

Before the Independent Hearing Commissioner  
Appointed by the Christchurch City Council

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Under the Resource Management Act 1991

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

**Cashmere Fields**

Applicant

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**Evidence of Laura Rose Drummond**

14 August 2026

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## Introduction

- 1 My full name is Laura Rose Drummond.
- 2 I have a Bachelor's degree in Science (2006) and a Master's degree in Ecology (2012) from the University of Canterbury. I am a member of the New Zealand Freshwater Sciences Society.
- 3 I am the Group Leader – Environmental Science at Stantec New Zealand. Previously I have been employed at Instream Consulting as a Principal Scientist and at Pattle Delamore Partners as Technical Director – Ecology. Internationally I have held positions as a Freshwater Ecologist, Fisheries Specialist and Environmental and Regulatory Specialist in Canada.
- 4 I have over 18 years' experience in freshwater ecology consulting and research. I have been employed by Stantec since August 2025, where I specialise in assessing the effects of infrastructure and land development on ecological values. Previous land development projects I have been involved in based in the Christchurch area include Quarry Paddocks, Riverstone, Earlsbrook, Townsend Fields, Milns Park and Pound Road.
- 5 I have prepared an assessment on potential aquatic ecology effects, Appendix T to a private plan change request (**PC18**) by Cashmere Fields, responding to a request for further information from Christchurch City Council, dated 12 May 2025. PC18 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 I have undertaken two site visits to view Stilwells Drain, Stilwells Drain Branch, Rollesby Street Drain and the wider area in 2025.

- 7 In preparing this evidence I have considered the following documents:
- (a) Plan Change Request, Private Plan Change Prepared for Cashmere Fields Ltd
  - (b) Ecological Assessment (Instream 2025)
  - (c) The site Outline Development Plan (ODP)
  - (d) Submissions
  - (e) Section 42A report

**Code of Conduct for Expert Witnesses**

- 8 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**

- 9 I have prepared evidence in relation to aquatic ecology with comment on other ecological values where appropriate. This evidence addresses:
- (a) Existing environment
  - (b) Potential effects of the plan change
  - (c) Comment on the potential mitigation that can be provided to minimise impacts of the proposed landuse change to aquatic features on site
  - (d) Comment on potential buffer distances for waterways and adjacent wetlands
  - (e) Response to submitters
  - (f) Response to matters raised in the s42A report
- 10 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

- 11 Within the proposed plan change site, three watercourses have been identified through desktop review and site visits, as shown in Figure 1 of my evidence. Stilwell Drain, the primary waterway within the site has high ecological value, despite being lined, and has the potential for higher ecological value if restored and enhanced as part of the plan change. Restoration proposed includes the removal of the timber lining, shaping of banks, native riparian planting and instream enhancement.
- 12 A wetland complex is located approximately 200m to the west of the site. No direct impacts are proposed to this wetland complex as part of the plan change. However, it is recognised that a key indirect risk to the ecological values of the wetlands is the alteration of hydrology. In areas with shallow groundwater, there is potential for disruption to shallow groundwater and overland flow paths as a result of increased impervious surfaces, therefore mitigation is needed. Impacts to wetland hydrology will need to be assessed as part of the subdivision consents stage, when further design detail is available.
- 13 With careful design, it is considered that the waterways within and adjacent to the site can be enhanced and restored, improving current ecological values. To manage potential effects to both aquatic and terrestrial values associated with the site, an Ecological Management Plan is recommended to guide works. Specific examples of recommended mitigation measures have been included, this includes providing suitable instream habitat for banded kōkopu, a locally rare fish species which has been recorded in the upper Stilwells catchment, to encourage the local distribution of this species.

## Existing environment

- 14 A desktop assessment and site walkover were undertaken to inform an assessment of potential effects of the proposed land use change from a mix of Rural Urban Fringe (**RuUF**) and Residential New Neighbourhood (**RNN**) to RNN across the entire site. It is noted that stormwater management areas are to remain as RuUF.
- 15 The Cashmere Fields development is located between Sparks Road and Cashmere Road in Hoon Hay. The Site is bordered by residential areas to the north and east, multipurpose rural land use to the west, and a mixture of residential and lifestyle dwellings to the south. Current land use within the Site is a mixture of lifestyle blocks and dog training.

## Watercourses

- 16 The Site footprint contains, or is directly adjacent to, three network waterways (Stilwells Drain, Stilwells Drain Branch and Rollesby Street Drain), which are tributaries of the Ōpāwaho / Heathcote River. There are no known wetlands or sites of ecological significance within the Site footprint.
- 17 Three additional watercourses are located outside the Site, but within the wider Hendersons Basin area. Two of the watercourses (Ballantines Drain and Sherrings Drain) are hydrologically connected to Stilwells Drain and the third, Luney's Drain Branch, drains the southern extent of the Site and is separated by Cashmere Road. Waterways associated with the ODP area are shown in Figure 1.

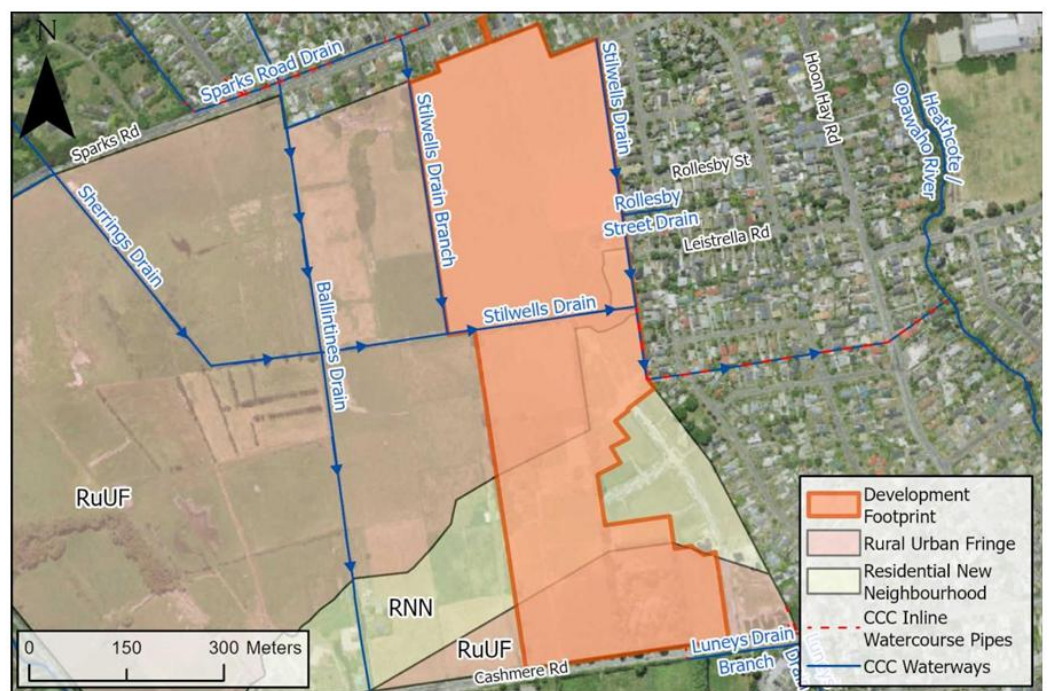


Figure 1: Site overview showing the Cashmere Fields Development Footprint (the Site) and the land within the Site currently zoned Rural Urban Fringe and Residential Urban Footprint.

- 18 Stilwells Drain is the main watercourse associated with the Site and is comprised of north south branch tributaries along the Site's western and eastern boundaries. The west-east channel begins at the confluence of Ballantines and Sherrings Drains and carries perennial flow. Stilwells Drain Branch and Rollesby Street Drain tributaries are characterised as open grass channels that are intermittent or ephemeral. These channels have limited ecological value in their current condition.
- 19 Stilwells Drain (west east) within the site has concrete or timber lined sections with stable, spring-fed, homogenous flow. There is minimal native riparian vegetation present to shade or buffer the channel, poor instream habitat (i.e., absence of riffle

and pools), and high sediment cover of the stream bed (Hornblow 2025<sup>1</sup>). Combined with lined banks, these conditions provide poor habitat for both fish and macroinvertebrates.

- 20 Surveys have confirmed the macroinvertebrate communities within Stilwells Drain and adjacent waterways are comprised of pollution-tolerant taxa, and the fish community is typical of urban Christchurch waterways. Six fish species were recorded: īnanga, common bully, upland bully, giant bully, shortfin eel and longfin eel, of which īnanga and longfin eel are both listed as “At Risk - Declining” (Dunn et al. 2018<sup>2</sup>).
- 21 A single banded kōkopu in upper Sherrings Waterway was recorded. This is noteworthy as while this species is Not Threatened on a national level, it is locally rare and the first known banded kōkopu recorded in the upper Ōpāwaho/Heathcote catchment. There is an opportunity to enhance Stilwells Drain within the Cashmere Fields development with suitable banded kokopu habitat, to encourage the local distribution of this species.
- 22 Many of these fish species are migratory and require access to the sea to complete their lifecycles. There are no known instream barriers within the development footprint, but Stilwells Drain is piped approximately 80m downstream of Leistrella Road, continuing as Blakiston Drain for approximately 600m before discharging into the Ōpāwaho / Heathcote River.

### *Wetlands*

- 23 Approximately 200m to the west of the site is a wetland complex that supports rare plant species, provides habitat for native waterfowl, and contains potential lizard habitat (Head 2025<sup>3</sup>). This wetland complex has been mapped in part by Council and meets the Resource Management Act (RMA) definition of an ecologically significant wetland. This wetland complex is shown in Figure 2.
- 24 No natural inland wetlands have been identified within the site<sup>4</sup>, but site-specific wetland delineations will be required at subdivision stage. Identification of wetlands within 10m of any earthworks and within 100m of the Site's development will be

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<sup>1</sup> Hornblow K (2025). Ballantines, Stilwells, and Sherrings Waterways Freshwater Ecology Assessment. Report Prepared for Christchurch City Council, July 2025.

<sup>2</sup> Dunn NR, Allibone RM, Closs GP, Crow SK, David BO, Goodman JM, Griffiths M, Jack DC, Ling N, Waters JM, Rolfe JR (2018). Conservation status of New Zealand freshwater fishes, 2017. New Zealand Threat Classification Series 24, 11. Available at: [www.doc.govt.nz](http://www.doc.govt.nz)

<sup>3</sup> Head N (2025). Wetland Assessment: Sparks, Hendersons Road. Christchurch City Council Report.

<sup>4</sup> Based on aerial review and a wetland delineation at a proposed stormwater management area found no natural wetlands within the assessed area or within 100 m (Instream Consulting 2025).

required to in accordance with regulatory requirements of the National Policy Statement for Freshwater Management (NPS-FM, amended January 2024).

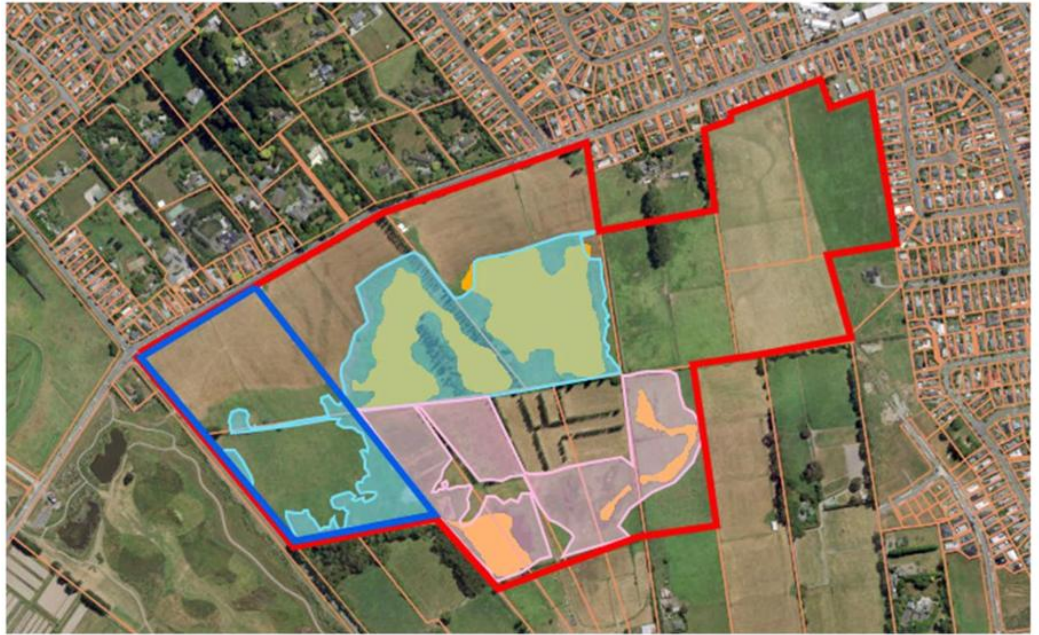


Figure 2. Sourced from the recent Council report by Head (2025) showing the extent of identified wetlands. Light blue shading shows wetlands determined by field survey; pink shows likely wetlands that are yet to be surveyed. The underlying orange is Environment Canterbury's indicative wetland layer.

### Potential effects of the plan change

- 25 The proposed plan change has the potential to cause adverse effects if not appropriately planned and mitigated for. Key assessment areas are detailed below.

*Increased proportion of impervious surfaces has the potential to result in reduced recharge of nearby wetlands and watercourses if not considered and mitigated for at the design stage.*

- 26 An ecologically significant wetland complex is located approximately 200m west of the proposed Site. An assessment of wetland recharge associated with the proposed change of impervious surface area will be needed at the subdivision design stage.
- 27 Ballantines Drain and Stilwells Drain provide hydraulic separation from the northern half of the proposed plan change area. The distance, as well as the watercourses separating the northern half of the Site from the wetland complex to the west, reduces the risk associated with adverse effects of run-off development. However, further assessment is needed to confirm this at the subdivision design stage, in particular for the southern half of the site.
- 28 Stormwater management areas (SMAs) are proposed, as per the ODP, including a buffer strip of land between the known wetland areas and the residential development area. As per the evidence of Jenny Bull, four SMAs are proposed,

with grassed dry basins and wetlands. These wetlands have the potential to provide ecological and amenity benefits, as well as linkages to the natural wetlands to the west of the site, if they are designed to provide variation in habitat (shallow and deep pooled areas) and are planted with native wetland species. Maintenance of these areas will be required.

*Discharge of urban stormwater contaminants, including sediment, to watercourses*

- 29 The change in landuse will result in an increase in urban contaminants, including sediment and heavy metals from both construction and operational phases. However, as per the ODP stormwater within the site is to be treated via a series of stormwater management areas.
- 30 An assessment of expected discharge quality will need to be undertaken against Canterbury Land and Water Plan Schedule 5 receiving water standards at the subdivision consent stage. As per the evidence of Jenny Bull, the SMAs will be designed as per best practice and CCC standards. If stormwater is attenuated and treated to a high standard, potential adverse effects to downgradient waterways, including the Ōpāwaho / Heathcote River will be minimised.

*Loss of watercourse and/or wetland extent*

- 31 As part of the proposed land use change, there is potential for the loss of watercourse and/or wetland extent or ecological values. The Cashmere Fields development intends to enhance and naturalise Stilwell Drain (west-east) to improve current aquatic ecology values.
- 32 Further assessment and detail will be provided at the subdivision consent stage, as naturalising timber lined drains requires consideration of multiple factors, including geotechnical and hydrological.
- 33 Some piping along Stilwell Drain (north-south) and Rollesby Street Drain is to occur, with the northern portion of Stilwell Drain to be redirected west towards proposed wetlands within the site (exact area is not yet known). It is also understood that this piping is a Council initiative and not a direct result of the proposed plan change.
- 34 An assessment of loss of watercourse extent (Stilwell Drain (north-south) and Rollesby Street Drain) will be required at the subdivision design stage. It is expected that loss of watercourse extent may be effectively offset by ecological improvements to Stilwell Drain (west-east).
- 35 No loss of wetland extent is expected, based on aerial review and site walkover; however, this will need to be confirmed at the subdivision design stage. An ecologically significant wetland complex is located approximately 200m west of the

Site. Further assessment to confirm the extent of this wetland complex in relation to the Site boundaries will be needed at the subdivision design stage.

#### *Instream works*

- 36 The proposed development will require instream works for activities such as culvert installations, naturalisation and enhancement of waterways, waterway realignments, and stormwater management area connections (i.e., discharge points).
- 37 An Ecological Management Plan is proposed to be a requirement at subdivision consent stage, to document mitigation recommendation to avoid adverse effects to instream values. This includes, at minimum, the following:
- (a) Instream work including restoration
  - (b) Stormwater discharges
  - (c) Fish management
  - (d) Wetland management
  - (e) Erosion and sediment control
  - (f) Bird management
  - (g) Lizard management

#### **Response to matters raised in submissions**

- 38 Sue & Andrew Walker raised concerns with runoff from development and the comment that *“Increased proportion of impervious surfaces has the potential to result in reduced recharge of nearby wetlands and watercourses if not considered and mitigated for at the design stage”* from the Ecological Assessment. These submitters seek that the wetland area and /or a swale area or buffer zone be closer to the northern boundary so the water will naturally become part of the wetland area. As per paragraphs 32-35, a detailed assessment of effects will be required as part of the subdivision stage to manage effects. In addition, it is noted that the wetland complex is separated from much of the development area by existing drainage channels, reducing the risk of direct ecological effects.
- 39 Graham Trost asks who is going to manage the flora and fauna of the wetlands, CCC or the developer. It is recommended that the maintenance of plantings be addressed at the subdivision consent stage and included within the Ecological Management Plan.

- 40 Rachel Kirk and Stephanie Down's submission noted the loss of flooded pasture land and trees for birdlife. A detailed assessment of effects will be required as part of the subdivision stage for terrestrial ecology values, including birdlife, and bird management is proposed as part of the Ecological Management Plan. It is noted that the SMAs, wetlands and associated buffer areas will include open grassed areas, ponded areas and native wetland planting, as per the evidence of Jenny Bull, which will provide bird habitat adjacent to the existing wetland complex to the west.
- 41 Alvaro Lo-Fo-Wong & Jaimita de Jongh raised concerns on extended suspended sediment within stormwater discharges to Ōpāwaho / Heathcote River, based on observations of extended duration of elevated turbidity associated with the delayed discharge from detention basins within the catchment. While the concerns for the river are recognised, the soils within the site are not loess soil from the Port Hills and therefore with attenuation and treatment within the SMAs, treated stormwater discharge is not expected to increase turbidity levels within the Ōpāwaho / Heathcote River. An assessment of stormwater discharge from the site will be required as part of the detailed subdivision stage.
- 42 Concerns were also raised on the loss of a natural habitat for birdlife and removal of natural springs in the area. The proposed ODP has a large area of land set aside for SMAs, recreational and conservation use. These areas, as well as the restored section of Stilwell Drain, are expected to provide habitats for birdlife, and linkages to the natural wetland area to the west. No removal of natural springs is proposed as part of the plan change.
- 43 Waihoru Spreydon-Cashmere-Heathcote Community Board is supportive of the proposed improvements to the aquatic environment, in particular associated with the naturalisation of Stilwell Drain and recommend this be a condition of the proposed plan change. I agree with this recommendation and their comment on the recommendation provided in the Ecology Assessment. As per paragraph 39, I recommend an Ecological Management Plan is a requirement of the ODP to provide clarity and guidance on proposed ecological improvements.
- 44 Environment Canterbury is supportive of the proposed enhancement of the drains, including suitable banded kōkopu habitat. They note that the recommendations provided in the Ecological Assessment report for mitigating potential effects on surface water quality and ecology should be followed. As per paragraph 39, an Ecological Management Plan is recommended as a requirement of the ODP to provide controls on site works to mitigate potential adverse effects on surface water quality and ecology values. This includes details on erosion and sediment control plans, setbacks, stormwater controls, and instream works as the site is developed.

- 45 Environment Canterbury also agree that the recommendation provided in the Ecological Assessment report for further assessment at subdivision stage to confirm the extent and values of the wetland complex is appropriate. As per paragraphs 29-30, subdivision and stormwater management area design will need to be carefully designed and assessed to demonstrate the changes associated with the increase in impervious surfaces will be appropriately managed in relation to wetland functioning.

#### **Response to matters raised in the s42A report**

- 46 The S42a report concludes that while significant wetlands are located 200m to the west of the site, they are located outside the development footprint, are not directly affected by the proposed rezoning, and can be protected through further assessment, design controls, waterway enhancement, stormwater management measures, and ecological mitigation at subsequent stages of development.

#### **Conclusion**

- 47 The proposed plan change has the potential to result in an improvement to current aquatic ecology values of the watercourses that flow through the Site, provided works are undertaken with appropriate guidance and mitigation controls.
- 48 A detailed assessment of effects for the wetland complex located west of the site will be needed at the subdivision consent stage, when further details of the development design are available. Terrestrial fauna values (birds, lizards, fauna, vegetation) will also need to be assessed at this stage.
- 49 An Ecological Management Plan is recommended as a requirement of the ODP, to provide clarity and guidance on proposed ecological enhancements and protections for the construction and operational phase of future development.

Dated 14 August 2026

Laura Rose Drummond