

BEFORE THE WAIMAKARIRI DISTRICT PLAN REVIEW HEARINGS PANEL

IN THE MATTER OF the Resource Management Act 1991

AND

IN THE MATTER OF the hearing of submissions and further submissions on the Proposed Waimakariri District Plan

AND

hearing of submissions and further submissions on Variations 1 and 2 to the Proposed Waimakariri District Plan

Hearing Stream 12E: Rezoning Requests

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF IVAN THOMSON
(PLANNING)
FOR RICHARD AND GEOFF SPARK
(PDP SUBMITTER 183 / VARIATION 1 SUBMITTER 61)**

Dated 2 August 2024

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Introduction

1. My name is Ivan Thomson.
2. My area of expertise, experience, and qualifications are set out in my First Statement of Evidence dated 4 March 2024 for this hearing stream.
3. The purpose of this supplementary evidence is to respond to matters raised in the Officer's Report dated 22 July 2024 relevant to my evidence.

Code of Conduct

4. I have read the Code of Conduct for Expert Witnesses (contained in the Environment Court Practice Note 2023) and I agree to comply with it. Except where I state that I rely on the evidence of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

Response to Officer's Report

5. In my evidence below I have focussed on the key matters raised in the evidence of the Officers' Report particularly that of Principal Policy Planner, Mr Wilson. I have attached an amended Outline Development Plan (ODP) to my Evidence at **Appendix 1**, and an amended Narrative (**Appendix 2**) incorporating responses from the technical experts, along with Mr Wilson's recommendation to incorporate recommendations from the Cultural Advice Report.
6. In case it is the preference of the Panel, I have proposed a new rule to be confirmed with Officers) regarding the proposed community hub provided for on the ODP. The new provisions are the same as those previously signalled in the Narrative.

Outline Development Plan and Narrative

7. I understand that Mr Wilson's intention is to incorporate Blocks A-C into the wider South East Rangiora Development Plan. While this seems logical to me I am unclear as to precisely how this integration is to be managed. In the interim, I have treated Blocks A-C as a sub area in the ODP and Narrative.

Statutory Assessment

8. I generally consider that Mr Wilson, in his PDP Section 42A Report, has adequately assessed the proposed rezoning in terms of the relevant statutory criteria, noting that they are somewhat different for each of the three blocks.

9. Mr Wilson is recommending rejecting the Spark submission on Variation 1 on the grounds that it is not within the scope of the Variation. That, in my view, is a legal issue and have left this matter to Mr Caldwell to cover in his legal submissions. While not wishing to foreclose the Variation option, I am comfortable from a planning perspective with the approach taken by Mr Wilson in recommending PDP medium density residential zone (MRZ) provides for a minimum lot size of 200m². There could be questions around the scope of this recommendation with regard to Block A.
10. Helpfully the original submission on the PDP did in fact seek a medium density zone but this part of the request was in the conclusion:

'...and to rezone that part of the Spark Dairy Farm and Rossburn within the South East Rangiora Development Area GRZ and MDZ; to amend PWDP objectives and policies to give effect to the NPS-UD; and make amendments to the South East Rangiora Outline Development Plan'. Conclusion, [26]'

Unfortunately, this was not included in my original evidence, but I consider it to be part of the submission and is needed to enable Mr Wilson to recommend a medium density zone for Block A.

11. Regarding the statutory framework, for Block A I concur with Mr Wilson that the primary test for rezoning on the land is CRPS Policy 6.3.12. The principal strategic planning consideration in that Policy is (1):

whether there is a need to provide further feasible development capacity through the zoning of additional land in a district plan to address a shortfall in the sufficiency of feasible residential development capacity to meet the medium-term housing bottom lines set out in Table 6.1, Objective 6.2.1a;

Mr Wilson goes on to say that 'I do not consider there to be a short to medium term shortfall in supply in the district'¹.

12. It might be helpful for the Panel to be reminded that Policy 6.3.12 of the CRPS was originally prepared to give effect and respond to the then National Policy Statement on Urban Development Capacity 2016, notwithstanding it was approved under the National Policy Statement on Urban Development (NPS-UD 2020). Mr Colegrave considers that Block A needs to be rezoned now to meet the 'at least sufficient capacity' test in the latter document. National Policy Statement on Urban Development.

¹ At [624]

13. For completeness, I consider that the rezoning of Block A gives effect to the (NPS-UD 2020).
14. Regarding Block B, I agree with Mr Wilson's observation² that that the Objective 6 and Policy 8 of the NPS-UD provides the pathway for rezoning the land. The rezoning would also give effect to the overall direction of Chapter 6 of the CRPS promoting urban consolidation. Within this context, I consider the issue raised by Mr Yeoman on whether the rezoning is 'needed' to fulfil the Council's obligations around providing 'at least sufficient capacity' (NPS-UD Policy 8) is of relatively minor consequence because of its other planning merits³. In my opinion, under the NPS-UD framework, there are no resource management reasons why the market cannot be 'overzoned' provided there are no opportunity costs, significant adverse effects, development would not affect Council expenditure programs, and the rezoning was consistent with contributing to promoting a well-functioning urban environment generally. I consider that it is within the Council's discretion to put its own judgement on what constitutes 'at all times, provide at least sufficient development capacity to meet expected demand for housing and for business land over the short term, medium term, and long term' (Policy 2) having regard to the circumstances.
15. In my opinion, rezoning the land would be a more appropriate way of promoting the purpose of the Resource Management Act compared to retaining the proposed (Rural Lifestyle) zoning.
16. Regarding Block C, I agree with Mr Wilson that there is insufficient information to support the rezoning of that land now. However, it would be strategic to identify the land for a non-residential purpose in this Review (e.g. industrial/commercial) to ensure overall integration is achieved in the medium to long term (3-10-plus years) including ensuring that decisions on the final alignment and design of the REL took this future land use into account. As with Block B in my opinion identifying the Block C land for urban purposes would give effect to the NPS-UD and CRPS.
17. The submission provides scope for the change of zone (BIZ, Format Retail/Mixed Use)⁴. How a zone is delivered would most likely be through a Plan Change (either Council or privately requested). In the interim the future intent of the Council could be signalled through the ODP together with an appropriate policy in the South East Rangiora

² At [649]

³ Re: Mr Yeoman's Peer Review at [para 3.28]. Also see his evidence at https://www.waimakariri.govt.nz/_data/assets/pdf_file/0021/165225/STREAM-12E-S42A-RODNEY-YEOMAN-ECONOMICS-EVIDENCE.pdf, [246]

⁴ Para 1 of the Submission on the PDP.

Development Plan, depending on how that is finalised including whether Certification is retained. For example there could be a new policy **DEV-SER-P****:

To recognise the future potential for a commercial/industrial area in the South East Rangiora Development Area subject to the promulgation of a plan change under Schedule 1 of the Act.

18. I also agree with Mr Wilson's statement that the adjoining rural lifestyle owners may also want to consider their options and have input into the detailed planning of the future zone. Therefore, in line with Mr Wilson's opinion, identifying the area of Block C for future industrial/commercial activity on the ODP together with a policy as suggested above is an appropriate interim planning instrument, which will also enable current farming activities to in the meantime. I agree with him that Block C should form part of the Development Area for South East Rangiora.
19. My remaining supplementary evidence focusses on two relatively minor matters concerning the Outline Development Plan, noting that Ms Lauenstein and Ms Williams have also commented on proposed changes to the Outline Development Plan from the viewpoint of urban design and transport respectively. My comments concern:
 - (a) The suggestion made by Mr Jolly that the proposed community hub opposite the cultural centre should be located further south so it is closer to the future residential area in Block B;
 - (b) Residential Density.
20. I have also responded to some of the matters raised in the Cultural Advice Report prepared by Mahaanui Kurataiao Limited.

Community Hub

21. The ODP and Narrative provide for a 'community hub' likely to comprise a café with some additional space for as yet some undecided ancillary retail activity. There are floorspace and tenancy limits for commercial activities in the Development Plan area (DEV-SER-R3) which, in my view, are arguably restrictive in the context of an area that is yet to be developed (compared to setting up in an existing residential area). The Narrative included with the ODP includes slightly more liberal restrictions on floorspace and tenancy.
22. For clarity, I am proposing to take these provisions out of the Narrative and include them as a separate rule as follows):

DEV-SER-APP1

DEV-SER-R2 Activities provided for in Medium Density Residential Zone

Activity status: PER

Where this activity complies with the following activity rules/standards in the Medium Density Residential Zone:

MRZ-R1 to MRZ-R17; and

all Medium Density Residential Zone Built Form Standards.

The Community Hub shown on ** where the gross retail floor area does not exceed 650m² and the facility is limited to a single tenancy.**

Activity Status when compliance not achieved: DIS

23. Because the 'hub' is not a residential activity as such I accept it could be more appropriate to include the rule under DEV-SER-R3 if a LCZ was being contemplated. I am happy to take guidance from the Officers on this.
24. I agree with Mr Jolly's observation⁵ that future residents in Block B, particularly in the southern parts, will have further to travel to reach the community hub in its proposed location. Re-siting it further south, nearer Boys Road, will indeed make it more accessible particularly by active transport modes. However, I consider this would not be consistent with the intent of the hub. The reason for placing the café in its current position is to engage with the recreational cycling market and provide a high level of amenity as set out in more detail in Ms Lauenstein's Urban Design evidence and Mr Spark's Statement. As well as overlooking the wetland, the café is adjacent to the major cycle route that will connect Rangiora to the wider district via the Northbrook. This makes it an attractive stop for cyclists, and the local community alike.
25. Sometime in the future, consideration will need to be given to providing for some form of retail offering that will serve the local community as Block B gets developed. That will be several years away (perhaps 10-15 years) before Block B is built out and a decision around the, type and size of any future retail activity can wait. The scale and function of any future retail offering in Block B will also be affected by the market response to, timing and scale of the planned Local Centre on Northbrook Road.

⁵ Referred to in Mr Wilson's Report.

26. However, as it would be strategic to indicate a site on the ODP in broad terms now, and this has been shown on the ODP on the northern edge of Block B near Boys Road as a potential local centre.

Density

27. Overall, the South East Rangiora Development Area is required to achieve a minimum net residential density of 15 households per hectare or 12 households per ha if there are development constraints.⁶ Evidence prepared by the technical experts, including effects assessments, was based on a yield of 600 household units with an estimated net density of 15 hh/ha, including provision for some medium density development.
28. Mr Wilson states in his report that both medium density residential and general residential are available as rezoning options. He then explains that the difference between the 500m² allotment size of the general residential zone and the 200m² size for the PDP medium density residential zone, and that the required 15 households per ha yield in SUB-S3 would be unable to be achieved with 500m² minimum lot sizes. I would agree that, without some multi-unit development, that would be the case, as is needed anyway to fulfil the Council's obligations under Policy 1(a)(i) of the NPS-UD⁷. Ms Lauenstein discusses how different housing typologies can be used to meet the minimum density requirements.
29. My understanding from his Report is that the DEV-SER-APP1 Medium Density Residential Zone Medium Density permitted is the same as that proposed around town centres including potentially three storeys (12m). I therefore do not see any issues with the Spark development meeting the required densities and his recommended zoning would provide flexibility in terms of housing typologies and choice.

Cultural Advice Report

30. The Site is in Area 1 (Rangiora) in the Cultural Advice Report prepared by Mahaanui Kurataiao Limited. I note that the report is provided as preliminary advice for Waimakariri District Council as part of plan change stage of development. It provides preliminary, general/non-specific, non-exhaustive guidance and does not constitute a full assessment for all development. It is recommended that the Council request a more robust and site-specific assessment of development with each subdivision application.

⁶ SUB P6

⁷ have or enable a variety of homes that:

(i) meet the needs, in terms of type, price, and location, of different households;

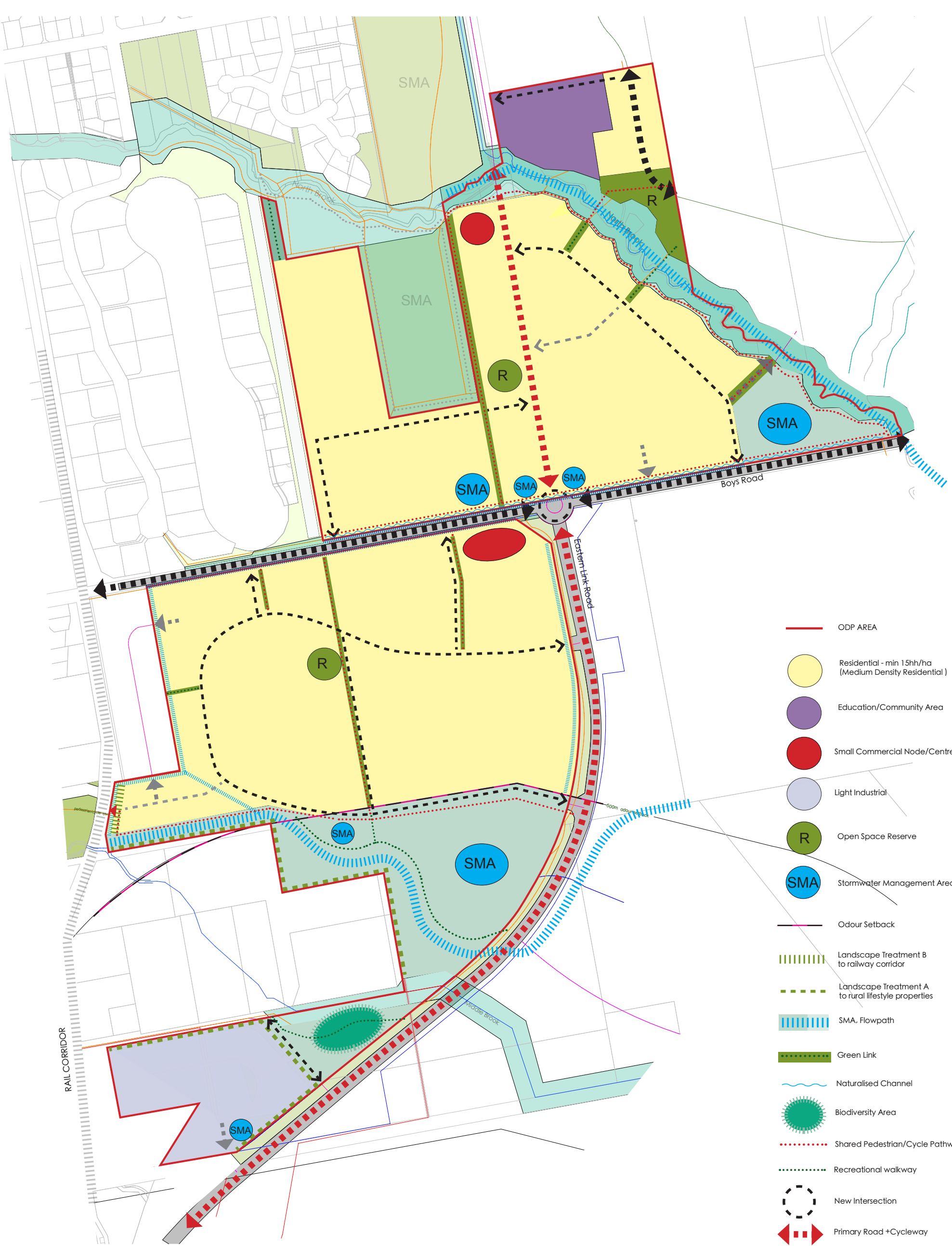
31. This guidance and Rūnanga expectations are detailed on pages 10-12 of the Report. Much work has been done by the experts already to recognise and provide for these requirements in the rezoning proposal and ODP. Further amendments have been made to the Narrative in response to the matters raised in the Cultural Advice Report.
32. Further consultation with Rūnanga will occur at the pre-application stage.

Conclusion

33. Overall, I support the recommendations of Mr Wilson in his Section 42A Report to rezone Blocks A and B to PDP Medium Density Residential Zone, and to include Block C as an Overlay on the District Planning Map and ODP providing for future industrial and/or commercial development. I would anticipate that the mechanism to zone Block C would be through a Plan Change or Certification process both of which would necessitate an ODP which meets the requirements of the subdivision chapter. I do not consider any other further planning provisions are required at this stage.
34. Some relatively minor amendments are needed to the ODP/Development Plan including transport and future retail provision, and the Narrative has been amended accordingly. Further details on these changes are provided in the evidence of other witnesses.

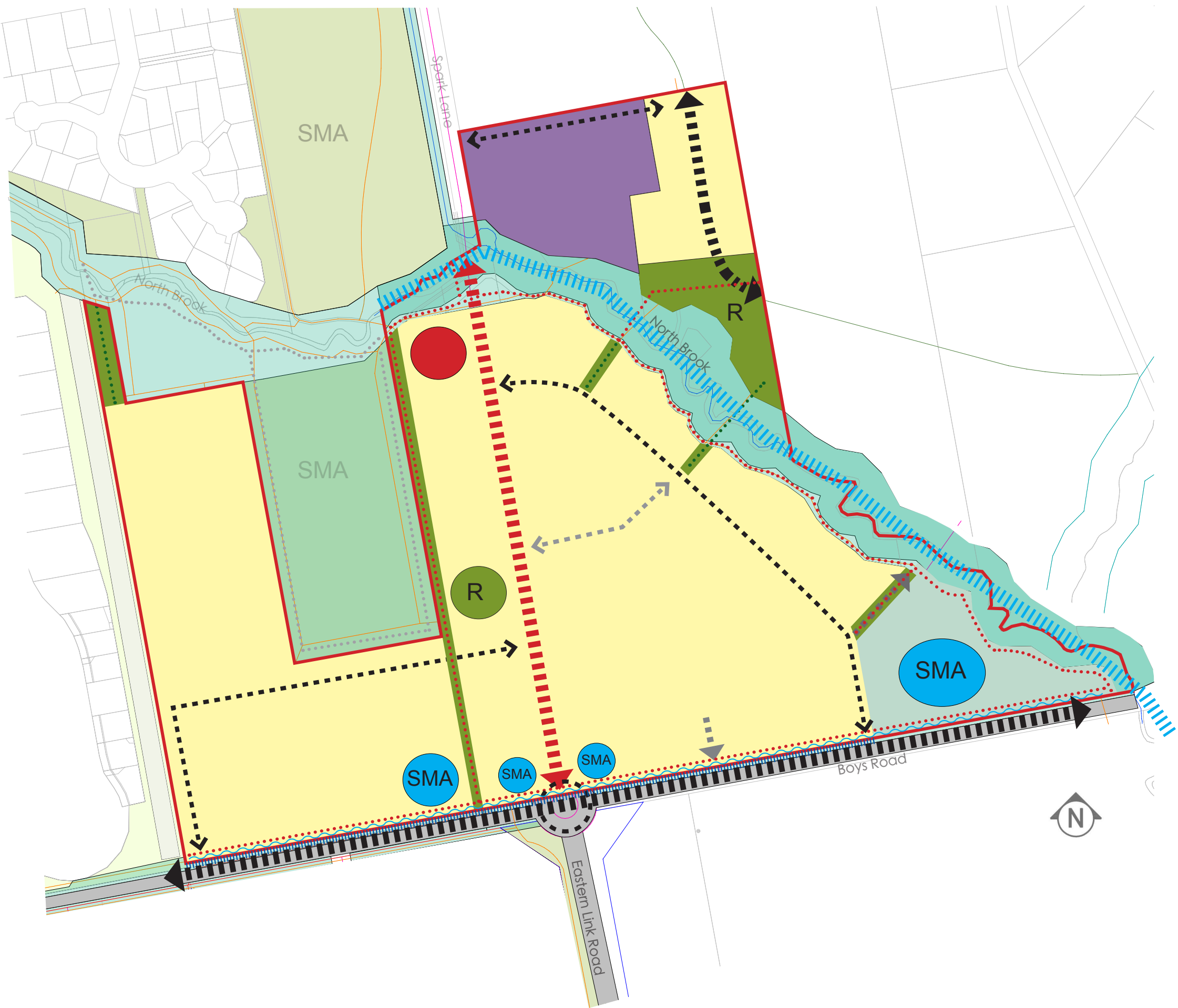
Ivan Thomson

2 August 2024



- ODP AREA
- Residential - min 15hh/ha (Medium Density Residential)
- Education/Community Area
- Small Commercial Node/Centre
- Light Industrial
- R Open Space Reserve
- SMA Stormwater Management Area
- Odour Setback
- Landscape Treatment B to railway corridor
- Landscape Treatment A to rural lifestyle properties
- SMA, Flowpath
- Green Link
- Naturalised Channel
- Biodiversity Area
- Shared Pedestrian/Cycleway
- Recreational walkway
- New Intersection
- Primary Road + Cycleway
- Primary Road
- Secondary Road
- Key Local Road
- Future Connection
- Road Frontage Upgrade





— ODP AREA BLOCK A

● Residential - min 15hh/ha
(Medium Density Residential)

● Education/Community Area

● Small Commercial Hub

● R Open Space Reserve

● SMA Stormwater Management Area

||||| SMA, Flowpath and Esplanade

..... Green Link

~ Naturalised Channel

..... Shared Pedestrian/Cycle Pathway

..... Recreational Walkway



New Intersection



Primary Road + Cycleway



Primary Road



Secondary Road



Key Local Road




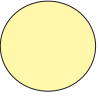





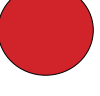













Possible Future Road Connection













Road Frontage Upgrade










- | | | | | | |
|---|---|---|--|---|----------------------------|
|  | ODP AREA BLOCK B |  | Odour Setback |  | New Intersection |
|  | Residential - min 15hh/ha
(Medium Density Residential) |  | Landscape Treatment B
to railway corridor |  | Primary Road + Cycleway |
|  | Education/Community Space |  | Landscape Treatment A
to rural lifestyle properties |  | Primary Road |
|  | Possible Local Commercial Center |  | SMA. Flowpath |  | Secondary Road |
|  | Open Space Reserve |  | Green Link |  | Key Local Road |
|  | Stormwater Management Area |  | Naturalised Channel |  | Possible Future Connection |
| | |  | Shared Pedestrian/Cycle Pathway |  | Road Frontage Upgrade |
| | |  | Recreational Walkway | | |



-  ODP AREA BLOCKC
-  Light Industrial
-  Open Space Reserve
-  Biodiversity Area
-  Stormwater Management Area
-  SMA. Flowpath and Esplanade

-  Odour Setback
-  Green Link
-  Recreational Walkway
-  Landscape Treatment A to rural lifestyle properties and REL

-  New Intersection
-  Primary Road + Cycleway
-  Primary Road
-  Secondary Road
-  Key Local Road
-  Possible Future Connection
-  Road Frontage Upgrade

Appendix 2: OUTLINE DEVELOPMENT PLAN – NARRATIVE

Southeast Rangiora Development Plan

Context

This area comprises approximately 57 hectares and is situated on the south-east side of the urban edge of Rangiora between the Northbrook Reserve to the north and Marsh Road to the south. The ODP provides for the integrated development of this new residential area that will yield around 600 housing units over the next 10-15 years.

The development is anticipated to progress in three sequential stages from north to south as depicted on the ODP as Blocks A B and C. The new REL Road traverses Block A north of Boys Road before forming the eastern boundary of Blocks B and C

The ODP identifies Block C as an ‘odour constrained’ area comprising a wetland area and a future light industrial zone, The detailed design and layout for Stage C to be determined once details of future road alignments and level crossings in the area have been finalised. A separate plan change or consenting process will be required before the industrial development can proceed.

The ODP comprises four ‘layers’ comprising a ‘blue network, green network, movement network and a (resulting) land use pattern. The purpose of this methodology is to provide an integrated approach that maximises the opportunities to protect and enhance natural environmental features and integrate these into the built environment.

The landscape character and identity outcomes for the Site will be the result of landscape interpretation as well as stakeholder liaison, including with historical landowners and mana whenua. Part of this is the recognition of the Ngahere Rangiora (SASM 016) overlay in the Proposed WDP.

Blue Network

The blue network consists of three spatial elements which are to be recognised and provided for during the development of the Site.

1 Northbrook and Middlebrook

The Northbrook and esplanade reserve forms the northern and part of the western boundary of Block A in the form of a 20m wide ecological space that will include riparian planting and walkway that allows for interaction with the space. The Northbrook reserve will have two large ponds bordering the Site, supporting various waterbirds, and coupled with the Northbrook itself, may provide suitable spawning ground for native fish, such as upland bully and kanakana, and Kōura, a keystone species found in one of the Northbrook tributaries.

The Middlebrook has been modified for much of its length within the Site, but its ecological significance remains high. It already features more extensive riparian planting than the Northbrook

and this shall be expanded with its proximity to the Block B stormwater retention and a future biodiversity area in Block C. Like the Northbrook, this waterway provides a social, cultural, and amenity value for the Site and the surrounding area.

2 Overland flow path

The overland flow path will be undeveloped and planted without impeding any flow rate. It shall be encased in planted greenspace and stormwater treatment areas providing large areas of landscaped open space. In Block A the lowest point in the land is the Northbrook, which already forms the overland flow path for the upper part of the development. The esplanade surrounding it shall be designed to accommodate additional flow in significant rain events.

In Block B, the overland flow path runs across the southern portion and is designed to collect water from the Site's western boundary and channel it south of any urban development or stormwater retention to the eastern boundary. This flow path also functions as a high amenity space and shall accommodate a shared pedestrian/cycle corridor.

3 Stormwater management areas

The stormwater management areas shown on the ODP will be multi-functional. Most of the time they will be dry and provide amenity and passive recreation areas for local residents. However, their principal function is surface water attenuation and filtering out contaminants prior to water entering the Northbrook and Middlebrook.

Green network

The green network comprises four key spatial and functional elements:

- Ecological green space integrated into the blue network and providing important protection to the ecological functions of the existing waterways;
- Open space and recreation - neighbourhood parks to provide for a range of active and passive recreation activities;
- Green links for internal amenity and fine grain connectivity;
- Green interfaces to manage effects of development within and between the development area and surrounding environment.

1 Ecological green space

Riparian planting should provide both habitat, shade, and resource for invertebrate species and provide habitat connectivity for non-aquatic species. Harakeke, cabbage tree, and kowhai, for example, are effective habitat and provide nectar for bellbird and tauhoe (waxeye). These riparian strips promote the ecological connectivity between the waterway and the surrounding spaces.

The planting also needs to support banks stability. *Carex spp.* and other inundation tolerant species for example help limit erosion and the subsequent sedimentation of waterways that harms

invertebrate communities. Further up the banks of the waterway harakeke, cabbage tree, lancewood, pittosporum, and kowhai are effective bank stabilizing plants.

The Northbrook is a potential lamprey spawning site, and with a conservation status of “Threatened – Nationally Vulnerable,” the preservation of this waterway as a potential lamprey spawning habitat is critical and should be protected. Large rocks and tree roots provide habitat, promote bank stability, and help to oxygenate the water. This is important for small fish species, invertebrates, and koura which have been found in one of the tributaries of the Northbrook.

Further planting of greenspaces within the Site will be undertaken to support the dispersal of many bird and flying invertebrate species by creating an integrated network. This will include responding to the ‘podocarp overlay’ as proposed by the PWDP as part of the Ngā Tūranga Tupuna Overlay titled the Ngahere Rangiora (SASM 016). This shall be recognised by planting specific native tree species in public spaces as key landscape character elements, creating native plant communities that reflect natural plant communities focused on strengthening or recreating indigenous fauna habitats, and establishing specific plant communities that support specific cultural practices. Podocarps will be obvious tree species choices, including totara, miro and kahikatea to provide strong character and associative landscape values and suit different parts of the existing site conditions.

Open Space and Recreational green space and SMAs

The green open spaces provided for in the ODP will ensure that local residents (particularly those in higher density areas) have adequate provision of and access to quality outdoor spaces. Council’s open space requirements cited in the Long-Term Plan and Activity Management Plans shall be adhered to during [subdivision](#) design.

Landscaped buffer areas shall be provided along the periphery of the area where it adjoins non-residential activities. This will ensure effects arising from conflicting land uses are minimised, particularly reverse sensitivity with rural neighbours, unless otherwise specified

A central neighbourhood park of min. 2000m² is to be established in Stage A and B respectively. The precise location and size of these recreational reserves shall be determined based on the number of reserves established in the wider area and shall ensure people living within the development block have access to open space/reserve within a 400m walking radius of their homes. These local parks will provide passive recreation opportunities which is essential for the level of residential density proposed. All three neighbourhood parks function as the green heart of the development and offer a ‘spatial break’ and ‘meeting place’ for the medium density development.

It is anticipated that the central green space in Block B will be larger, between 5000m² and 6000m², and the central green space in Block A will be smaller around 2000m². Both shall be able to accommodate a variety of active and passive recreational opportunities along with landscaping. The third large greenspace is located adjacent to the Northbrook in Block A and shall be designed to form

an extension of the esplanade environment. This reserve will have a strong focus on tree planting and natural landscaping and is strategically placed to accommodate the retention of existing specimen trees where practical and shall provide several pedestrian crossing points over the Northbrook.

The ODP identifies several key green links to ensure the pedestrian connectivity at a finer grain, these are to be no less than 10m in width, and shall be designed and landscaped to minimise their length and maximise views in from local roads and surrounding properties to ensure adequate passive surveillance.

Interfaces and edge treatment

Green interfaces shall be provided to manage effects of development within and between the development area and surrounding environment.

Edge treatment of private property boundaries (fencing and planting) towards open space reserves, green links and utility reserves shall be considered during subdivision design to ensure maximum passive surveillance over all public spaces (incl. roads, reserves) is achieved. This can/will be enforced through district plan rules, consent notice and /or developer covenants.

A residential - rural interface treatment consisting of fencing and planting requirements is proposed only along the boundary with the existing rural lifestyle properties to the south of Block B.

Along the western boundary to the small pocket of rural lifestyle land a 10m landscaped channel will provide some distance and visual mitigation.

The proposed residential interface with the REL will be managed the landscape treatment of the stormwater flow path adjacent to the REL and the landscape provisions for this space which will include landscape planting, the stormwater conveyance, some mounding, and the use of part of this area for a pedestrian and cycleway.

Movement Network

Access and Transport

The ODP employs a roading hierarchy that delivers a range of integrated transport options, including active transport connections from the development area to adjacent neighbourhoods that facilitate the use of existing and future public transport route options. Road connections shall be designed to achieve permeability, whilst minimising the number of new intersections and maintaining appropriate intersection spacing.

The ODP features a primary north south road which Council has designated for the Rangiora Eastern Link (REL) that provides a connection point from Northbrook Road to Marsh Road. Boys Road will

form the main east-west primary road, linking the existing adjacent urban fabric to the Northbrook Esplanade. Several additional north south and east west connections are provided as secondary roads. The proposed road hierarchy will deliver an accessible and coherent neighbourhood that provides safe and efficient access to the new development and can cater for extensions to existing public transport routes and/or new routes along the primary roads.

The Council's planned intersection upgrade at Boys Road/REL Road is also identified on the ODP. Boys Road will require widening of the road corridor, to be co-ordinated with residential subdivision, to achieve an urban standard where possible, whilst co-ordinating with management of the existing waterways and adjacent rural land uses. Property access to Boys Road should also be provided where possible although alternatives may need to be considered where this crosses existing waterways.

Two secondary road intersections with the REL are indicated for Block B, south of Boys Road, to provide for efficient travel via the REL noting that this provides the primary north south connection. These intersections should be designed to minimise delays for traffic on the REL. South of Boys Road, property access or other local road intersections to the REL are to be avoided. The internal road alignment for Block B is to be designed to reduce the potential for vehicles to short-cut between the REL and Boys Road.

The internal road network for Block B shall include an alignment that leaves open the potential for a local road connection to the west, should a Road Rail Level Crossing be agreed between the Council and Kiwi Rail in the future. The secondary road shall also be aligned to leave open the potential for a future road connection across the SMA flow path should residential development of the existing rural lifestyle properties south of Block B occur in the longer term.

An integrated network of local roads will facilitate the safe and efficient distribution of internal traffic, provide access to properties and the commercial area(s), assist in connecting the open space reserves network both within and beyond the site and provide links to adjoining neighbourhoods.

The transport network for the area shall integrate into the pedestrian and cycle network established in adjoining neighbourhoods and the wider township.

Pedestrian Network

For Block A, the Northbrook Esplanade shall form the main pedestrian connection with a shared cycle/walk trail from which several green links lead into the development. A second pedestrian route will run in a north-south direction along the existing paper road forming an active edge to the elevated landscaped utility reserve.

This north-south connection shall extend across Boys Road and continue through Block B, directly connecting to the large SMA at the south of Site. This path shall follow an infrastructure corridor consisting of green links, smaller roads and the local neighbourhood park.

A second key shared path shall connect from the REL Road through the site in an east – west direction via the landscaped overland flow path towards the existing urban neighbourhood and the local primary schools directly to the west of Block B. This east west corridor provides for a future connection to Denchs Road via Hegan Reserve should agreement between Council and KiwiRail enable a future pedestrian crossing of the railway line.

The continuous east west shared pathway running through the main overflow path along the southern edge of Block B shall also provide opportunities for future links into adjacent areas to the south including the rural lifestyle neighbours.

Cycling and walking paths shall be located wherever possible within reserves and green links. Where pathways are contained within the road reserve, they shall be incorporated into the road design giving adequate space to accommodate cyclists and to facilitate safe and convenient pedestrian movements. Three indicative pedestrian crossing points are shown on the ODP on Boys Road at key locations where main pedestrian connections cross primary and secondary roads to support a safe pedestrian and cycle network. Their exact location shall be determined at detailed design stage to ensure proper alignment with the Block A and B network and to ensure the safety for all road users.

Land Use

Residential use and density

The development area shall aim to achieve a minimum net density of 15 household per hectare. This is to be averaged over the area of the entire combined Block A and B Site, excluding the area identified as an Odour Constrained Area where dwellings are not permitted (500m setback from the edge of the Wastewater Treatment Ponds).

The zoning framework supports a variety of site sizes and building typologies to achieve this minimum density requirement. Areas of higher densities within the Site shall be strategically positioned to avoid effects on neighbouring developments and shall be integrated with amenities such as key open spaces to provide shared outdoor spaces in close proximity and to balance out the relation of built form to open space.

As this area is to be developed in stages, confirmation at the time of subdivision of each stage and an assessment as to how the minimum net density of 15 household per hectare for the overall area can be achieved (or not), will be required.

Local commercial centre Block A

A small commercial area is proposed adjacent to the intersection of the REL with the Northbrook Esplanade to maximise opportunity for a uniquely tailored facility to service the recreational activities with good walking and cycling accessibility. It shall be limited to a café/bar and ancillary activities, in a

single tenancy, of no more than 650m² and with local road access, to minimise effects on the local transport network.

The site provides a frontage overlooking the Northbrook Stream and incorporate the unobstructed longer distance views across the SW areas to the north to Mount Grey. Any proposal in this small commercial zone shall directly engage with the Northbrook walking and cycling trail and the Council park by providing active frontages.

Future Local Commercial Centre Block B

A potential commercial centre has been identified on the ODP in Block B to provide a range of local shops and services within walking and cycling distance of residents should this be needed.

If required, this indicative local commercial centre on Boys Road could be of a similar scale and nature as that proposed on Northbrook Road. The indicative location is in a strategic position with north-south and east-west walking and cycling corridors to provide easy accessibility.

Community and Educational Facilities

The provision of new educational facilities is not part of the design concept but could be provided within the Site or in the wider area albeit subject to a needs assessment.

The existing Museum and community facilities are to be integrated with appropriate, access and carparking and pedestrian linkages to allow the continuation of its use.

Odour Set Back area

No sensitive activities are provided for in the 'Odour Set Back Area' (Block C) due to the wastewater treatment area adjoining the ODP at the southern boundary across Marsh Road. The restriction in this area is either regulated through a future zone change or shall be supported by an appropriate, enduring legal/planning mechanism (such as a covenant, consent notice, certification) imposed at the time of subdivision.

Servicing

Stormwater

Detailed stormwater solutions are to be determined by the developer in collaboration with Council at subdivision stage and in accordance with Environment Canterbury requirements. Systems will be designed to integrate into both the transport and reserve networks where practicable.

Site stormwater management is anticipated to encompass a network of pipes, swales, basins, and treatment devices to provide conveyance, treatment and disposal to either groundwater recharge or discharge to nearby streams.

It is expected that stormwater design and construction would be undertaken in accordance with:

- WDC Engineering Code of Practice.
- Christchurch City Council (CCC) Construction Standard Specification (CSS).
- CCC Waterways, Wetlands and Drainage Guide (WWDG).
- Auckland Regional Council Technical Publication 10 (ARC TP10) Stormwater management devices design guideline.
- New Zealand Building Code (NZBC) Clause E1 Surface Water.

In addition, as part any application for subdivision consent the following requirements will be met:

- to undertake groundwater and spring water level monitoring and spring flow investigation across the Site to inform the construction methodologies that are applied in different parts of the Site, related to shallow groundwater issues; and
- to specify construction measures to ensure that shallow groundwater is not diverted away from its natural flow path for those areas where the shallow groundwater (in water bearing seams or layers) is likely to be intercepted by service trenches and hardfill areas.

Wastewater

The provision of infrastructure to service the area shall align with the Council's indicative infrastructure staging plan, unless an alternative arrangement is made by the landowner/developer and approved by Council.

A duplicate sewer main will connect existing development north of the site to the Rangiora wastewater treatment plant into which effluent from Stages A B and C will be discharged.