that the specific upgrades identified through the WSP modelling should be treated as indicative of the upgrades that may be required, rather than as a fixed minimum scope of works to be prescribed through the ODP.
- 66 Further, the existing Council water supply network will not necessarily remain unchanged between approval of PPC18 and the future subdivision and development of the Site. The timing of subdivision is presently unknown and upgrades or other changes to the wider Council network may occur before development proceeds. Ms McDonald herself identifies, for example, the planned

relocation and upgrade of the Hillmorton Pump Station, presently anticipated for completion by the end of FY2030. While I acknowledge Ms McDonald's opinion that this particular project will not resolve the currently identified localised constraints, it illustrates that the wider network and demand environment may change over time.

- 67 For those reasons, in my opinion the appropriate time to confirm the precise extent, diameter and location of any water supply network upgrades is at subdivision consent stage. At that point the final subdivision layout, dwelling yield and associated water demands will be known, and Council can require updated hydraulic modelling using the network configuration and demand assumptions applicable at that time.
- 68 I agree with Ms McDonald that the ODP should identify that the necessary water supply network upgrades are required before development proceeds, and that the developer is responsible for providing those upgrades. I defer to the planning and legal experts as to the appropriate wording to give effect to this requirement in the ODP.
- 69 In my opinion, this approach appropriately ensures that the necessary upgrades are provided before development occurs, while allowing their exact scope to be confirmed through updated modelling and detailed design. I therefore do not consider it necessary or appropriate for the ODP to also prescribe the specific upgrades listed in items (a) to (f) of Ms McDonald's recommended provision.
- 70 Ms McDonald also recommends at paragraph 73 of her evidence that an additional note be included in the ODP stating that the water network upgrades required as a consequence of PPC18 are not included in Council's Long-Term Plan, are not funded through development contributions, and are to be funded and delivered by the developer. I note that this has not been included in the ODP text recommended by the Council planner, and I agree with its omission, as the provision I support at paragraph 68 of my evidence already requires the necessary upgrades to be funded and delivered by the developer.
- 71 I have reviewed the evidence of Ms McDonald insofar as it relates to wastewater servicing and the amendments recommended to the Hendersons Basin ODP.
- 72 I acknowledge Ms McDonald's assessment that the existing LPS network can accommodate development enabled by PPC18, subject to sufficient capacity being retained for the balance of Areas 4A and 4B and development remaining within the available hydraulic capacity of the network. I also acknowledge her recommendations that sufficient LPS capacity be retained for 80 residential units within the balance of Areas 4A and 4B, and that development enabled by PPC18 be limited to a maximum of 333 additional residential units unless further wastewater network upgrades are provided to the satisfaction of Council.

- 73 I also acknowledge Council's preference that any wastewater network augmentation required as a result of development enabled by PPC18 be integrated with the existing LPS network and existing discharge point, unless it can be demonstrated that integration with the existing network is not practicable.
- 74 I have reviewed the wastewater provisions recommended by Ms McDonald and included in the Council planner's recommended ODP text, and I have no objection to the proposed wording.

Conclusion

- 75 In my opinion, the proposed PPC18 area can be adequately serviced for three waters and utility infrastructure. While infrastructure upgrades and further detailed design will be required as development progresses, I consider these matters can be appropriately addressed through the subdivision consent and detailed design process and do not preclude the proposed rezoning.

Jenny Bull

Dated 14 August 2026

Appendix A – Correspondence with CCC regarding water supply upgrades

Jenny Bull

From: McDonald, Michele <Michele.McDonald@ccc.govt.nz>
Sent: Wednesday, 15 November 2023 4:04 pm
To: Stephany Pandrea
Cc: Bryan McGillan; Tang, Alison; Tang, Alison
Subject: RE: [#511270] - Cashmere Park Plan Change Residential Development Servicing Capacity - Confirmation

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Dear Stephany

Yes, I agree the supply of additional source water will be a Council response to growth requirement.

What I get out of the modelling though is that upgrades will be required at most connection points i.e. Sparks + Cashmere + Leistrella....but I also agree that this will have to be refined, depending on eventual layout / demand. Should a plan change be successful, we will include as a consent condition, the need to upgrade these pipes.

Regards

Michele McDonald

Team Leader Asset Planning WWW

Asset Planning - Water & Wastewater

 03 941 8131 022 639 6299
 Michele.McDonald@ccc.govt.nz
 Te Hononga Civic Offices, 53 Hereford Street, Christchurch
 PO Box 73014, Christchurch 8154
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Christchurch
City Council 

From: Stephany Pandrea <sp@eliotsinclair.co.nz>
Sent: Wednesday, November 15, 2023 3:55 PM
To: McDonald, Michele <Michele.McDonald@ccc.govt.nz>
Cc: Bryan McGillan <bjm@eliotsinclair.co.nz>
Subject: [#511270] - Cashmere Park Plan Change Residential Development Servicing Capacity - Confirmation

Hi Michele,

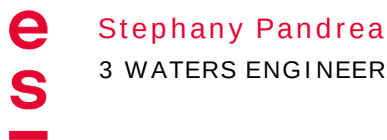
Thank you for the water supply model report results just in time for the hearing yesterday morning. In summary I understand the report indicates that upgrades are required to some of the council pipes we are connecting to. Obviously this will be subject to detailed design when we'll be able to confirm the flowrates back to you to determine which pipes will require upgrading.

In terms of well capacity for the Central Zone, would you say that since the well capacity is exceeded in the existing base case scenario, this will be need to be addressed independently by council and would you say that the developers of this site would not need contribute in costs for this additional well capacity?

We will discuss the modelling outcomes with our clients and come back to you if we require anything further at this stage.

Much appreciated.

Regards,



Stephany Pandrea
3 WATERS ENGINEER

Shape
tomorrow



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From: McDonald, Michele <Michele.McDonald@ccc.govt.nz>

Sent: Monday, 13 November 2023 10:54 am

To: Stephany Pandrea <sp@eliotsinclair.co.nz>; Bryan McGillan <bjm@eliotsinclair.co.nz>

Cc: Tang, Alison <Alison.Tang@ccc.govt.nz>; Lightbody, Kirk <Kirk.Lightbody@ccc.govt.nz>

Subject: RE: [#511270] 511270 - Cashmere Park Plan Change Residential Development Servicing Capacity - Confirmation

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Dear Stephany

Please find the WS Model output for the Casmere Park Plan Change.

Regards

Michele McDonald

Team Leader Asset Planning WWW
Asset Planning - Water & Wastewater



03 941 8131 022 639 6299



Michele.McDonald@ccc.govt.nz